AP-111

AGWMR

2017

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

November 13, 2018

John Moore
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

RE: APPROVAL
EXTENSION REQUEST FOR SUBMITTAL DATES
2017 ANNUAL GROUNDWATER MONITORING REPORT
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-18-MISC

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has received the Western Refining Southwest, Inc., Gallup Refinery (the Permittee) extension request letter (Request) for the *2017 Annual Groundwater Monitoring Report,* dated November 1, 2018 and received November 7, 2018. RCRA Permit Section IV.C.3 requires submittal by September 1st each year. This is the second extension request for this submittal. NMED's September 24, 2018 letter granted on extension until October 30, 2018. This Request was not submitted prior to the due date. The Permittee must submit extension requests prior to submittal due dates. The Permittee requests to extend the due date for submittal of the report until November 30, 2018.

Section I.M (Provisions Governing Extensions of Time) of the 2009 RCRA Permit states that "the Permittee may seek an extension of time in wish to perform a requirement of this Permit, for good cause ... " The Permittee requests an extension to "complete the document and assemble the deliverable." NMED hereby grants the extension request. The *2017 Annual Groundwater Monitoring Report* must be submitted to NMED no later than **November 30, 2018**.

If you have any questions regarding this correspondence, please contact Michiya Suzuki at (505) 476-6059.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: K. Van Horn NMED HWB
M. Suzuki NMED HWB
C. Chavez OCD
L. King EPA Region 6

File: Reading File and WRG 2018 File
HWB-WRG-18-MISC

Marathon Petroleum Company LP

Annual Ground Water Monitoring Report
Gallup Refinery - 2017

Gallup Refinery
92 Giant Crossing Road
Gallup, NM 87301
(505) 722-3833

November 30, 2018

Annual Ground Water Report 2017
92 Giant Crossing Road
Gallup, NM 87301

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Robert S Hanks on behalf of Dan Statile 11-28-2018
Daniel J. Statile — Date
Vice-President, Gallup Refinery

Reviewed by:

10-29-18
Brian Moore — Date
Remediation Project Manager
Gallup Refinery

Prepared by:

10.29.18
Tracy Payne, PG — Date
Senior Geologist
DiSorbo Consulting, LLC.

Marathon Petroleum Company LP

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LIST OF ACRONYMS

AC	Alternating Current
AL	Aeration Lagoon
API	American Petroleum Institute
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
BW	Boundary Well
COC	Chain of Custody
COD	Chemical Oxygen Demand
DC	Direct Current
DGF	Dissolved Gas Flotation
DO	Dissolved Oxygen
DRO	Diesel Range Organics
DTB	Depth to Bottom
DTP	Depth to Product
DTW	Depth to Water
EP	Evaporation Pond
EPA	Environmental Protection Agency
FT	Foot/Feet
FWGWMP	Facility Wide Groundwater Monitoring Plan
GPM	Gallons per Minute
GRO	Gasoline Range Organics
GWM	Groundwater Monitoring Well
HP	Horse Power
HWB	Hazardous Waste Bureau
IDW	Investigation Derived Waste
ISE	Ion Selective Electrode
LDU	Leak Detection Unit
LPG	Liquefied Petroleum Gas
LTU	Land Treatment Unit
MCL	Maximum Contaminant Level
MPPE	Macro Porous Polymer Extraction
MRO	Motor Oil Range Organics
MTBE	Methyl Tert Butyl Ether
mg/L	Milligrams/liter

LIST OF ACRONYMS - continued

MV	Millivolts
MW	Monitoring Well
NAIC	North American Industry Classification System
NAPIS	New American Petroleum Institute Separator
NAPL	Non Aqueous Phase Liquid
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NOD	Notice of Disapproval
NPDES	National Pollutant Discharge Elimination System
OBSM	Oil Bearing Secondary Material
OCD	Oil Conservation Division
OW	Observation Well
ORP	Oxidation Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbon
PSTB	Petroleum Storage Tank Bureau
PVC	Polyvinyl Chloride
PW	Process Well
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
RW	Recovery Well
SMW	Shallow Monitoring Well
SPH	Separate Phase Hydrocarbon
STP	Sanitary Treatment Pond
SVOC	Semi-volatile Organic Compound
SWMU	Solid Waste Management Unit
SWPPP	Storm Water Pollution and Prevention Plan
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbon
µm	Micrometer
UPS	United Parcel Service
VOC	Volatile Organic Compounds
WQCC	Water Quality Control Commission
WWTP	Waste Water Treatment Plant
YTD	Year to Date

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EXECUTIVE SUMMARY

The Annual Groundwater Monitoring Report for 2017 (Report) incorporates field monitoring, sampling, and inspection of active wells located on the facility. Analytical data and field notes are incorporated into this report to show any changes or discoveries of various constituents found in the groundwater collected for sampling. On February 15, 2012, Groundwater Discharge Permit GW-032 was rescinded by the Oil Conservation Division (OCD) of New Mexico. We are; however, required to continue to abate pollution of groundwater pursuant to 19.15.30 NMAC (Remediation) under case number AP-111 with remediation activities already in place under Groundwater Discharge Permit GW-032. Monitoring and field work activities conducted for 2017 followed the guidelines of the "Approval with Modifications, Annual Facility-Wide Ground Water Monitoring Report: Gallup Refinery 2013, HWB-WRG-14-006", dated May 18, 2016 from New Mexico Environmental Department Hazard Waste Bureau (NMED HWB). New monitoring wells (BW-4A, BW-4B, BW-5A, BW-5B, BW-5C, OW-53, OW-54, OW-55, OW-56, OW-57, OW-58, OW-59, and OW-60) were installed in 2016 and 2017 and have been added to the most recent Facility-Wide Ground Water Monitoring Work Plan. Although the wells were not yet included in an approved Monitoring Work Plan in 2017, groundwater samples were collected at these wells and the results are presented in the subsequent investigation reports and are also included in this Annual Monitoring Report. The well completion logs are included in Appendix H.

GROUNDWATER MONITORING

There are 100 monitoring wells located throughout the refinery property that are subject to the ground water monitoring program. The groundwater program consists of a number of sampling locations, target analyses, and monitoring frequencies that include quarterly, semi-annual, and annual. A brief analytical summary is included below while a more detailed summary is discussed in Section 7. In addition to the monitoring wells, there are three leak detection units (LDUs) at the new API Separator (NAPIS). The monitoring wells and LDUs have been grouped as follows:

GROUP A	GROUP B	GROUP C	GROUP D	GROUP E
BW-1A, 1B, 1C BW-2A, 2B, 2C BW-3A, 3B, 3C BW-4A, 4B BW-5A, 5B, 5C MW-1, 2, 4, 5 SMW-2, 4	GWM-1, 2, 3 NAPIS-1, 2, 3, KA-3 OAPIS-1 East LDU, West LDU, Oil Sump LDU STP1-NW, STP1-SW OW-59, 60	OW-13, 14, 29, 30 OW-50, 52, 53, 54, OW-55, 56, 57, 58 RW-1, 2, 5, 6	PW-2, 3, 4 OW-1, 10 OW-11, 12	MKTF-1 thru MKTF-45

GROUP A - WELLS

There are a total of 14 boundary wells located on the western and northwestern boundary of the refinery property.

- No benzene, toluene, ethylbenzene, or total xylenes (BTEX) or methyl tert butyl ether (MTBE) constituents have been detected in any of the boundary wells, with the exception of MTBE in samples collected from BW-5B and BW-5C and toluene in BW-5B. Low concentrations of toluene and MTBE were detected in samples collected from BW-5B in December 2017. MTBE was detected in the sample collected from BW-5C in December 2017.
- Chloride exceeded the standard in BW-5C. Uranium exceed the standard in samples collected at BW-5B and BW-5C.

There are a total of six wells that monitor the groundwater in the area of the land treatment unit (LTU).

- No BTEX or MTBE have been detected in any of the MW wells in 2017.
- No concentrations of BTEX or MTBE were detected in any of the SMW wells, with the exception of SMW-2 which has had low concentrations of MTBE below the applicable standard.
- In SMW-2, chloride and sulfate were detected above the WQCC standards since 2011. Low concentrations of fluoride, chloride and sulfate have been detected in SMW-4. DRO and GRO were detected in SWM-2 above screening levels.
- Low concentrations of metals (total and dissolved) have been detected in both wells. Chromium and uranium were detected in both wells above the WQCC standards in 2017. Manganese was detected in SMW-2 above the WQCC standard in 2017.

GROUP B - WELLS

There are 12 monitoring wells and three leak detection units (LDUs) in Group B.

GWM-1, GWM-2, and GWM-3

- No samples have been collected from GWM-1 since the third quarter 2015 due to the detection of separate phase hydrocarbon (SPH).
- No groundwater was present in GWM-2 and GWM-3 in 2017.

NAPIS-1, NAPIS-2, NAPIS-3, and KA-3

- BTEX and MTBE concentrations were below the applicable standards in the first and second quarters of 2017 in NAPIS-1. Separate phase hydrocarbon was detected in NAPIS-1 in the third and fourth quarters. Benzene and MTBE concentrations in NAPIS-2 have frequently exceeded the applicable standards since 2008 and remained in exceedance or slightly below exceedance level for 2017. BTEX constituents were not detected in NAPIS-3 in 2017. MTBE was detected in all four quarters of 2017 in NAPIS-3, however, none of the concentrations were above the standard. In KA-3, the benzene concentration was detected above the applicable standard in the first quarter of 2017.
- DRO was detected above applicable standards in NAPIS-2 (all four quarters), NAPIS-3 (first quarter), and KA-3 (fourth quarter). Detections of GRO above the applicable standard occurred in NAPIS-1 (third quarter), NAPIS-2 (all four quarters), NAPIS-3 (second and fourth quarter) and KA-3 (all four quarters). MRO has not been detected in any of the NAPIS or KA wells.
- Barium, iron and manganese were detected in NAPIS-2 at concentration levels exceeding the applicable standards in 2017.
- Uranium was detected in 2017 in NAPIS-3 at concentration levels exceeding the WQCC standards.

- Manganese was detected in all four quarters of 2017 above the applicable standard in KA-3.
- Bis (2-ethyhexyl) phthalate was detected in concentrations that exceeding the applicable standards in NAPIS-1, NAPIS-2, NAPIS-3, and KA-3 in 2017. Naphthalene was detected in NAPIS-2 during all four quarters. The concentrations exceed the applicable standard.

East LDU, West LDU, and Oil Sump LDU

- No water has been detected in the Oil Sump LDU since June 2013.
- Benzene (all four quarters) and total xylenes (third quarter) were detected in the East LDU at concentration levels above the applicable standard. Low concentrations of toluene, ethyl benzene, total xylenes and MTBE were also detected. DRO and GRO were also detected above the applicable standards in all four quarters of 2017.
- In the West LDU, benzene exceeded applicable standards in all four quarters of 2017. Toluene, ethyl benzene, total xylenes, and MTBE were also detected at concentration levels below the applicable standards. DRO and GRO were also detected above the applicable standards in all four quarters of 2017.
- In 2017, chromium, iron, and manganese have been detected in concentrations exceeding applicable standards in both the East and West LDUs.
- Concentrations of the organic constituents 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene have exceeded applicable standards in both the East and West LDUs in 2017.

OAPIS-1

- Benzene and MTBE have exceeded the applicable standards since 2013.
- Concentrations of fluoride, chloride, DRO and GRO have shown exceedances in OAPIS-1 since 2013.
- Arsenic, barium, iron, manganese and uranium concentrations exceeded applicable standards in OAPIS-1 in 2017.
- The reported concentrations of naphthalene, 1-methylnaphthalene and bis (2-ethylhexyl) phthalate exceeded applicable standards in 2017.

STP1-NW, STP1-SW, OW-59, and OW-60

- STP1-SW remained dry in 2017.
- There were no detections of BTEX, MTBE, DRO, GRO, or MRO above applicable standards in 2017 in STP-1 NW.
- DRO and GRO was detected in the fourth quarter of 2017 in OW-59 above the applicable standards. GRO was detected below the applicable standard in OW-60.
- Sulfate and chloride concentrations exceeded the applicable standards in OW-59 and OW-60, with nitrate/nitrite exceeded in water samples collected from OW-60.
- Chloride, iron, manganese, and uranium exceeded applicable standards in STP-1-NW in 2017.
- The constituent uranium was reported to have total and dissolved concentrations that exceeded the applicable standard for OW-59 and OW-60 for the fourth quarter of 2017. The dissolved arsenic concentrations reported for the fourth quarter for OW-59 and OW-60 exceeded the applicable standard.
- The concentration of Bis (2-ethylhexyl) phthalate in OW-60 exceeded the applicable standard.

GROUP C WELLS

Group C wells include 12 observation wells and four recovery wells.

OW-13, OW-14, OW-29, and OW-30

- No detectable concentrations of BTEX were reported in 2017 for OW-13. Low concentrations of MTBE continue to be detected at values below the applicable standard.
- The 2017 benzene and MTBE concentrations for OW-14 were above the applicable standard for all four quarters.
- No detectable concentrations of BTEX were reported in 2017 for OW-29. The MTBE concentrations were above the applicable standard for all four quarters.
- In OW-30, benzene was reported above the applicable standard in the fourth quarter. MTBE concentrations were reported above the applicable standard in all four quarters of 2017.
- DRO was detected above the applicable standard in OW-14, OW-29, and OW-30.
- GRO was detected above the applicable standard in all four wells in all four quarters of 2017.

OW-50, and OW-52

- BTEX, DRO, GRO, and MRO constituents have not been detected in either OW-50 or OW-52 since 2010 through 2016; however, a low concentration of MTBE was detected in both wells in 2016 and 2017 annual groundwater sampling events.
- Low concentrations of total and dissolved arsenic, barium, iron, lead, manganese, selenium, mercury and zinc have been detected in OW-50 and OW-52 in 2017.

OW-54, OW-55, and OW-56

- In OW-54, benzene and MTBE concentrations exceeded the applicable standards during all four quarters, but toluene, ethylbenzene and total xylenes were detected at concentrations below the applicable standards. In OW-55, benzene, toluene, ethyl benzene, total xylenes and MTBE exceed applicable standards in 2017. There were no detectable concentrations of benzene and MTBE in samples collected at OW-56 that exceeded the applicable standards in 2017.
- DRO and GRO were detected above the applicable standards in all three wells in all quarters of 2017.
- Chloride concentrations for OW-54, OW-55, and OW-56 exceeded the applicable standard during all four quarters of 2017
- Iron, lead, and manganese concentrations exceeded the applicable standards in OW-54 and OW-55, while uranium only exceeded the standard in samples collected at OW-54.
- Reportable concentrations of naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, and 1,2-dichloroethane exceeded the applicable standards in either OW-54, OW-55, and/or OW-56 in 2017.

OW-57 and OW-58

- BTEX and MTBE was detected in both wells in 2017. Benzene concentrations exceeded the applicable standard in both OW-57 and OW-58. Toluene, ethylbenzene and total xylenes concentrations exceeded the applicable standard in OW-58. MTBE concentrations exceeded the applicable standard in OW-57 and in OW-58.
- DRO and GRO concentrations exceeded the applicable standards in both OW-57 and OW-58 in 2017.
- Barium, iron, and manganese concentrations exceeded the applicable standards in OW-57 and OW-58. Arsenic exceeded the standard in OW-57 and lead exceeded the standard in OW-58.

- Reportable concentrations of naphthalene, 1,2,4-trimethylbenzene, and 1-methylnaphthalene exceeded the applicable standards in OW-57 and/or OW-58 in 2017.

RW-1, RW-2, RW-5, and RW-6

- No samples were collected from RW-1 in 2017 due to the presence of SPH. No samples were collected from RW-5 and RW-6 during the second, third and fourth quarters of 2017 due to the detection of SPH in the wells;
- BTEX and MTBE concentrations exceeded applicable standards in RW-2 in 2017. Benzene exceeded the applicable standard in RW-5 and benzene and total xylenes concentrations exceeded applicable standards in RW-6. Concentrations of toluene, total xylenes and ethyl benzene were detected in RW-5 and RW-6, which did not exceed applicable standards.
- Volatile organic compounds were detected in RW-2, RW-5 and RW-6 in the groundwater samples collected in 2017. 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene and 2-methylnaphthalene were detected in concentrations exceeding the applicable standards.

GROUP D WELLS

The Group D wells can be found within the refinery property and include three process/production (i.e., water supply) wells and four observation wells.

PW-2, PW-3, and PW-4

- No BTEX or MTBE constituents were detected in the process wells in 2017.
- Low concentrations of arsenic, barium, iron, manganese, selenium, and zinc were detected in the wells in 2017 at concentration levels below applicable standards.
- Two organic constituents were detected at levels below applicable standards in 2017 (bis (2-ethylhexyl) phthalate and di-n-octylphthalate).

OW-1, OW-10, OW-11, and OW-12

- BTEX was not detected in OW-1 and OW-10 in 2017. MTBE was detected in low concentrations below the applicable standard in both wells in 2017.
- Low concentrations of cations were detected in OW-1 throughout 2017 at concentration levels below the applicable standard. OW-10 had exceedances of chloride in all of 2017.
- GRO was detected in the fourth quarter in OW-1 and the second, third and fourth quarters of 2017 in OW-10. DRO and MRO was not detected in OW-1 and OW-10 in 2017.
- The 2017 metals analysis for OW-1 and OW-10 reported exceedances above the applicable standards for chromium, lead and uranium.
- BTEX and MTBE have not been detected in OW-11 and OW-12 since 2006 and remained non-detect for 2017.
- Fluoride, nitrite, and sulfate concentrations continue to exceed the applicable standards in OW-11.

GROUP E WELLS

Group E wells consist of 45 monitoring wells that monitor the extent of a hydrocarbon seep discovered in 2013 in an isolated area approximately 100 yards west of the crude tanks T-101 and T-102.

The MKTF wells are sampled quarterly. BTEX, MTBE, DRO, GRO, total and dissolved metals and several VOCs and SVOCs have been detected in many of the wells above the referenced standards. See Tables 8.15 through 8.15.5 (Appendix G) for a complete list of constituents analyzed.

ADDITIONAL SITES MONITORED

Evaporation Ponds EP-1 through EP-12B

- Benzene was detected above the applicable standard in evaporation ponds EP- 2 and EP-12B in 2017. Toluene, ethylbenzene, and total xylenes were detected at concentration levels below applicable standards in evaporation ponds EP-2, EP- 3, EP-4 and EP-12B. MTBE was not detected in the evaporation ponds in 2017.
- Concentrations of fluoride, chloride, and sulfates exceeded the applicable WQCC standards in each evaporation pond during 2017.
- In 2017, BOD concentrations exceeded the general requirement of the 20 NMAC 6.2.3103 (<30 mg/L) in each of the evaporation ponds except for EP-7, EP-8, EP-9 and EP-11.
- In 2017, COD concentrations exceeded the general requirement (<125 mg/L) in each of the ponds.
- In 2017, arsenic, iron, manganese and selenium were detected in concentrations exceeding the applicable standards in the ponds.
- The constituent bromomethane was detected in EP-2 and EP-12B above the NMED Tap Water standard in 2017.
- Bis (2-ethylhexyl) phthalate and phenol were detected in concentrations exceeding the applicable standards in the evaporation ponds in 2017.

Outfall STP1 to EP-2

- The constituents benzene, toluene, and total xylenes were detected in 2017.
- The DRO concentrations reported for all four quarters in 2017 exceeded the applicable standards. Detectable GRO concentrations were reported for the first and fourth quarter of 2017. The concentration reported for the fourth quarter exceeded the applicable standard. No detectable MRO concentrations were reported for the quarterly sampling in 2017.
- Three organic compounds were detected in 2017: (acetone, 2-butanone, and carbon disulfide) all at concentrations were below the applicable standards
- BOD and COD concentrations exceeded the applicable standards in 2017.

ADDITIONAL APPLICABLE STANDARDS REQUIREMENTS

The Discharge Permit was rescinded by NM-OCD on February 15, 2012; however, Gallup is still required to continue with abatement of pollution of groundwater pursuant to 19.15.30 NMAC (Remediation), under Abatement Plan AP-111, with remediation activities already in place.

Marathon Petroleum Company LP

SECTION 1 INTRODUCTION

The 2017 Annual Groundwater Monitoring Report has been prepared to describe water quality monitoring and remediation activities undertaken throughout 2017. Groundwater sampling is performed on a quarterly, semi-annual and annual basis. Water samples are also collected from the evaporation ponds located on the northwest section of the refinery property. The activities completed include analysis of groundwater samples collected at all active monitoring wells and surface water samples collected at evaporation ponds. The data generated is used to characterize the nature and extent of impacts to the groundwater at the refinery from historical releases and to monitor any levels of constituents that exceed applicable standards.

This report presents the results of the groundwater monitoring activities conducted in 2017.

1.1 FACILITY OWNERSHIP, OPERATION AND LOCATION

This report pertains to the Marathon Petroleum Company Gallup Refinery, located at Exit 39 on Interstate I-40, approximately 17 miles east of Gallup, New Mexico, in Jamestown, New Mexico. Figure 1 shows the regional location of the refinery.

Owner: Marathon Petroleum Company
(Parent Corporation)
539 South Main Street, Findlay, OH 45840

Operator: Western Refining Southwest, Inc.
(Postal address) Gallup Refinery
92 Giant Crossing Road, Gallup, NM 87301

Western Refining Southwest, Inc.
(Physical address) Gallup Refinery
I-40, Exit 39, Jamestown, New Mexico 87347

The following regulatory identification and permit governs the Gallup Refinery:

- SIC code 2911 (Petroleum Refining) applies to the Gallup Refinery
- U.S. EPA ID Number NMD000333211 RCRA Post-Closure Care Permit
- OCD Abatement Plan, number AP-111
- 2015 NPDES MSGP, ID #NMR053168

The refinery status is corrective action/compliance. Annual, semi-annual, and quarterly groundwater sampling is conducted at the refinery to evaluate present conditions. The refinery is situated on an 810 acre irregular shaped tract of land that is substantially located within the lower one-quarter of Section 28 and throughout Section 33 of Township 15 North, Range 15 west, of the New Mexico Prime Meridian. A small component of the property lies within the northeastern one-quarter of Section 4 of Township 14 North, Range 15 West. Figure 2 is a topographic map showing the general layout of the refinery in comparison to the local topography. Figure 3 is an aerial photograph of the Gallup Refinery.

1.2 BACKGROUND INFORMATION

The refinery primarily receives crude oil via two 6-inch diameter pipelines; two pipelines from the Four Corners Area enter the refinery property from the north. In addition, the refinery also receives natural gasoline feed stocks via a 4-inch diameter pipeline that comes in from the west along the Interstate 40 corridor from the Wingate Plant, formerly Conoco gas plant. Crude oil and other products also arrive at the site via railroad cars. These feed stocks are then stored in tanks until refined into products.

The refinery incorporates various processing units that refine crude oil and natural gasoline into finished products. These units are briefly described as follows:

- Crude Distillation Unit: separates crude oil into various fractions; including gas, naphtha, light oil, heavy oil, and residuum
- Fluidized Catalytic Cracking Unit (FCCU): dissociates long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.
- Alkylation Unit: combines specific types of hydrocarbon molecules into a high octane gasoline blending component.
- Reforming Unit: breaks up and reforms low octane naphtha molecules to form high octane naphtha.
- Hydro Treating Unit: removes undesirable sulfur and nitrogen compounds from intermediate feed stocks, and also saturates the feed stocks with hydrogen to make diesel fuel.
- Additional Treater Units: remove impurities from various intermediate and blending feed stocks to produce finished products that comply with sales specifications.
- A set of Acid Gas Treating and Sulfur Recovery Units: convert and recover various sulfur compounds from other processing units in order to produce either ammonium thiosulfate or a solid elemental sulfur byproduct.
- Waste Water Treatment Plant – process and treat refinery waste and storm water before releasing to evaporation ponds.

As a result of these processing steps, the refinery produces a wide range of petroleum products including propane, butane, unleaded gasoline, diesel, kerosene, and residual fuel. In addition to the aforementioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows:

- Storage tanks are used throughout the refinery to hold and store crude oil, natural gasoline, intermediate feed stocks, finished products, chemicals, and water. These tanks are all located aboveground and the capacity ranges from 80,000 barrels to less than 1,000 barrels.
- Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among storage tanks and processing units.
- A railroad spur track and a railcar loading rack are used to transfer feed stocks and products from refinery storage tanks into and out of railcars.
- Several tank truck loading areas are used at the refinery to load out finished products and also may receive crude oil, other feed stocks, additives, and chemicals.

Gasoline and diesel are delivered to the Travel Center via tanker truck. An underground diesel pipeline exists between the refinery and the Travel Center. As a result of an off-refinery release in 2011, the pipeline was purged of product, filled with nitrogen and temporarily taken out of service. Western worked with the NMED – PSTB (Petroleum Storage Tank Bureau) and the NM OCD (Oil Conservation Division) to place this line back in service. In 2013 the underground diesel line from the Gallup Refinery to the Travel Center was replaced. The replaced line runs above ground from the marketing area of the refinery for approximately 150 feet and continues underground to the Travel Center. The diesel line was re-commissioned and put back in service on February 3, 2014. The diesel line currently is not in service.

A designated area is used to conduct employee firefighting training. During these training activities waste water and/or wash water drains directly into a dedicated tank that is located in the vicinity. The waste water is removed via vacuum truck and drained into a process sewer leading to the NAPIS after each training exercise. Oily water and sludge is transferred via vacuum truck to the NAPIS for processing and oil-water separation. The process waste water system is a network of curbing, paving, catch basins, and underground piping that collects waste water effluent and stormwater runoff from various processing areas within the refinery. The waste water effluent flows into T-27, T-28 and into T-35 (which works in parallel to T-27 and T-28) and into the NAPIS which provides the first stage oil-water separation where the removal of free oil is separated from waste water by gravity. The clarified water is routed to the waste water treatment plant (WWTP) Dissolved Gas Flotation (DGF) system which provides the second stage oil-water separation process. The DGF process involves the pressurization of waste water in the presence of air or nitrogen, creating a super-saturated solution called coagulates that are carried to the surface. The float is removed to disposal by mechanical float scrapers and the effluent is recycled back to the flotation chamber. The skimmed float is sent to the DGF float management system, “float tanks”. Oily solids collected in the float tanks are recycled through the refining process (on-site) or handled as a K048 listed hazardous waste for proper disposal.

The clarified effluent from the DGF system was designed with the Macro Porous Polymer Extraction (MPPE) system however, the MPPE unit did not perform as expected from a flow rate standpoint. It removed benzene efficiently, but became plugged so that flow rates decreased below adequate levels. In December 2014, the MPPE was removed from service and replaced with the carbon canister system. The two systems ran in parallel for three months in the second half of 2014 followed by trial with carbon canisters for two months before the MPPE was removed from service. Flow rates up to 500 GPM can now be achieved through the carbon system. The waste water that passes through the carbon canisters discharges into the sanitary treatment pond (STP-1). STP-1 has two bays, north and south and each bay is equipped with five aerators. The treated waste water is mixed with air in order to oxidize any remaining organic

constituents and increase the dissolved oxygen concentration available in the water for growth of bacteria and other microbial organisms. The microbes degrade most of the hydrocarbons into carbon dioxide and water. Five 15-hp mechanical aerators provide aeration in each bay (North and South) in STP-1. Effluent from STP-1 then flows into evaporation pond 2 (EP-2) and is gravitated to the rest of the ponds.

The initial startup of the new WWTP was in May of 2012 which resulted in the decommissioning of Benzene Strippers 1, 2, and 3, and the Aeration Lagoons 1 and 2 (AL-1 and AL-2) and Pond 1. In November of 2012, the benzene strippers were taken off-line permanently and demolished in January of 2013. At the evaporation ponds, waste water is converted into vapor via solar and mechanical wind-effect evaporation. There are a total of four evaporators located at the ponds. Two 80 GPM, electrically driven water evaporators are located between evaporation ponds 4 and 5 and two additional 66 GPM sprayers were installed between ponds 3 and 4 in October 2014. No waste water is discharged from the refinery to surface waters of the U.S. All treated waste water is routed into several evaporation ponds, which have large surface areas that are designed to efficiently evaporate water by sunlight and exposure to the changing ambient temperatures.

The stormwater system is a network of valves, gates, berms, embankments, culverts, trenches, ditches, natural arroyos, and retention ponds that collect, convey, control, treat, and release stormwater that falls within or passes through refinery property. Stormwater that falls within the processing areas is conveyed through the same underground piping system that collects waste water effluent from various processing areas with the refinery. The stormwater effluent from within the process areas follows the same flow pattern and treatment as described in the process waste water flow system (T-27 → T-28 → T-35 → NAPIS → WWTP → STP-1 → EP-2 → Evaporation Ponds).

Stormwater discharge from the refinery is infrequent due to the arid desert-like nature of the surrounding geographical area. Gallup Refinery maintains a Storm Water Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) for effective storm water pollution prevention and control. The refinery has constructed several berms in various areas and improved outfalls (installed barrier dams equipped with gate valves) to minimize the possibility of potentially impacted runoff leaving the refinery property.

1.3 SITE CHARACTERISTICS

Built in the 1950's, the refinery is located within a rural and sparsely populated section of McKinley County, Jamestown, New Mexico, and located 17 miles east of Gallup, New Mexico. The setting is a high desert plain on the western slope

of the Continental Divide. The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. The nearest population centers are the Flying J Travel Center (formerly Pilot) refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40, approximately 2 miles southwest of the refinery (Jamestown). Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers and some prickly pear cacti. Average rainfall is less than ten inches per year with the maximum average precipitation occurring during the month of August.

Local topography consists of an incline down-slope from high ground in the southeast to a lowland fluvial plain in the northwest. The highest point on refinery property is located at the southeast corner boundary (elevation approximately 7,040 feet) and the lowest point is located at the northwest corner boundary (elevation approximately 6,860 feet). The refinery processing facility is located on a flat man-made terrace at an elevation of approximately 6,950 feet.

Surface water in this region consists of man-made evaporation ponds and aeration basins located within the refinery, a livestock watering pond (Jon Myer's Pond) located one mile east of the refinery, two small unnamed spring fed ponds located south of the refinery, and the South Fork of the Puerco River and its tributary arroyos. The various ponds and basins typically contain water consistently throughout the year. The South Fork of the Puerco River and its tributaries are intermittent and generally only contain water during, and immediately after, the occurrence of precipitation.

The 810 acre refinery property site is located on a layered geologic formation. Surface soils generally consist of fluvial and alluvial deposits; primarily clay and silt with minor inter-bedded sand layers. Below the surface layer is the Chinle Formation, which consists of very low permeability clay stones and siltstones that comprise the shale of this formation. As such, the Chinle Formation effectively serves as an aquitard. Interbedded within the Chinle Formation is the Sonsela Sandstone bed, which represents the uppermost potential aquifer in the region. The Sonsela Sandstone bed lies within and parallels the dip of the Chinle Formation. As such, its high point is located southeast of the refinery and it slopes downward to the northwest as it passes under the refinery. Due to the confinement of the Chinle Formation aquitard, the Sonsela Sandstone bed acts as a water-bearing reservoir and is artesian at its lower extremis. Artesian conditions exist through much of the central and western portions of the refinery property.

Groundwater flow within the Chinle Formation is extremely slow and typically averages less than 10^{-10} centimeters per second (less than 0.01 feet per year). Groundwater flow within the surface soil layer, above the Chinle Formation, is

highly variable due to the presence of complex and irregular stratigraphy; including sand stringers, cobble beds, and dense clay layers. As such, hydraulic conductivity may range from 10^{-8} centimeters per second in the clay soil layers located near the surface and up to 10^{-2} centimeters per second in the gravelly sands immediately overlying the Chinle Formation. Figure 4 depicts the regional surface water flows are in a westerly direction and Figure 5 depicts surface water bodies and flow lines.

Shallow groundwater located under refinery property generally flows along the upper contact of the Chinle Formation. Although the prevailing flow direction is from the southeast and toward the northwest; a subsurface ridge has been identified and is thought to deflect some flow in a northeasterly direction in the vicinity of the refinery tank farm.

SECTION 2 SCOPE OF ACTIVITIES 2017

The 2017 quarterly and annual groundwater sampling, and semi-annual evaporation pond sampling was conducted by DiSorbo Consulting Services and Andeavor. The third quarter groundwater sampling was combined with the annual sampling event per approval from NMED and OCD and primarily was conducted in September 2017. The following is a list of monitoring and inspections completed for 2017:

- Separate Phase Hydrocarbon Recovery Logs – Appendix A;
- Field Inspection Logs–Appendix B;
- Summary of EPA/NMED/RCRA Activity – Appendix D;
- Summary of all leaks, spills and releases – Appendix E;
- Temporary Land Farm Semi-Annual Sampling – Appendix F;
- Well Data Measurements (Elevations) – Section 9; and
- Quarterly, Semiannual, Annual Inspections Summary – Section 10

2.1 MONITORING AND SAMPLING PROGRAM

The primary objective of groundwater monitoring program is to analyze groundwater samples collected and use the data to assess groundwater quality at and near the refinery. Groundwater elevation data was collected to evaluate groundwater flow conditions. The groundwater monitoring program for the refinery consists of sample collection and analysis from a series of monitoring, recovery, boundary, process, and shallow monitoring wells. In addition, surface water samples are collected at the evaporation pond locations.

The groundwater monitoring network is separated into five areas (Group A, Group B, Group C, Group D, and Group E) plus the evaporation ponds and effluent from STP-1 to Pond 2. The sampling frequency, analyses and target analytes vary for each area. The combined data from these areas were used to assess groundwater quality beneath and immediately down-gradient of the refinery, and to evaluate local groundwater flow conditions. Samples were collected at least annually from all monitoring wells with the exception of recovery and/or monitoring wells that had a measurable separate-phase hydrocarbon (SPH) level. At wells that were purged dry, samples were collected if recharge volume was sufficient for sample collection within a 24-hour period. Wells not sampled due to insufficient recharge were documented in the field logs.

Daily field activities, including observations and field procedures, were recorded for each activity and are maintained at the refinery. Field logs include the following information:

- Sample Location Identification;
- Date;
- Start and finish sampling time;
- Field team members, including visitors;
- Weather conditions;
- Daily activities and times conducted;
- Observations;
- Record of samples collected with sample designations;
- Photo log (if needed);
- Field monitoring data, including health and safety monitoring (if needed);
- Equipment used and calibration records, if appropriate;
- List of additional data sheets and maps completed;
- An inventory of the waste generated and the method of storage or disposal; and
- Signature of personnel completing the field record.

All samples collected for analysis are recorded in the field report or data sheets. Chain-of-Custody (COC) forms are completed at the end of each sampling day, prior to the transfer of samples off-site. The signed copy of the COC is placed inside sample containers with the samples and shipped to the laboratory. A custody seal is affixed to the lid of the shipping container. Copies of all COC forms generated are kept at the refinery.

2.2 SAMPLING METHODS AND PROCEDURES

Each monitoring well was gauged for depth to water (DTW), total depth, and depth to product (DTP), if applicable, to determine the amount of water to purge. A minimum of two well volumes is purged from each well prior to sampling. If the water level is at a minimum or the well has a low recharge rate, the well is allowed to recharge within 24 hours before a sample is collected. For wells that are not supplied with dedicated pumps, a portable pump is lowered slowly into the well to minimize disturbance to a depth of the midpoint of the screened interval of the well. The pump controller is started at a slow rate and gradually increased until water is discharged. Field water quality measurements must stabilize for a minimum of three consecutive readings taken at 2 to 5-minute intervals, within the following limits before purging will be discontinued and sampling may begin: dissolved oxygen (DO) (10%), specific conductance (10%), temperature (10%), and pH (10%).

Groundwater samples were obtained from each well within 24 hours of the completion of well purging. The samples were transferred to an appropriate, clean, laboratory-prepared containers provided by the analytical laboratory. Sample collection methods have been documented in the field monitoring reports. Weather conditions, the volume of groundwater purged, description of water, the instruments used, and the water quality readings obtained at each interval were recorded on the field-monitoring log.

Well purging and sampling were performed using disposable polyethylene bailers and/or appropriate portable sampling pumps where applicable. Some of the wells have dedicated pumps installed where a controller is used to power the submersible pump to purge water. In shallow wells, new disposable bailers were used for each well to hand bail purge water and retrieve water samples. All purged groundwater was collected in 55 gallon drum(s) and/or 5 gallon bucket(s) and drained into the refinery waste water treatment system upstream of the NAPIS. Groundwater samples intended for metals analysis were submitted to the laboratory as total and dissolved metals samples.

At a minimum, the following procedure was followed when collecting/shipping samples:

- Protective eye wear (safety glasses, goggles and/or face shield);
- Neoprene, nitrile, or other protective gloves are worn when collecting samples. New disposable gloves are used to collect samples at each sample point;
- All samples collected for chemical analysis are transferred into clean sample containers supplied by the analytical laboratory. Sample containers are clearly marked and labeled;
- Groundwater samples obtained for dissolved metals analysis are filtered through a 0.45 µm (micrometer) mesh size disposable filter on site;
- Samples are labeled, sealed, placed in cooler with ice until they are shipped via United Parcel Service (UPS) Red, Federal Express Overnight or personally delivered to the analytical laboratory;

- Standard COC procedures are followed for all samples collected. The COC form and sample request form are shipped inside the sealed storage container to be delivered to the laboratory, signed and dated; and
- Field duplicates and trip blanks are obtained for quality assurance during sampling activities. Trip blanks accompany laboratory sample bottles and shipping and storage containers intended for volatile organic compound (VOC) analyses. Trip blanks consist of a sample of analyte free de-ionized water placed in an appropriate sample container. Trip blanks are analyzed at a frequency of one for each shipping event involving twenty or more samples.

In order to prevent cross-contamination, field equipment that came into contact with water or soil was decontaminated before each sampling event. The decontamination procedure for the portable pump consists of rinsing/washing the equipment with a detergent water mixture followed by two rinses before use in another well. Any equipment that came in contact with each well, such as data loggers or tape measure, was decontaminated with a detergent water mixture and rinsed with distilled water before each use.

Decontamination of equipment when feasible is done at the bundle pad where decontamination water is drained into the sewer system.

Decontamination water from field work was caught in an appropriate container and drained into the sewer system upstream of the NAPIS.

2.2.1 EQUIPMENT

- A submersible bladder pump 2 inch, 115 volt AC to DC converter, Grundfos Redi-flo2 constructed of stainless steel with check valve and 1/2 inch Teflon tubing, adjustable rate controller powered by a gas generator is used to purge groundwater from monitoring wells. Equipment is located downwind and at least 20 feet from the well so that exhaust fumes do not cross-contaminate the samples.
- Water level instrument used is a WaterMark Oil Water Interface Meter 100 feet, Model 101L/SMOIL. This instrument measures water and hydrocarbon level; indication is a steady audible tone for water and hydrocarbon indication is an erratic audible tone.
- Parameter Instrument – YSI Model 556 MPS Multi Probe System which simultaneously measures DO, conductivity, temperature, and optional pH and ORP (Oxidation Reduction Potential). As a backup, we also have an IQ Scientific Instrument, Model IQ180GLP which measures pH, DO, TDS (Total Dissolved Solids), conductivity, salinity, ISE (Ion Selective Electrode), mV (Millivolts) and temperature.
- Disposable Bailers – Polyethylene bailer 1.5 inches X 36 inches overall length (OAL) with a capacity of approximately 1 liter and 3 inches X 36 inches OAL. Individually sealed packaging, single check valve bailer with slide in angle cut nozzle for sample removal. A new bailer is used for each well that requires hand bailing for purging and sample retrieval.
- Field equipment parameter instruments were calibrated to known standards in accordance with the manufacturers' recommended schedules and procedures. Calibration checks are conducted before a sampling event and the instruments recalibrated as deemed necessary. Calibration of equipment was noted in the daily field logs.
- If field equipment becomes inoperable, a properly calibrated replacement instrument is used in the interim. Type of instrumentation used during a sampling event is recorded in the daily field logs.

2.3 COLLECTION AND MANAGEMENT OF INVESTIGATION DERIVED WASTE

Investigation derived waste (IDW) generated during each groundwater sampling event includes purged water, decontamination water, excess sample material, and disposable sampling equipment. All water purged from monitoring wells generated during sampling and decontamination activities was temporarily stored in a labeled 55-gallon drum(s), plastic chemical totes and/or 5 gallon bucket(s) and then drained into the refinery sewer system upstream of the NAPIS.

2.4 COLLECTION OF SURFACE WATER SAMPLES

At the evaporation ponds, grab samples were collected near the inlets (pond edge). This location was noted in the field notebooks. For outfalls, a grab sample was collected at the pipe end, and recorded in the field log.

2.5 ANALYTICAL METHODS

Groundwater and surface water samples collected during the monitoring events were analyzed for the constituents listed in Table 1, Section 10.0.

2.6 PERIMETER INSPECTION

Perimeter inspections are part of the daily routine for refinery personnel to report any hydrocarbon staining, spills or any release that could result in material leaving the property boundary.

2.7 REMEDIATION ACTIVITIES

A site investigation of the refinery tank farm network conducted in 1987 indicated high concentrations of BTEX constituents in the groundwater as well as hydrocarbons. As a result of the findings from additional site investigations conducted from 1987 through 1990, four recovery wells (RW-1, RW-2, RW-5, and RW-6) were installed to recover the SPH. SPH has been recovered from RW-1 using a submersible bladder pump and from RW-5 and RW-6 by hand-bailing using a disposable polyethylene bailer. Tables in Appendix A summarizes measurements, volume of product and water purged and also provides annual volumes of product purged from each well. RW-2 is listed as a recovery well but to date no visible hydrocarbon layer or odor has been observed in this well during quarterly inspections.

In RW-1 a bladder pump was used to pump out SPH on a quarterly basis into a labeled 55-gallon drum. The visible layer of floating product in the drum was measured with a tape measure and calculated as best as possible for the volume of product recovered. In RW-5 and RW-6, a 3 foot disposable hand bailer was used to extract product and water from the wells. Bailed water was collected in a 5-gallon bucket and the visible layer of floating product was then

measured with a tape measure to estimate volume of SPH recovered. The purged water was drained into the refinery waste water treatment system upstream of the NAPIS.

The SPH thickness level in RW-1 has varied since 2005 when levels near 4 to 5 feet were measured. The measured thickness of SPH appeared to decrease from 2006 through 2007 with levels returning to 4 to 5 feet again in 2008. The levels decreased in 2009 to less than 1 foot and remain low until 2013, when SPH levels again increased to 4 to 5 feet. SPH levels began to decrease again in 2016 and were down to only 1 foot by December 2017. In 2017, total hydrocarbon recovery is estimated at 10.5 gallons in 50 gallons of water purged compared to the 2005 estimate of 431 gallons of hydrocarbons in 1,210 gallons of water. No measureable hydrocarbons have been detected in RW-2 since 2005.

SPH had not been detected in RW-5 and RW-6 since February 2009 and November 2011, respectively, but was detected again in June 2017. Eight feet was measured in RW-5 and 8.12 feet in RW-6 on June 20, 2018. There were 23.44 gallons of SPH recovered from RW-5 and 22.22 gallons of SPH recovered from RW-6 during the 2nd, 3rd and 4th quarter purging/sampling events. This change in conditions was evaluated in 2018 and this effort will be discussed in the 2018 Annual Ground Water Monitoring Report as the activities did not occur during the 2017 reporting period. Hydrocarbon recovery logs are included in Appendix A.

On June 26, 2013, notification of the discovery of a hydrocarbon seep to the land surface was made to NMED and OCD. Shortly after the seep was initially discovered, fourteen soil excavations were completed in the area of the seep to help identify the presence of hydrocarbons in the shallow subsurface. The excavations confirmed the presence of hydrocarbons throughout the immediate area of the seep and to the east and south of the seep. Six of the excavations were found to have sufficient hydrocarbons to warrant completion as temporary recovery sumps. A six-inch PVC well screen was placed into each of these six excavations and backfilled with coarse gravel to create temporary sumps to allow for safe, continued recovery of liquids. The sumps range in depth from approximately 8 to 10 feet and are estimated to be 4 feet wide by 6 feet long. The area has been identified as the “Hydrocarbon Seep”, located directly west of crude Tanks 101 and 102. Response actions have included installation of six temporary sumps (S1 – S6), and to date a total of 44 permanent monitoring wells (MKTF-1 through MKTF-44) have been installed to monitor ground water impacts. An existing well was identified in the area and assigned a well ID of MKTF-45. From June 2013 through December 2017 total hydrocarbon recovery is estimated to be 18,847 gallons and 1,270,082 gallons of water from the sumps. Of the 45 MKTF wells, 17 (MKTF 1, 2, 3, 5, 6, 7, 8, 12, 13, 14, 15, 18, 23, 26, 36, 37, and 45) had

measureable layers of product in 2017. Initial hydrocarbon recovery from these wells conducted in February and June 2015 is estimated at 11.2 gallons. No hydrocarbon recovery was done in 2017. The wells identified to have a product layer will be pumped on a more frequent basis to determine recharge rate and recovery of hydrocarbons. Figure 13 presents a separate phase hydrocarbon thickness map for September 2017.

SECTION 3 GROUNDWATER DTW/DTP ELEVATION

Groundwater elevation data were collected from the wells listed in Table 1, Section 10.0. A summary of field measurements (DTW, DTP) taken during the quarterly, semi-annual and annual inspections is included in Section 9. Groundwater levels and SPH column thickness measurements (from the RW series of wells as well as the MKTF wells) were collected quarterly to monitor groundwater elevation and product column thickness fluctuations over time. Maps were generated using elevation data collected from surveys conducted by DePauli Engineering and from Hammon Enterprises Inc., professional surveyor and data from the 2017 field inspection logs.

Field notes and measurement data were recorded in field logs for each well for 2017 and are located in Appendix B. The depth to groundwater and SPH column thickness are recorded relative to the surveyed well casing rim or other surveyed datum. A corrected water table elevation is provided in wells containing SPH by adding 0.8 times the measured SPH column thickness to the measured water table elevation (Section 9).

All water/product levels are measured to an accuracy of the nearest 0.01-ft using a WaterMark Oil Water Interface Meter, Model 101L/SMOIL (100 ft.). After the water level is determined, the well volume is calculated using the height of the liquid column and the internal cross sectional area of the well. The purge volume is a minimum of two times the well volume.

Groundwater and SPH levels were measured in all wells within 48 hours of the start of groundwater sampling activities. All manual extraction of SPH and water from recovery wells, observation wells, and collection wells is discontinued for 48 hours prior to the measurement of water and SPH levels. Figure 6 (Section 11) shows the locations of all active wells.

SECTION 4 REGULATORY CRITERIA

Laboratory analytical data is compared to the most current regulatory standards (Appendix C) at time of submission of the report.

- New Mexico 20NMAC 20.6.2.3103 (WQCC). Standards for Groundwater of 10,000 mg/L TDS Concentration or Less
- EPA 40 CFR 141.62. National Primary Drinking Water Regulations (Updated June 2017) (EPA MCL)
- NMED Tap Water Screening Levels (March 2017)
- EPA Regional Screening Levels set for Residential Risk-Based Screening Levels (EPA RSL) for Tap Water (MAY 2018)

Marathon Petroleum Company LP

SECTION 5 GROUNDWATER ELEVATIONS

Groundwater elevations are depicted in the following maps using data from the 2017 quarterly and annual sampling events. In addition, graphs of the water levels are included in Figures 11 through 11C.

- Figures 7 and 7A (Section 11) presents a south-north geologic profiles (east side of the refinery) showing contours of monitoring wells with reference to stratigraphic locations in which the water bearing zones are located.
- Figures 8 and 8A (Section 11) presents a south-north section on the west side of the refinery showing contours of monitoring wells with reference to stratigraphic locations in which the water bearing zones are located.
- Figure 14 (Section 11) represents a geologic profile for the west-east well locations.

SECTION 6 GROUNDWATER MONITORING RESULTS

All analytical data tables referenced in the following subsections are included in Section 8 of this report. Bold and highlighted values indicate a constituent exceeds a listed standard(s). Due to requirements for field preservation of samples, some samples have the results for nitrite and nitrate reported as a single value of nitrogen. In these instances, the value is conservatively listed for both nitrite and nitrate and a comparison is made between the reported concentration and the regulatory standards for both nitrite and nitrate. This may result in false indication of nitrite exceeding the regulatory standard. Modifications to the field sampling program have been made to allow reporting of both nitrate and nitrite in future reports. Plots of the reported concentrations are provided in a series of Figures numbered 15 through 17. Appendix G - Laboratory data for 2017 sampling events is provided on an attached CD.

6.1 CONSTITUENT LEVELS IN GROUP A MONITORING WELLS

Group A wells are located near the west and northwest boundary of the refinery property. Fourteen monitoring wells are situated along the refinery boundary and six monitoring wells are within the RCRA LTU area.

6.1.1 BOUNDARY WELLS: BW-1A/1B/1C, BW-2A/2B/2C, BW-3A/3B/3C, BW-4A/4B, and BW-5A/5B/5C

The 14 boundary wells (BW), downgradient of the refinery property, are screened within three different stratigraphic units. BW-1A, BW-2A, BW-3A, BW-4A, and BW-5A are screened within the Upper Sand stratigraphic unit (Figure 12); BW-1B, BW-2B, BW-3B, BW-4B and BW-5B are screened in the Chinle/Alluvium Interface stratigraphic unit (Figure 10); and BW-1C, BW-2C, BW-3C, and BW-5C are screened within the Sonsela stratigraphic unit (Figure 9).

The BW-1A, BW-1B, and BW-1C wells are located on the elevated dike separating EP-7 and EP-8. BW-2A, 2B, and 2C are located on the northwest edge of EP-11 and BW-3A, 3B, and 3C are located in the field north of EP-12A and EP-12B. Two wells (BW-4A and BW-4B), which were installed in 2017, are located adjacent to Sonsela well OW-1, which is located south of evaporation pond 7. BW-5A, BW-5B, and BW-5C, also installed in 2017, are located west of EP-9. Three of the boundary wells (BW-1A, BW-1B, and BW-3A) have been dry since installation in 2003 and 2004, and recently completed wells BW-4A and BW-5A are also dry. The volume of groundwater recovered after purging BW-4B is insufficient and well was therefore not sampled.

The boundary wells are sampled on an annual basis and evaluated for the following analytes: 8260B plus MTBE, gasoline range organics, (GRO), diesel range organics (DRO) and motor oil range organics (MRO), major cations/anions, and WQCC metal (total and dissolved). As of 2016, SVOCs were removed from analytical requirement (Table 8.1.4). The

boundary wells were sampled and/or inspected on the following dates:

WELL ID	DATE	WELL ID	DATE	WELL ID	DATE
BW-1A	9/13/17 NS	**BW-2A**	9/13/17	**BW-3A**	9/13/17 NS
BW-1B	9/13/17 NS	**BW-2B**	9/13/17	**BW-3B**	9/13/17
BW-1C	9/13/17	**BW-2C**	9/13/17	**BW-3C**	9/13/17
BW-4A	12/8/17 NS	**BW-5A**	12/8/17 NS	**BW-5C**	12/8/17
BW-4B	12/8/17 NS	**BW-5B**	12/8/17		

NS – Well was not sampled.

- No BTEX or MTBE constituents were detected in BW-1C, -2A, -2B, -2C, -3B or -3C in 2017 (Table 8.1). Low concentrations of toluene and MTBE were detected in samples collected from BW-5B in December 2017. MTBE was detected in the sample collected from BW-5C in December 2017 (Table 8.1).
- Fluoride was detected above the WQCC standard of 1.6 mg/L in BW-1C (2.1 mg/L) and BW-2C (1.8 mg/L). Chloride was detected above the WQCC standard of 250 mg/L in BW-5C. Low concentrations of chloride, bromide, nitrite, nitrate, and sulfate were detected in the BW wells sampled in 2017 (Table 8.1.1).
- Low concentrations of total and dissolved metals were detected in each of the BW wells in 2017 at concentration levels below the applicable standards. Total and dissolved uranium concentrations in BW-5B and BW-5C exceeded the WQCC standard (Tables 8.1.2 and 8.1.3).
- Bis(2-ethylhexyl)phthalate was previously detected in BW-1C in 2013, in BW-3B in 2009, and BW-3C in 2011 and may possibly be a lab contaminant or from the PVCC pipe materials used as casing in these wells.

6.1.2 LAND TREATMENT UNIT: MW-1, MW-2, MW-4, MW-5, SMW-2, and SMW-4

The LTU groundwater monitoring wells include MW-1, MW-2, MW-4, MW-5, SMW-2, and SMW-4. MW-1, SMW-4, and MW-2 are located downgradient along the north edge of the closed RCRA LTU. MW-5 and SMW-2 are located on the eastern perimeter of the LTU and MW-4 is located upgradient (south) of the LTU. MW-1, MW-2, MW-4, MW-5 are screened within the Sonsela stratigraphic unit. SMW-4 is screened within the Chinle/Alluvium Interface and SMW-2 is screened in both the Chinle/Alluvium Interface and Upper Sand stratigraphic units.

The LTU monitoring wells are sampled on an annual basis. In addition, MW-1, MW-2, MW-4, and MW-5, and SMW-4 are sampled every 10 years to comply with the RCRA Post Closure Permit. Annual samples were analyzed for the following analytes: 8260B plus MTBE, DRO, GRO, MRO, major cations/anions, WQCC metals (total and dissolved), cyanide, VOCs, and SVOCs.

Annual sampling and inspections for 2017 on the LTU monitoring wells were completed on the following dates:

WELL ID	DATE	WELL ID	DATE
MW-1	9/20/17	**MW-5**	9/11/17
MW-2	9/20/17	**SMW-2**	9/11/17
MW-4	9/21/17	**SMW-4**	9/11/17

The next 10 year RCRA Post Closure Permit sampling event for MW-1, MW-2, MW-4, MW-5, and SMW-4 is scheduled to occur in 2018. The following analytes are evaluated during the RCRA Post Closure Permit sample event: modified Skinner List for VOCs, SVOCs, total petroleum hydrocarbons (TPH), DRO, GRO, MRO, metals to include mercury and cyanide, and major cations/anions with pH and conductance.

- No BTEX or MTBE have been detected in any of the MW wells in 2017 (Table 8.2).
- Low concentrations of fluoride, chloride and sulfate were detected in the MW wells in 2017 at concentration levels below the applicable standards (Table 8.2.1). DRO, GRO and MRO were not detected in the MW wells in 2017.
- Metals (total and dissolved) were also detected in concentrations below the applicable standards in all of the MW wells in 2017 (Tables 8.2.2 and 8.2.3).
- The organic compounds acetone, bis (2-ethylhexyl) phthalate, and benzoic acid were detected in low concentrations in 2017 (Table 8.2.4).
- No concentrations of BTEX or MTBE were detected in any of the SMW wells, with the exception of SMW-2 which had a low concentration of MTBE below the applicable standard of (0.143 mg/L) (Table 8.3).
- In SMW-2, chloride and sulfate have been detected above the WQCC standards since 2011. Low concentrations of fluoride, chloride, nitrite, nitrate, and sulfate have been detected in SMW-4. DRO and GRO were detected in SMW-2 above screening levels (Table 8.3.1).
- Low concentrations of metals (total and dissolved) have been detected in both wells. Chromium and uranium were detected in both wells above the WQCC standards in 2017. Manganese was detected in SMW-2 above the WQCC standard in 2017 (Tables 8.3.2 and 8.3.3).
- In 2017, acetone was detected in SMW-2 and SMW-4 at concentrations below the applicable standard (Table 8.3.4).
- In SMW-4, benzoic acid was detected at a concentration below the applicable standard. Bis (2-ethylhexyl) phthalate) was detected in SMW-4 at a concentration level above the applicable standard of 0.006 mg/L.

6.2 CONSTITUENT LEVELS IN GROUP B MONITORING WELLS

There are 12 monitoring wells and three leak detection units (LDUs) in Group B. The wells are located within the area near aeration basin west of the refinery tank farm. Group B includes three groundwater monitoring wells (GWM), four monitoring wells for the New American Petroleum Institute Separator (NAPIS), three LDUs, OAPIS-1 installed in 2012 as a result of the Solid Waste Management Units (SMWU) No. 1, Aeration Basin and SMWU No. 14, Old API Separator site investigation. Two monitoring wells (STP1-NW and STP1-SW) were installed on the west end of the sanitary

treatment pond (STP1) in May 2014. Two new monitoring wells (OW-59 and OW-60) were installed in June 2017. Observation wells OW-59 and OW-60 were installed upgradient of SMW-2 and downgradient of the Aeration Basin to assess chlorides, which have been detected in the area.

6.2.1 GROUNDWATER MONITORING WELLS: GWM-1, GWM-2, and GWM-3

The GWM series of wells are all screened in the Chinle/Alluvium Interface stratigraphic unit. GWM-1 and GWM-2 are located on the west side of the aeration basin straddling the dike that separates AL-2 and EP-1. Downgradient from GWM-1 and GWM-2 is GWM-3 located on the northwest corner of EP-1. These wells are inspected and groundwater samples collected on a quarterly basis if sufficient water is present to support sample collection. No groundwater has been detected in GWM-2 or GWM-3 since 2013. If water is detected, NMED and OCD are notified within 24 hours of discovery. In the fourth quarter of 2015, an SPH level was detected in GWM-1 for the first time. SPH was found to be present in GMW-1 during all four quarterly gauging events in 2017 and thus no groundwater samples were collected for chemical analysis.

Quarterly inspections of the GMW wells were completed on the following dates:

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
GWM-1	3/16/17	6/2/17	9/8/17	12/4/17
GWM-2	3/16/17	6/2/17	9/8/17	12/4/17
GWM-3	3/16/17	6/2/17	9/8/17	12/4/17

6.2.2 GROUNDWATER MONITORING WELLS: NAPIS-1, NAPIS-2, NAPIS-3, and KA-3

The NAPIS groundwater monitoring wells are located east of the aeration lagoons. NAPIS-1 is an upgradient well located on the southeast side of the API separator. The NAPIS-2 monitoring well is located near the southwest corner of the API separator, and NAPIS-3 is located in the northwest corner. KA-3 is located between NAPIS-2 and NAPIS-3 on the west side of the API separator. These wells are screened in the Chinle/Alluvium Interface stratigraphic unit with three of the wells (NAPIS-2, NAPIS-3, and KA-3) installed with flush mount surface completions.

The NAPIS and KA wells are sampled on a quarterly basis. In agreement with OCD and approved by NMED, the third quarter sampling is combined with the annual sampling event. Groundwater samples were analyzed for the following parameters: VOCs, SVOCs, major cations/anions, and WQCC total and dissolved metals.

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
NAPIS-1	2/21/17	6/2/17	9/5/17 NS	12/4/17 NS
NAPIS-2	2/21/17	6/1/17	9/5/17	12/4/17
NAPIS-3	2/21/17	6/2/17	9/5/17	12/4/17
KA-3	2/21/17	6/1/17	9/5/17	12/4/17

NS – Well was not sampled.

- BTEX and MTBE concentrations were below the applicable standards in the first and second quarters of 2017 in NAPIS-1 (Table 8.8). Separate phase hydrocarbon (SPH) was detected in NAPIS-1 in the third and fourth quarters. Benzene and MTBE concentrations in NAPIS-2 have frequently exceeded the applicable standards since 2008 and remained in exceedance or slightly below the screening level for 2017. BTEX constituents were not detected in NAPIS-3 in 2017. MTBE was detected in all four quarters of 2017 in NAPIS-3; however, none of the concentrations were above the standard. In KA-3, the benzene concentration was above the applicable standard in the first quarter of 2017.
- DRO was detected above applicable standards in NAPIS-2 (all four quarters), NAPIS-3 (first quarter), and KA-3 (fourth quarter). Detections of GRO above the applicable standard occurred in NAPIS-2 (all four quarters), NAPIS-3 (second and fourth quarter) and KA-3 (all four quarters). MRO has not been detected in any of the NAPIS or KA wells (Table 8.8.1).
- In groundwater samples from NAPIS-1 in 2017 there were low concentrations of fluoride, chloride, and sulfate. Nitrite and nitrate concentrations reported in 2017 for NAPIS-1 exceeded the applicable standards (Table 8.8.1).
- In groundwater samples collected from NAPIS-2 in 2017 there were low concentrations of sulfate. Fluoride (first quarter) and chloride (second, third, and fourth quarters) concentrations in NAPIS-2 exceeded the applicable standards (Table 8.8.1).
- In groundwater samples from NAPIS-3 in 2017 chloride and nitrite concentrations exceeded the applicable standards in the first and fourth quarters (Table 8.8.1).
- In groundwater samples from KA-3 in 2017 there were low concentrations of fluoride, chloride, nitrite, nitrate, and sulfate (Table 8.8.1).
- Detection of total metals above the applicable standards include the following (Table 8.8.2):
  - NAPIS-1 – No detection of total metals above the applicable standards in 2017;
  - NAPIS-2 – Barium (second and third quarters);
  - NAPIS-3 – Uranium (third quarter); and
  - KA-3 – No detection of total metals above the applicable standards in 2017.
- Detection of dissolved metals above the applicable standards include the following (Table 8.8.3):
  - NAPIS-1 – No detection of dissolved metals above the applicable standards in 2017;
  - NAPIS-2 – Iron (fourth quarter) and manganese (all four quarters);
  - NAPIS-3 – Uranium (third quarter); and
  - KA-3 – Manganese (all four quarters).
- Low concentrations of VOCs and SVOCs were detected in all four wells. The detection of the following parameters were reported to have concentrations above the applicable standards in 2017 (Table 8.8.4).

- NAPIS-1 – Bis (2-ethylhexyl) phthalate (first and second quarters);
- NAPIS-2 - Bis (2-ethylhexyl) phthalate (first, second and third quarters) and naphthalene (all four quarters);
- NAPIS-3 - Bis (2-ethylhexyl) phthalate (first quarter); and
- KA-3 - Bis (2-ethylhexyl) phthalate (first quarter) and naphthalene (first quarter).

6.2.3 LEAK DETECTION UNITS (LDU): EAST LDU, WEST LDU, and OIL SUMP LDU

The NAPIS secondary containment units otherwise known as leak detection units (LDU) are installed on the east and west bay of the NAPIS unit. The East LDU is located on the southeast corner in the east bay of the NAPIS unit between the unit and NAPIS-1. The Oil Sump LDU is located on the northeast side of the East LDU. The West LDU is located in the southwest corner of the west bay of the NAPIS unit.

The LDUs are inspected and if water is present, then samples are collected on a quarterly basis. In agreement with OCD and approved by NMED, the third quarter sampling was combined with the annual sample event. The LDUs were sampled for the following analytes in 2017: BTEX, MTBE, DRO, GRO, MRO, WQCC total and dissolved metals, and VOCs. The Oil Sump LDU was dry all four quarters in 2017 and therefore not sampled. Quarterly inspections and sampling were completed for the LDU wells on the following dates:

SAMPLE ID	QTR 1	QTR 2	QTR 3	QTR 4
EAST LDU	2/21/17	6/2/17	9/5/17	12/4/17
WEST LDU	2/21/17	6/2/17	9/5/17	12/4/17
OIL SUMP LDU	2/21/17 NS	6/2/17 NS	9/5/17 NS	12/4/17 NS

NS – Leak detection unit was not sampled.

- Benzene (all four quarters) and total xylenes (third quarter) were detected in the East LDU at concentration levels above the applicable standard. Low concentrations of toluene, ethylbenzene, and MTBE were also detected. DRO and GRO were also detected above the applicable standards in all four quarters of 2017. MRO was not detected in 2017 (Table 8.10).
- In the West LDU, benzene exceeded applicable standards in all four quarters of 2017. Toluene, ethylbenzene, total xylenes, and MTBE were also detected at concentration levels below the applicable standards. DRO and GRO were also detected above the applicable standards in all four quarters of 2017. MRO was not detected in 2017 (Table 8.10).
- Detection of total metals above the applicable standards include the following (Table 8.10.1):
  - East LDU – Chromium (first, third and fourth quarters), iron (first quarter), and manganese (first quarter); and
  - West LDU – Chromium (first, second and third quarters), iron (second and third quarters), and manganese (first, second and third quarters).
- Detection of dissolved metals above the applicable standards include the following (Table 8.10.2):
  - East LDU – Chromium (first quarter), iron (first quarter), and manganese (first and fourth quarter); and
  - West LDU – Chromium (first, second and third quarters), iron (second and third quarters), and manganese (first, second and third quarters).

- Low concentrations of VOCs were detected during the first quarter of 2017. The detection of the following constituents were reported to have concentrations above the applicable standards in 2017 (Table 8.10.3):
  - East LDU – 1,2,4-Trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene; and
  - West LDU - Naphthalene and 1-methylnaphthalene.

6.2.4 GROUNDWATER MONITORING WELL: OAPIS-1

The OAPIS-1 groundwater monitoring well was installed in 2012 on the southeast edge of AL-2 as a result of the Investigation Work Plan for SMWU No. 1 (Aeration Basin) and SMWU No. 14 (Old API Separator). The OAPIS–1 well is screened in the Chinle/Alluvium Interface stratigraphic unit. The OAPIS-1 well was added to the quarterly sample schedule in 2013. In agreement with OCD and as approved by NMED, the third quarter sample event was combined with the annual sample event.

In 2017, groundwater samples were collected from OAPIS-1 and analyzed for the following analytes: VOCs, SVOCs, DRO, GRO, MRO, major cations/anions, WQCC total and dissolved metals, and cyanide. The OAPIS-1 well was inspected and sampled on the following dates in 2017:

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
OAPIS-1	2/21/17	6/1/17	9/5/17	12/4/17

- Benzene and MTBE concentrations exceeded the applicable standards (0.005 mg/L and 0.143 mg/L, respectively) for all four quarters in 2017. The constituents toluene, ethylbenzene and total xylenes were present at concentrations below the applicable standards in 2017 (Table 8.9).
- In 2017, DRO and GRO concentrations were detected in all four quarters at concentrations above the screening levels. MRO was not detected in 2017. Chloride concentrations exceeded the WQCC standards of 250 mg/L in all four quarters. Fluoride was also above the applicable standard of 1.6 mg/L in the first quarter (Table 8.9.1).
- Detection of total metals above the applicable standards include the following (Table 8.9.2):
  - Arsenic – All four quarters;
  - Manganese – Second quarter; and
  - Uranium – Fourth quarter.
- Detection of dissolved metals above the applicable standards include the following (Table 8.9.3):
  - Arsenic – All four quarters;
  - Barium – Fourth quarter;
  - Iron – All four quarters; and
  - Manganese – All four quarters.
- Low concentrations of VOCs and SVOCs were detected in 2017. The detection of the following parameters were reported to have concentrations above the applicable standards (Table 8.9.4).
  - Naphthalene – First, second and third quarters;

- 1-Methylnaphthalene – All four quarters; and
- Bis (2-ethylhexyl) phthalate – First, second, and fourth quarters.

6.2.5 STP1-NW, STP1-SW, OW-59, and OW-60

Monitoring well STP1-NW is located on the west end of the north bay (STP-1) and STP1-SW is located on the southwest corner of the south bay of STP-1. Observation wells OW-59 and OW-60, which were installed in June 2017, are located to the northwest. Ground water samples were analyzed for the following analytes: VOCs, SVOCs, DRO, GRO, MRO, major cations/anions, WQCC total and dissolved metals.

The wells were inspected and groundwater samples collected on the dates listed below in 2017. STP1-SW was found to be dry on each inspection, thus no groundwater samples were collected at STP1-SW.

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
STP1-NW	2/21/17	6/2/17	9/5/17	12/4/17
STP1-SW	2/21/17 NS	6/2/17 NS	9/5/17 NS	12/4/17 NS
OW-59	NI	NI	9/5/17 NS	12/6/17
OW-60	NI	NI	9/5/17 NS	12/6/17

NS – Well was not sampled. NI – Well not installed.

- There were no BTEX constituents detected in 2017 in STP1-NW, OW-59, and OW-60 (Table 8.14).
- Low concentrations of MTBE were detected in 2017 in STP1-NW, OW-59, and OW-60.
- There were no DRO, GRO, or MRO constituents detected in 2017 in STP1-NW. DRO and GRO was detected in the fourth quarter of 2017 in OW-59 above the applicable standards. GRO was detected below the applicable standard in OW-60.
- Chloride was detected above the applicable standard of 250 mg/L in all four quarters of 2017 in samples collected from STP1-NW and samples collected in the fourth quarter from OW-59 and OW-60.
- Nitrites and nitrates were detected at concentrations above the applicable standards in all four quarters of 2017 in STP1-NW and the fourth quarter in OW-60.
- Sulfate concentrations exceeded the applicable standard in OW-59 and OW-60.
- Low concentrations of total and dissolved metals were reported during all four quarters of 2017 (Tables 8.14.1 and 8.14.2). The constituent uranium was reported to have total and dissolved concentrations that exceeded the applicable standard for OW-59 and OW-60 for the fourth quarter of 2017. The dissolved arsenic concentrations reported for the fourth quarter for OW-59 and OW-60 exceeded the applicable standard.
- Low concentrations of 1-methynaphthalene and acetone were reported for 2017. The concentration of Bis (2-ethylhexyl) phthalate in OW-60 exceeded the applicable standard (Table 8.14.3).

6.3 CONSTITUENT LEVELS IN GROUP C MONITORING WELLS

The Group C wells include 12 observation wells and four recovery wells. Observation well OW-14 is adjacent to the liquefied petroleum gas (LPG) compound while OW-13, OW-29, and OW-30 are located north of the tank farm. Observation wells OW-50 and OW-52 were installed in 2009 per NMED and monitors the potential for contaminant migration offsite. OW-53, OW-54, OW-55, and OW-56 were installed in 2016 pursuant to NMED's direction to investigate the area near the North Drainage Ditch and provide additional wells to the northwest of OW-29 and OW-30. OW-57 and OW-58 were installed in 2016 in the northeast corner of the tank farm as part of the OW-14 Source Area Investigation.

The recovery wells were installed between 1987 and 1990 and have been used to recover SPH. Recovery well RW-1 is located within the tank farm east of Tank 568 while RW-2 is located on the southwest side of Tank 576. Recovery well RW-5 and RW-6 are located northeast of Tank 345. BTEX concentrations and SPH were detected in ground water and SPH recovery continues quarterly. When applicable, recovery is completed using a disposable hand-bailer in RW-5 and RW-6 and completed in RW-1 using a portable submersible pump. Measureable SPH has not been detected in RW-2. SPH was not detected in RW-5 and RW-6 since 2009 and 2011, respectively; however, it was detected in both wells during the second quarterly sampling event of 2017. The SPH column thickness in RW-1 decreased during 2017.

6.3.1 OBSERVATION WELLS: OW-13, OW-14, OW-29, OW-30, OW-50, OW-52, OW-53, OW-54, OW-55, and OW-56

All of these observation wells are screened in the Chinle/Alluvium Interface, with the exception of observation well OW-13, which is screened in the Sonsela stratigraphic unit. These wells are located to the north and downgradient of the tank farm. OW-14 is adjacent to the LPG tank farm. OW-29 is located directly north of OW-14 and OW-30 is situated northeast of OW-14 along the east side of the railroad spur entering the refinery property from the north. Observation wells OW-53, OW-54 and OW-55 were installed in 2016 to the northwest and west of OW-29 and OW-30 to evaluate potential downgradient migration of constituents detected in these two wells. OW-53 has not contained water since being installed and remained dry throughout 2017. OW-56 was also installed in 2016 and is located north of the tank farm near the North Drainage Ditch. OW-50 and OW-52 were already located further north to evaluate the potential for migration to the north.

These observation wells, with the exception of OW-50 and OW-52, are sampled quarterly and in agreement with OCD, approved by NMED, the third quarter sampling event is combined with the annual sampling requirement per the OCD discharge permit. Sampling was conducted at OW-50 and OW-52 on an annual basis, as past analyses had not detected the presence of constituents of concern (e.g., MTBE or BTEX). In the last quarter of 2016, MTBE and 1,2-dichloroethane were detected at low concentrations. Based on these new detections, NMED directed that sampling be increased to a quarterly frequency; however, this direction was not received until June 4, 2018, after the 2017 sampling was already

completed.

Groundwater samples were collected from these observation wells and submitted for laboratory analyses of the following analytes: BTEX, MTBE, DRO, GRO, MRO, major cations/anions, WQCC total and dissolved metals, and VOCs.

The observation wells were sampled/inspected on the following dates in 2017:

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
OW-13	2/27/17	5/31/17	9/6/17	12/11/17
OW-14	2/27/17	5/30/17	9/6/17	12/11/17
OW-29	2/27/17	5/30/17	9/6/17	12/11/17
OW-30	2/27/17	5/31/17	9/6/17	1212/17
OW-50	NS	NS	9/11/17	NS
OW-52	NS	NS	9/11/17	NS
OW-53	3/29/17	6/21/17	9/11/17	12/6/17
OW-54	3/29/17	6/21/17	9/11/17	12/6/17
OW-55	3/29/17	6/21/17	9/11/17	12/6/17
OW-56	3/29/17	6/21/17	9/11/17	12/6/17

The following text discusses the 2017 analytical results for groundwater samples collected from monitor wells OW-13, OW-14, OW-29 and OW-30.

- BTEX and MTBE Analytical Results – Table 8.13
  - No detectable concentrations of BTEX were reported in 2017 for OW-13. Low concentrations of MTBE continues to be detected at concentrations below the applicable standard of 0.143 mg/L (Table 8.13);
  - The 2017 benzene and MTBE concentrations for OW-14 were above the applicable standard of 0.005 mg/L and 0.143 mg/L for all four quarters. There were detectable concentrations of toluene, ethylbenzene, and total xylenes;
  - No detectable concentrations of BTEX were reported in 2017 for OW-29. The MTBE concentrations were above the applicable standard of 0.143 mg/L for all four quarters; and
  - In OW-30, the benzene concentration was reported above the applicable standard in the fourth quarter. MTBE concentrations were reported above the applicable standard of 0.143 mg/L in all four quarters of 2017. No detectable concentrations of toluene, ethylbenzene, and total xylenes were reported in 2017 for OW-30.
- DRO/GRO/MRO Analytical Results – Table 8.13.1
  - DRO was detected above the applicable standard in OW-14 (all four quarters), OW-29 (second quarter) and OW-30 (all four quarters);
  - GRO was detected above the applicable standard in all four wells in all four quarters of 2017; and
  - MRO was not detected in any of the wells during 2017.
- Total Metals – Table 8.13.2 and Dissolved Metals – Table 8.13.3
  - No metals concentrations were detected in OW-13 that exceeded applicable standards in 2017;

- Barium, iron and manganese were detected at concentration levels above applicable standards in 2017 in OW-14;
- In OW-29, manganese and uranium were detected at levels above the applicable standards in 2017; and
- Uranium was detected above the applicable standard in 2017 in OW-30.

- Volatile Organic Compounds – Table 8.13.4
  - In 2017 no volatile organic compounds were detected above the applicable standards in the groundwater samples collected from OW-13;
  - 1-methylnaphthalene and naphthalene were detected in OW-14 in all four quarters of 2017 at concentrations above the applicable standards. The methylene chloride concentration in the second quarter exceeded the applicable standard; and
  - No organic compounds detected were exceeding applicable standards in OW-29 and OW-30 in all of 2017.

The following text discusses the 2017 analytical results for groundwater samples collected from monitor wells OW-50 and OW-52.

- BTEX, DRO, GRO, and MRO constituents have not been detected in either OW-50 or OW-52 since 2010 through 2016; however, a low concentration of MTBE was detected in both wells in 2016 and 2017 annual groundwater sampling events (Tables 8.5 and 8.5.1).
- Low concentrations of fluoride, chloride and sulfate were detected in 2017 and continue to remain below the applicable standards (Table 8.5.1).
- Low concentrations of total and dissolved arsenic, barium, chromium, iron, lead, manganese, selenium, uranium, and zinc have been detected in OW-50 and OW-52 in 2017 (Tables 8.5.2 and 8.5.3).
- 1,2-dichloroethane (EDC) was detected in 2016 in OW-50 and OW-52. It was not detected in 2017 (Table 8.5.4).

The following text discusses the 2017 analytical results for groundwater samples collected from monitor wells OW-54, OW-55, and OW-56.

- BTEX and MTBE Analytical Results – Table 8.13
  - In OW-54, benzene and MTBE concentrations exceeded the applicable standards during all four quarters. Toluene, ethylbenzene and total xylenes were detected at concentrations below the applicable standards;
  - In OW-55, the following constituents exceeded the applicable standards in 2017:
    - Benzene - All four quarters;
    - Toluene - First, second and third quarter;
    - Ethylbenzene - First and second quarter;
    - Total xylenes - First, second and third quarter; and
    - MTBE - All four quarters.
  - In OW-56 there were no detectable concentrations of benzene and MTBE that exceeded the applicable standards.
- DRO/GRO/MRO - Anions Analytical Results – Table 8.13.1
  - DRO and GRO was detected above the applicable standards in all three wells in all quarters of 2017;
  - MRO was not detected in any of the wells during 2017; and
  - Chloride concentrations for OW-54, OW-55, and OW-56 exceeded the applicable standard during all four quarters of 2017.
- Total Metals – Table 8.13.2 The concentrations of the following total metals were exceeded in 2017:

- OW-54 – Iron (first and third quarter); lead (first, second and third quarters); manganese (first and third quarters); and uranium (all four quarters);
- OW-55 – Iron (first, second, and third quarter); lead (first and third quarter); and manganese (all four quarters); and
- OW-56 – No metals exceeded the applicable standards in 2017.

- Dissolved Metals – Table 8.13.3 The concentrations of the following dissolved metals were exceeded in 2017:
  - OW-54 - Manganese (all four quarters) and uranium (all four quarters);
  - OW-55 – Iron (all four quarters) and manganese (all four quarters); and
  - OW-56 – No metals exceeded the applicable standards in 2017.
- Volatile Organic Compounds – Table 8.13.4 The concentrations of the following organic compounds were exceeded in 2017:
  - OW-54 – Naphthalene (second quarter);
  - OW-55 – 1,2,4-Trimethylbenzene (all four quarters); 1,3,5-trimethylbenzene (first and second quarters); naphthalene (first, second, and third quarters); and 1-methylnaphthalene (first and second quarters); and
  - OW-56 – 1,2-Dichloroethane (third and fourth quarters).

6.3.2 OBSERVATION WELLS: OW-57 and OW-58

Observation wells OW-57 and OW-58 were installed upgradient from OW-14 and OW-30 in 2016 to monitor possible migration of BTEX and MTBE. The observation wells are screened in the Chinle/Alluvium Interface stratigraphic unit. Sampling dates are listed below.

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
OW-57	3/30/17	6/21/17	9/19/17	12/6/17
OW-58	3/29/17	6/21/17	9/19/17	12/6/17

The following text discusses the 2017 analytical results for groundwater samples collected from monitor wells OW-57, and OW-58.

- BTEX and MTBE Analytical Results – Table 8.13
  - BTEX and MTBE was detected in both wells during all four quarters of 2017;
  - Benzene concentrations exceeded the applicable standard in both OW-57 and OW-58 during all four quarters of 2017;
  - Toluene and total xylenes concentrations exceeded the applicable standard in OW-58 during the first quarter of 2017;
  - Ethylbenzene was detected above the screening level in all four quarters in OW-58; and
  - MTBE concentrations exceeded the applicable standard during the second quarter in OW-57 and all four quarters in OW-58.
- DRO/GRO/MRO and Anions Analytical Results – Table 8.13.1
  - DRO and GRO concentrations exceeded the applicable standard in both OW-57 and OW-58 during all four quarters of 2017;
  - MRO was not detected in the wells during 2017; and

- Fluoride, chloride, sulfate and nitrates/nitrites were reported above the detection limit in 2017. None of the concentrations exceeded the applicable standards.

- Total Metals – Table 8.13.2
  - During the third quarter of 2017, the arsenic concentration in OW-57 exceeded the applicable standard;
  - Barium and manganese were detected at concentrations above applicable standards in all four quarters in 2017 in both OW-57 and OW-58;
  - The iron concentrations in OW-58 exceeded the applicable standards in all four quarters of 2017; and
  - The lead concentrations in OW-58 exceeded the applicable standards in the first and second quarter of 2017.
- Dissolved Metals – Table 8.13.3
  - Barium and manganese were detected at concentrations above applicable standards in all four quarters in 2017 in both OW-57 and OW-58; and
  - The iron concentrations exceeded the applicable standard for both wells during 2017 (excluding the first quarter groundwater sample from OW-57).
- Volatile Organic Compounds – Table 8.13.4
  - The reported concentrations of 1,2,4-trimethylbenzene from OW-58 exceeded the applicable standard during the first, second and third quarters of 2017; and
  - 1-methylnaphthalene and naphthalene were detected in OW-57 and OW-58 in all four quarters of 2017 at concentrations above the applicable standards.

6.3.3 RECOVERY WELLS: RW-1, RW-2, RW-5, and RW-6

The recovery wells RW-1, RW-2, RW-5, and RW-6 are shallow wells installed in the refinery tank farm located in the east-central portion of the refinery property. The recovery wells are screened within the Chinle/Alluvium Interface stratigraphic unit and are used to recover SPH. RW-1 is located east of Tank 716; RW-2 is located between Tanks 574 and 576; and RW-5 and RW-6 are located in the northwest corner of the tank farm, east of Tanks 337 and 345.

Quarterly inspections for the RW wells include product recovery of SPH using disposable bailers in RW-5 and RW-6, and a portable 2-inch bladder pump for RW-1. Hydrocarbon thickness is measured prior to being removed. Purge water is collected and disposed upstream of the NAPIS. Hydrocarbon recovery is estimated based on measurements and observations.

The RW wells were added to the annual sampling schedule in 2011, per the Approval with Modifications in the 2010 FWGWMP. For 2017, the wells were sampled and evaluated for the following analytes: BTEX, MTBE, DRO, GRO, and MRO. Due to the presence of SPH, groundwater samples were not collected at RW-1 throughout 2017. As SPH was determined to be present again in RW-5 and RW-6 in June 2017, groundwater samples were not collected from these two wells during the second, third, and fourth quarters.

The recovery wells were inspected and/or sampled in 2017 on the following dates:

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
RW-1	3/16/17 NS	6/20/17 NS	9/19/17 NS	11/16/17 NS
RW-2	3/16/17	6/20/17	9/19/17	12/5/17
RW-5	3/16/17	6/20/17 NS	9/19/17 NS	12/12/17 NS
RW-6	3/16/17	6/20/17 NS	9/19/17 NS	12/12/17 NS

NS – Well was not sampled.

- No samples were collected from RW-1 in 2017 due to the presence of SPH. No samples were collected from RW-5 and RW-6 during the second, third and fourth quarters of 2017 due to the detection of SPH in the wells;
- BTEX and MTBE concentrations exceeded the applicable standards in RW-2 in 2017. Benzene exceeded the applicable standard in RW-5 and benzene and total xylenes concentrations exceeded applicable standards in RW-6. Concentrations of toluene and ethyl benzene were detected in RW-5 and RW-6, which did not exceed applicable standards (Table 8.11);
- DRO and GRO concentrations exceeded the applicable standards in RW-2, RW-5, and RW-6 in the groundwater samples collected in 2017 (Table 8.11.1); and
- Volatile organic compounds were detected in RW-2, RW-5 and RW-6 in the groundwater samples collected in 2017. 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, 1-methylnaphthalene and 2-methylnaphthalene were detected in concentrations exceeding the applicable standards (Table 8.11.4).

Hydrocarbon recovery from RW-1 has shown a steady decrease from 2005 through early 2016. In mid-2016, the recovery rate increased from less than one gallon to 3.5 gallons during the 2016 well purging event. The recovery rate decreased from 4 to 2.5 gallons during the 2017 quarterly gauging events. From a review of the hydrocarbon recovery log for RW-1 in Appendix A, it appears the recovery pump was initially (Feb 2005) operated in a continuous mode while recovery rates were higher. In March 2005, the recovery of SPH was reported at 48 to 74 gallons per week. By July and August, the reported recovery had declined to 18 to 28 gallons for an approximate three week recovery period. In December 2005, the recovery for two weeks had declined to five gallons of SPH. With the declining recovery volumes of SPH, the recovery method was changed to hand bailing in 2007. The recovery method reverted to using a bladder pump in 2008; however, due to the low recovery volumes the recovery was conducted in conjunction with purging the well for sampling and the pump was not operated on a continuous basis.

An increase in measured product thickness was recorded starting in 2013. The level measured in October 2012 was 0.09 feet and showed a sustained increase over time to 4.93 feet in November of 2014. A similar increase in SPH thickness occurred in late 2007 through 2009, with the product thickness decreasing to less than 0.6 feet through late 2012. In 2016, total hydrocarbon recovery is estimated at 8.5 gallons with 53 gallons of water purged compared to the

2005 estimate of 431 gallons of hydrocarbons in 1,210 gallons of water. The measured product thickness decreased to 1.0 feet by the end of 2017, but the total recovery for 2017 was 10.5 gallons of SPH, which represents slight increase from 2016. A drop-in 3" diameter x 24" long bladder pump with suction at the top of the pump was used to purge water/hydrocarbons from this well until pump lost suction. The recovery well was never completely purged dry due to suction of the submersible pump being at the top, which left approximately 24" of product/water level remaining in RW-1.

6.4 CONSTITUENT LEVELS IN GROUP D MONITORING WELLS

The Group D wells include three process/production wells, PW-2, PW-3, and PW-4 that supply water to the refinery and for domestic uses. These process wells reach approximately 1,000 feet and are screened in the San Andreas/Yeso aquifer. Additionally, Group D also includes four observations wells OW-1, OW-10, OW-11, and OW-12. The OW-1 and OW-10 wells are located in the northwest portion of the refinery and are considered artesian wells. OW-11 is located near the entrance of the refinery and OW-12 is west of the tank farm in the surplus yard.

6.4.1 PROCESS WELLS: PW-2, PW-3, and PW-4

PW-2, PW-3 and PW-4 are all process/production wells which supply process water to the refinery and domestic water to the company housing and Travel Center. PW-2 is located west of evaporation pond 6 (EP-6). PW-3 is centrally located directly north of the maintenance shop, and PW-4 is located on the southern edge of the refinery property and adjacent to the Pilot Lift Station.

Production well PW-2 is on a staggered 3-year sampling schedule, PW-3 is sampled on an annual basis since 2010 due to the detection of 2-methylnaphthalene exceeding the applicable standard in 2008. In 2013, three organic compounds were detected in PW-4 at very low concentrations and per NMED directive (HWB-WRG-14-006), sampling of this well was switched to semi-annual in 2017. Groundwater samples are collected for the following analytes: BTEX, MTBE, nitrate, WQCC total and dissolved metals, VOCs and SVOCs.

The process wells were sampled in 2017 on the following dates:

WELL ID	DATE
PW-2	9/18/17
PW-3	9/18/17
PW-4	3/30/17; 9/18/17

- No BTEX or MTBE constituents were detected in PW-2, PW-3 or PW-4 in 2017. Sulfate was detected above the applicable standard in PW-3 in 2017. (Table 8.6).
- Low concentrations of the following metals (total and dissolved) were detected in the wells in 2017 at levels below the applicable standards (Tables 8.6.1 and 8.6.2):
  - Arsenic;
  - Barium;
  - Iron;
  - Manganese;
  - Selenium;
  - Uranium; and
  - Zinc.
- There were no detectable concentrations of cyanide in the groundwater samples collected from the three wells (Table 8.6.1).
- Two semi-volatile organic compounds were reported in concentrations above the detection limits (Table 8.6.3):
  - Bis (2-ethylhexyl) phthalate – PW-4 exceeded the applicable standard in the second quarter; and
  - Di-n-octyl phthalate – PW-2 and PW-3.

6.4.2 OBSERVATION WELLS: OW-1 and OW-10

Observation well OW-1 is an artesian well located on the west side of EP-6. Well OW-10 is located upgradient from OW-1 on the east side of EP-9. Wells OW-1 and OW-10 are screened in the Sonsela stratigraphic unit. Inspection requirements for these two wells were modified in 2010, per the 2010 FWGWMP, and included sampling on a quarterly basis. In agreement with OCD, approved by NMED, the third quarter sampling was combined with the annual sampling event. In 2017, groundwater samples from OW-1 and OW-10 were evaluated for the following analytes: BTEX, MTBE, DRO, GRO, MRO, major cations/anions, WQCC total and dissolved metals, and VOCs.

Groundwater samples were collected from OW-1 and OW-10 in 2017 on the following dates:

WELL ID	QTR 1	QTR 2	QTR 3	QTR 4
OW-1	2/27/17	5/31/17	9/7/17	12/8/17
OW-10	2/27/17	5/31/17	9/7/17	12/7/17

- BTEX was not detected in OW-1 or OW-10 in 2017. MTBE was detected in low concentrations below the applicable standard in both wells in 2017 (Table 8.12).
- Low concentrations of cations were detected in OW-1 throughout 2017 at concentration levels below the applicable standard. The samples collected from OW-10 reported exceedances of chloride in all of 2017 at concentrations above the WQCC Standard of 250 mg/L (Table 8.12.1).
- GRO was detected in the fourth quarter in OW-1 and the second, third and fourth quarters of 2017 in OW-10. DRO and MRO was not detected in OW-1 and OW-10 in 2017 (Table 8.12.1).
- The 2017 metals analysis for OW-1 and OW-10 reported the following exceedances above the applicable standards (Tables 8.12.2 and 8.12.3):
  - OW-1 – Total chromium (first quarter), total lead (first quarter) and total uranium (third and fourth quarter);
  - OW-10 – Total uranium (third and fourth quarter);
  - OW-1 – Dissolved lead (third quarter) and dissolved uranium (third and fourth quarter); and
  - OW-10 – Dissolved uranium (third and fourth quarter).
- In 2017 no VOCs were detected above the applicable standards in the groundwater samples collected from OW-1 and OW-10. There were low concentrations of four organic compounds detected in 2017 (Table 8.12.4):
  - 1,1-dichloroethane – OW-10 (all four quarters);
  - 1,1-dichloroethene – OW-10 (all four quarters);
  - 1,2-dichloroethane (EDC) – OW-1 (second quarter) and OW-10 (all four quarters); and
  - cis-1,2-DCE - OW-10 (first, second, and fourth quarters).

6.4.3 OBSERVATION WELLS: OW-11 and OW-12

Observation well OW-11 is located within the refinery property (south) on the west side of the main entrance. Well OW-12 is located within the surplus or bone yard located west and slightly north of the primary tank farm. OW-11 and OW-12 are screened in the Sonsela stratigraphic unit.

Well inspections and sampling are conducted annually. In 2017, groundwater samples from the two wells were evaluated for the following analytes: BTEX, MTBE, major anions/cations, GRO, DRO, MRO, WQCC total and dissolved metals, VOCs, and SVOCs. Observation well OW-11 and OW-12 were sampled in the third quarter of 2017 on the following dates:

WELL ID	DATE
OW-11	9/18/17
OW-12	9/19/17

- BTEX and MTBE have not been detected in OW-11 and OW-12 since 2006 and remained non-detect for 2017 (Table 8.4).
- Fluoride, nitrite, and sulfate concentrations continue to exceed the applicable standards in OW-11 (Table 8.4.1).
- GRO, DRO and MRO were not detected in OW-11 and OW-12 in 2017 (Table 8.4.1).
- In the groundwater sample from OW-11, the uranium concentration was reported above the applicable standard. The following metals (total and dissolved) were detected at concentrations below the applicable standards in OW-11 and OW-12 in 2017 (Tables 8.4.2 and 8.4.3):
  - Arsenic;
  - Barium;
  - Chromium;
  - Copper;
  - Iron;
  - Lead;
  - Manganese;
  - Selenium; and
  - Zinc.

6.5 CONSTITUENT LEVELS IN GROUP E MONITORING WELLS

To date, a total of 44 monitoring wells (MKTF-1 through MKTF-44) have been installed to aid in delineating the extent of a hydrocarbon seep discovered in 2013, directly west of crude tanks T-101 and T102. During the investigation, a pre-existing well (labeled as MKTF-45) was found directly west of the truck-loading rack. Each of the wells has been constructed into permanent monitoring wells, and these wells are designated as Group E wells.

In 2017, groundwater samples were collected from the MKTF wells and evaluated for the following analytes: BTEX, MTBE, DRO, GRO, MRO, major cations/anions, metals, VOCs, and SVOCs. Wells that had a hydrocarbon layer were not sampled.

- Benzene concentrations exceeded the standard of 0.005 mg/L in the following wells: MKTF-2, MKTF-4, MKTF-9, MKTF-10, MKTF-11, MKTF-13, MKTF-15 through MKTF-22, MKTF-24, MKTF-25, MKTF-35 through MKTF-37, MKTF-39, and MKTF-42. The highest benzene concentration (24 mg/L) during 2017 occurred in well MKTF-15 during the fourth quarter (Table 8.17).
- Toluene concentrations exceeded the standard of 0.75 mg/L in the following wells: MKTF-10, MKTF-11, MKTF-15, and MKTF-20. The highest toluene concentration (22 mg/L) occurred in well MKTF-15 in the second quarter 2017 (Table 8.17).
- Ethylbenzene concentrations exceeded the standard of 0.7 mg/L in the following wells: MKTF-4, MKTF-10, MKTF-11, MKTF-13, MKTF-15, MKTF-16, MKTF-19, MKTF-20, and MKTF-36. The highest concentration (2.6 mg/L) occurred in MKTF-15 during the second quarter of 2017. (Table 8.17).

- Total xylenes concentrations exceeded the standard of 0.62 mg/L in the following wells: MKTF-4, MKTF-10, MKTF-11, MKTF-13, MKTF-15, MKTF-16, MKTF-19, MKTF-20, MKTF-21, MKTF-23, and MKTF-37. The highest concentration (14 mg/L) occurred in well MKTF-20 in the second quarter 2017. (Table 8.17).
- MTBE concentrations exceeded the standard of 0.143 mg/L in the following wells: MKTF-2, MKTF-4, MKTF-9, MKTF-13, MKTF-15, MKTF-16, MKTF-17, MKTF-19 through MKTF-22, MKTF-24, MKTF-25, MKTF-32, MKTF-33, and MKTF-36. The highest concentration (12 mg/L) occurred in well MKTF-19 in the third quarter 2017 (Table 8.17).
- The DRO concentrations exceeded the applicable standard in MKTF-2, MKTF-4, MKTF-9, MKTF-10, MKTF-11, MKTF-13, MKTF-15 through MKTF-22, MKTF-24, MKTF-25, MKTF-29, MKTF-31, MKTF-35, MKTF-36, MKTF-37, MKTF-39, and MKTF-42 (Table 8.17.1).
- The GRO concentrations exceeded the applicable standard in MKTF-2, MKTF-4, MKTF-9, MKTF-10, MKTF-11, MKTF-13, MKTF-15 through MKTF-22, MKTF-24, MKTF-25, MKTF-30 through MKTF-33, MKTF-35, MKTF-36, MKTF-37, MKTF-39, and MKTF-42. There were no detectable concentrations of MRO in any of the MKTF wells (Table 8.17.1).
- Fluoride concentrations exceedances above the applicable standard were found in the following wells: MKTF-2 and MKTF-20 (Table 8.17.1).
- Chloride concentration exceedances above the standard (250 mg/L) were found in the following wells: MKTF-2, MKTF-10, MKTF-11, MKTF-15, MKTF-16, MKTF-20, MKTF-21, MKTF-24, MKTF-25, MKTF-27, MKTF-28, MKTF-30, MKTF-31, MKTF-32, MKTF-34, and MKTF-38 through MKTF-44. (Table 8.17.1).
- Nitrite concentrations exceeded the standard (1.0 mg/l) in the following wells: MKTF-15, MKTF-27, MKTF-28, MKTF-34, MKTF-38, MKTF-41, MKTF-43, and MKTF-44.
- Nitrate concentrations exceeded the standard (10 mg/l) in the following wells: MKTF-43 and MKTF-44.
- Sulfate concentrations exceeded the standard (600 mg/l) in the following wells: MKTF-29 and MKTF-43.

- Total metals above applicable standards were detected in the following wells (Table 8.17.2):
  - Arsenic: MKTF-4, MKTF-10, MKTF-11, MKTF-15, MKTF-16, MKTF-19, MKTF-20, MKTF-21, MKTF-27, MKTF-36, MKTF-43, and MKTF-44;
  - Barium: MKTF-4, MKTF-10, MKTF-11, MKTF-13, MKTF-15, MKTF-16, MKTF-18 through MKTF-21, MKTF-35, MKTF-36, and MKTF-39;
  - Iron: MKTF-10, MKTF-13, MKTF-15, MKTF-19, MKTF-20, MKTF-21, MKTF-22, MKTF-24, MKTF-28, MKTF-35, MKTF-36, and MKTF-39;
  - Lead: MKTF-19, MKTF-22, MKTF-24, MKTF-25, MKTF-28, MKTF-35, MKTF-36, and MKTF-37;
  - Manganese: MKTF-09, MKTF-10, MKTF-11, MKTF-13, MKTF-15, MKTF-16, MKTF-17, MKTF-18, MKTF-19, MKTF-20, MKTF-21, MKTF-22, MKTF-24, MKTF-25, MKTF-35, MKTF-36, MKTF-38, MKTF-39, and MKTF-43;
  - Selenium: MKTF-43; and
  - Uranium: MKTF-2, MKTF-25, MKTF-27, MKTF-28, MKTF-30 through MKTF-34, MKTF-40, MKTF-43, and MKTF-44.
- Dissolved metals concentrations above applicable standards were noted in the following wells (Table 8.17.3):
  - Arsenic: MKTF-4, MKTF-10, MKTF-11, MKTF-16, MKTF-19, MKTF-20, MKTF-21, MKTF-36, and MKTF-43;
  - Barium: MKTF-4, MKTF-10, MKTF-11, MKTF-13, MKTF-15, MKTF-16, MKTF-18, MKTF-19 through MKTF-22, MKTF-36, MKTF-37, and MKTF-39;
  - Iron: MKTF-2, MKTF-4, MKTF-9, MKTF-10, MKTF-11, MKTF-13, MKTF-15 through MKTF-22, MKTF-28, MKTF-35, MKTF- 36, MKTF-37, and MKTF-39;
  - Manganese: All wells sampled in 2017 with the exception of MKTF-28, MKTF-30, MKTF-31, MKTF-32, MKTF-34, MKTF-40, MKTF-41, and MKTF-44;

- Selenium: MKTF-43; and
- Uranium: MKTF-2, MKTF-24, MKTF-26, MKTF-27, MKTF-28, MKTF-30, MKTF-31 through MKTF-34, MKTF-40, MKTF-43, and MKTF-44.

Seven semi-volatile organic compounds were detected that exceeded applicable standards in 2017 and are listed as follows: See Table 8.17.4 for the complete list.

- Aniline
- Benz(a)anthracene
- Bis(2-ethylhexyl)phthalate
- 1-methylnaphthalene
- 2-methylnaphthalene
- Naphthalene
- Phenol

Eleven volatile organic compounds were detected in the MKTF wells in 2017 at concentration levels above the applicable standards and are listed as follows: See Table 8.17.5 for the complete list.

- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- 1,2-dichloroethane (EDC)
- Naphthalene
- 1-methylnaphthalene
- 2-methylnaphthalene
- Cis1,2-DCE
- 1,1-Dichloroethane
- 1,1-Dichloroethene
- Trichloroethene (TCE)
- Vinyl Chloride

6.6 CONSTITUENT LEVELS FOR EVAPORATION PONDS and EFFLUENTS

There are eleven evaporation ponds located within the northwest section of the refinery. Evaporation pond 1 is more commonly known as Pond 1 and is considered separate from the remaining SMWU No. 2 Evaporation Ponds. Pond 1, which is out of service, is separated by a dike along the north side of aeration lagoon 1 (AL-1) and aeration lagoon 2 (AL-2), and was used as a holding pond for the aeration lagoons.

Evaporation ponds 2 through 6 are separated by dikes and are located west of AL-2. Evaporation pond 9 is to the south and is separated from EP-2 through EP-6 by a two-track road. Evaporation ponds EP-7, EP-8, EP-11, EP-

12A, and EP-12B are also separated by dikes and are located on the northwest corner of the refinery. In addition to the evaporation ponds, there is one effluent point that is routinely monitored.

6.6.1 EVAPORATION PONDS EP-1 THROUGH EP-12B

Samples have been collected annually from Pond 1 and EP-2 through EP-8 since 2007. In 2011, EP-9, EP- 11, EP-12A, and EP-12B were added to the sample list, per the 2010 FWGWMP, and the sample frequency was increased to semi-annually for all of the ponds. Pond 1 is no longer in service.

In 2017, samples were collected from the evaporation ponds for the following analytes: BTEX, MTBE, major anions/cations, biochemical oxygen demand (BOD), chemical oxygen demand (COD), e-coli bacteria, WQCC total and dissolved metals, and VOCs and SVOCs. EP-2 through EP-9, EP-11, EP-12A, and EP- 12B were sampled in 2017 on the following dates:

SAMPLE LOCATION	DATE	DATE
EP-2 through EP-12B	3/30/17	10/24/17

- Benzene was detected above the applicable standard of 0.005 mg/L in evaporation ponds (EP- 2 and EP-12B) in 2017. Toluene, ethylbenzene, and total xylenes were detected at concentration levels below applicable standards in the following evaporation ponds: EP-2, EP-3, EP-4 and EP-12B. MTBE was not detected in the evaporation ponds in 2017 (Table 8.15).
- Concentrations of fluoride, chloride, and sulfates exceeded the applicable WQCC standards in each evaporation pond during 2017 (Table 8.15).
- In 2017, BOD concentrations exceeded the general requirement of the 20 NMAC 6.2.3103 (<30 mg/L) in each of the evaporation ponds except for EP-7, EP-8, EP-9, and EP-11.
- In 2017, COD concentrations exceeded the general requirement (<125 mg/L) in each of the ponds.
- In 2017 total metals were detected in concentrations exceeding the applicable standards (Table 8.15.2):
  - Arsenic – All ponds;
  - Manganese – EP-9 and EP-11; and
  - Selenium – EP-5, EP-6, EP-7, EP-8, EP-9, and EP-11.
- In 2017 dissolved metals were detected in concentrations exceeding the applicable standards (Table 8.15.3):
  - Arsenic – All ponds;
  - Iron – EP-2;
  - Manganese – All ponds; and
  - Selenium – EP-5, EP-6, EP-7, EP-8, EP-9, and EP-11.
- The constituent 1-methylnaphthalene was detected in EP-2 above the EPA RSL Tap Water standard of 0.0011 mg/l in 2017 (Table 8.15.4).
- The constituent bromomethane was detected in EP-2 and EP-12B above the NMED Tap Water standard of 0.00754 mg/L in 2017 (Table 8.15.4).

- Two SVOCs were detected exceeding the applicable standards in the following evaporation ponds in 2017 (Table 8.15.5):
  - Bis (2-ethylhexyl)phthalate – All ponds; and
  - Phenol - EP-2, EP-3, EP-4, and EP-12B.

6.7.2 INFLUENTS: AL-1, AL-2, and EP-1

The start-up of the new WWTP occurred in May 2012. By the end of June 2012, all of the processed water going into AL-1 was re-routed to the WWTP, via Tank 35 and the NAPIS unit, with the exception of the Pilot lift station. Some gravitational flow continued from AL-1 to AL-2 and from AL-2 to Pond 1 (EP-1) through the second half of 2013.

The aeration lagoons and pond 1 are no longer in service and no samples were collected in 2017.

6.7.3 EFFLUENTS: AL-2 TO EP-1, PILOT, and NAPIS

All effluents have been non-existent since June 2013 due to re-routing waters to the WWTP. The last effluent sample from AL-2 was in June 2013. The Pilot effluent was rerouted in June 2013 while the NAPIS unit was re-routed mid-June 2012. No effluent analyses are available for 2017.

6.7.4 OUTFALL BW to EP-2

BW is defined as reverse osmosis water coming from the boiler unit. The flow from the boiler unit previously discharged into EP-2 through a 4-inch PVC pipe. The reverse osmosis water no longer discharges to EP-2 and has been rerouted back into the units for reuse. No samples were collected in 2017.

6.7.5 OUTFALL STP1 to EP-2 Inlet

The EP-2 Inlet designation was changed to STP1 to EP-2 in the second half of 2012 due to the startup of the new WWTP and the new sanitary treatment pond (STP-1). STP-1 effluent now flows into the northeast corner of EP-2. Sampling of STP1 to EP-2 inlet was changed to quarterly beginning the second quarter of 2016 per NMED directive dated May 18, 2016, and sampled for the following analytes: BTEX, MTBE, VOCs, GRO, DRO, MRO, BOD, COD, and TDS.

- BTEX and MTBE (Table 8.16)
  - Benzene was detected during all four quarters of 2017. The concentration reported from the fourth quarter exceeded the applicable standard.
  - Toluene was detected during the first, third and fourth quarters of 2017. None of the concentrations exceeded the applicable standard.
  - Ethyl benzene was not detected during the quarterly sampling in 2017.

- Total xylenes were detected during the first quarter of 2017. The concentration did not exceed the applicable standard.
- MTBE was not detected during the quarterly sampling in 2017.

- DRO/GRO/MRO (Table 8.16)
  - The DRO concentrations reported for all four quarters in 2017 exceeded the applicable standards.
  - Detectable GRO concentrations were reported for the first and fourth quarter of 2017. The concentration reported for the fourth quarter exceeded the applicable standard.
  - No detectable MRO concentrations were reported for the quarterly sampling in 2017.
- The concentrations of total dissolved solids reported for all four quarters in 2017 exceeded the applicable standard (Table 8.16).
- BOD and COD concentrations exceeded the applicable standards in 2017 (Table 8.16.1).
- Three organic compounds were detected in 2017 (acetone, 2-butanone, and carbon disulfide). All concentrations were below the applicable standards (Table 8.16.2).

SECTION 7 CONCLUSIONS AND RECOMMENDATIONS

This section is an overview of the analytical water quality data collected to identify potential impacts to the groundwater and determine if further monitoring or site investigations are required.

7.1 GROUP A

Five wells (BW-1A, BW-1B, BW-3A, BW-4A, and BW-5A) continue to indicate no presence of water since their original installation.

- The boundary wells located in the northwest corner of the refinery along the west sides of EP-7, EP-8, and EP-11 have not shown any detection of BTEX or MTBE constituents during annual sampling events.
- Fluoride concentrations were detected above WQCC standards in BW-1C, BW-2B, and BW-2C, which may be naturally occurring in the groundwater, as similar concentrations are indicated in up-gradient well OW-11.
- No BTEX or MTBE constituents were detected in BW-1C, 2A, 2B, 2C, 3B or 3C in 2017 (Table 8.1). Low concentrations of toluene and MTBE were detected in samples collected from BW-5B in December 2017. MTBE was detected in the sample collected from BW-5C in December 2017.

RECOMMENDATION: *Continue with current monitoring schedule. There have been no significant changes or discoveries of contaminants that warrant any changes. Monitoring wells BW-4A, BW-4B, BW-5A, BW-5B, and BW-5C were added to the monitoring plan in March 2018.*

The MW (MW-1, MW-2, MW-4, and MW-5) series of wells are located around the RCRA LTU.

- No detectable concentration levels of BTEX or MTBE constituents have been found in the groundwater samples collected from these wells.
- No metals (total or dissolved) exceeded the applicable standards; however, very low concentrations of arsenic, barium, lead, manganese, selenium and mercury were detected in most of the MW series of wells.
- The organic compounds acetone, bis (2-ethylhexyl) phthalate, and benzoic acid were detected in low concentrations in 2017.
- These wells are also monitored under the RCRA Post Closure Permit on a 10-year cycle. The first cycle was completed in 2009/2010.

RECOMMENDATION: *Continue with current monitoring schedule and the RCRA 10 year monitoring.*

The SMW (SMW-2, SMW-4) wells are also located around the RCRA LTU and are screened in the Chinle/Alluvium Interface stratigraphic unit. SMW-4 is monitored under the RCRA Post-Closure Permit on a 10-year cycle. The first cycle was completed in 2009/2010.

- No detectable concentration levels of BTEX constituents were found in these wells from 2006 through 2017.
- MTBE was detected in SMW-2 at concentration levels below the NMED Tap Water standard of 0.143 mg/L.

- In SMW-2, chloride and sulfate were detected above the WQCC standards since 2011. Low concentrations of fluoride, chloride and sulfate have been detected in SMW-4. DRO and GRO were detected in SWM-2 above screening levels.

RECOMMENDATION: *Continue with current monitoring schedule and the RCRA 10 year monitoring. A separate investigation of the elevated chloride and sulfate concentrations is on-going.*

7.2 GROUP B – GROUNDWATER MONITORING

SPH has been detected in GWM-1 since 2015. There was an insufficient volume of water in GWM-2 during the fourth quarter of 2013 for sample collection, and the well was reported dry for all of 2014, 2015, 2016, and 2017. GWM-3 was dry during 2013, 2014, 2015, 2016, and 2017.

RECOMMENDATION: *Continue with current monitoring schedule. There have been no significant changes or discoveries of contaminants that warrant any changes in the analyses. Inspect GWM-1 on a more regular basis: gauging water/SPH level, purge dry to check for recharge rate and monitor level of SPH after each purge.*

There are four NAPIS wells that are monitored on a quarterly schedule.

- BTEX and MTBE concentrations were below the applicable standards in the first and second quarters of 2017 in NAPIS-1. Separate phase hydrocarbon was detected in NAPIS-1 in the third and fourth quarters. Benzene and MTBE concentrations in NAPIS-2 have frequently exceeded the applicable standards since 2008 and remained in exceedance or slightly below exceedance level for 2017. BTEX constituents were not detected in NAPIS-3 in 2017. MTBE was detected in all four quarters of 2017 in NAPIS-3, however, none of the concentrations were above the standard. In KA-3, the benzene concentration was detected above the applicable standard in the first quarter of 2017.
- DRO was detected above applicable standards in NAPIS-1, NAPIS-2, NAPIS-3, and KA-3. Detections of GRO above the applicable standard occurred in NAPIS-1, NAPIS-2, NAPIS-3, and KA-3. MRO has not been detected in any of the NAPIS or KA wells.
- Barium, iron, manganese and uranium were detected in a least one of the wells at concentration levels exceeding the applicable standards in 2017.
- Bis (2-ethyhexyl) phthalate was detected in concentrations that exceeding the applicable standards in NAPIS-1, NAPIS-2, NAPIS-3 and KA-3 in 2017. Naphthalene was detected in NAPIS-2 during all four quarters. The concentrations exceed the applicable standard.

RECOMMENDATION: *Continue with current inspection schedule. No changes required. An investigation of the source of SPH that was identified in NAPIS-1 is on-going.*

There are three leak detection units on the NAPIS Unit which are inspected for fluid level.

RECOMMENDATION: *Continue with current inspection schedule. No changes required as repairs were recently conducted in 2018 to ensure no active leaks from the NAPI.*

The installation on July 17, 2012 of monitoring well OAPIS-1 is from a site investigation conducted according to the Investigation Work Plan Solid Waste Management Unit (SMWU) No. 1 Aeration Basin and SMWU No. 14 Old API Separator.

- No significant deviations from past analytical at OAPIS-1.

RECOMMENDATION: *Continue with current inspection schedule.*

Monitor wells OW-59 and OW-60 were installed downgradient of STP1-NW. The installation of these wells is in response to elevated chlorides detected downgradient in SWM-2.

- There were no BTEX constituents detected in 2017 in STP1-NW, OW-59, and OW-60.
- Low concentrations of MTBE were detected in 2017 in STP1-NW, OW-59, and OW-60.
- Chloride was detected above the applicable standard of 250 mg/L in all four quarters of 2017.

RECOMMENDATION: *Continue with current inspection schedule at STP1 wells. Wells OW-59 and OW-60 were added to the monitoring plan in March 2018.*

7.3 GROUP C – GROUNDWATER MONITORING

Groundwater monitoring activities from the Group C wells (northeast side of the Refinery) have shown that an MTBE and hydrocarbon plume exists in the northeastern portion of the main tank farm and extends downgradient to the north towards OW-50 and OW-52 and to the west near OW-54.

- Although concentration levels of MTBE in OW-13, which is screened in the deeper Sonsela aquifer, do not exceed the applicable standard of 0.143 mg/L, sample data indicates a steady increase of MTBE from year to year. No detectable concentrations of BTEX were reported in 2017 for OW-13.
- The 2017 benzene and MTBE concentrations for OW-14 were above the applicable standard of 0.005 mg/L and 0.143 mg/L for all four quarters. There were detectable concentrations of toluene, ethyl benzene, and total xylene.
- No detectable concentrations of BTEX were reported in 2017 for OW-29. The MTBE concentrations were above the applicable standard of 0.143 mg/L for all four quarters;
- In OW-30, the benzene concentration was reported above the applicable standard in the fourth quarter. MTBE concentrations were reported above the applicable standard in all four quarters of 2017. No detectable concentrations of toluene, ethyl benzene, and total xylenes were reported in 2017 for OW-30.
- An investigation work plan was initiated concerning OW-14 contaminant plume migration. Additional soil borings and wells were installed in the tank farm area and results are being evaluated. A new work plan was also recently submitted to replace OW-13 and evaluate for potential well completion concerns.
- BTEX, DRO, GRO, and MRO constituents have not been detected in either OW-50 or OW-52 since 2010 through 2016, however, a low concentration of MTBE was detected in both wells in 2016 and 2017 annual groundwater sampling events.
- In OW-54, benzene and MTBE concentrations exceeded the applicable standards during all four quarters. Toluene, ethylbenzene and total xylenes were detected at concentrations below the applicable standard.

- In OW-55, benzene, toluene, ethyl benzene, total xylenes, and MTBE exceeded the applicable standards in 2017.
- BTEX and MTBE was detected in OW-57 and OW-58 during all four quarters of 2017. Benzene, toluene, total xylenes and MTBE concentrations exceeded the applicable standards in 2017.

RECOMMENDATION: *No changes required. New OW monitoring wells (OW-53 through OW-58) were added to the monitoring plan in March 2017, with approval granted September 21, 2018.*

SPH continues to be present in RW-1 with a decrease in recovery volumes and measured thickness throughout 2017. SPH appeared in RW-5 and RW-6, after not being present for a number of years, suggesting a potential new source of SPH in the tank farm.

RECOMMENDATION: *Continue with current inspection/sampling schedule for RW-1 and RW-2. An investigation into the potential source of SPH detected in RW-5 and RW-6 is on-going.*

7.4 GROUP D – GROUNDWATER MONITORING

PW-2, PW-3 and PW-4 are all process/production wells under artesian conditions and are set at around 1000 feet.

- In 2017, no BTEX or MTBE constituents were detected.
- In 2017, two SVOCs were detected at low concentration levels below the applicable standards.

RECOMMENDATION: *Continue with current inspection/sampling schedule. No changes required.*

OW-1 is a flowing artesian well located on the west section of the refinery property. Historically, OW-1 is a relatively clean well; however, very low concentrations of benzene, toluene, total xylenes, and MTBE were detected for the first time in the fourth quarter of 2015.

- MTBE continued to be detected in OW-1 in 2017.

OW-10 is completed in the Sonsela Aquifer and is located directly east of EP-9.

- No BTEX constituents were detected in all of 2017 in OW-10. MTBE was detected in low concentrations below the applicable standard of 0.143 mg/L.
- Four organic compounds were detected in 2017: 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane (EDC) and cis-1,2-DCE, all at concentration levels below the applicable standards.

RECOMMENDATION: *Continue with current inspection/sampling schedule. No changes required.*

Observation well OW-11 is located within the refinery property (southeast) on the west side of the main entrance and OW-12 is located within the surplus yard located west and slightly north of the primary tank farm. OW-11 and OW-12 are screened in the Sonsela stratigraphic unit.

- There was no detection of BTEX, MTBE, GRO/DRO/MRO or VOC constituents in 2017.

- Fluoride and sulfate were detected above screening levels in OW-11, which is an up-gradient background monitoring well.

RECOMMENDATION: *Continue with current sampling schedule.*

7.5 GROUP E – GROUNDWATER MONITORING

To date, a total of 44 permanent monitoring wells (MKTF-1 through MKTF-44) have been installed to aid in delineating the extent of a hydrocarbon seep discovered in 2013, directly west of crude tanks T-101 and T102. During the investigation, a pre-existing well (labeled as MKTF-45) was found directly west of the truck- loading rack. The MKTF wells are sampled quarterly.

- BTEX, MTBE, DRO, GRO, total and dissolved metals, and several VOCs and SVOCs have been detected in many of the wells above the referenced standards.
- Of the 44 wells installed, 16 MKTF wells have been identified having detectable SPH in the well.

RECOMMENDATIONS: *Continue with the current sampling schedule into 2018, this will establish a clear baseline of at least three years of quarterly monitoring in most MKTF wells. It is recommended to reduce the monitoring frequency in 2019, as many of the analytical results indicate little change, such that continued quarterly monitoring is not warranted at all MKTF wells. MKTF wells identified as having an SPH level, begin a routine hydrocarbon recovery effort to evaluate recharge rate and record volumes of water and SPH recovered. Continue with on-going recovery at the existing sumps at seep site.*

7.6 ADDITIONAL MONITORING

- Continue with the sampling requirements of the most current approved Facility-Wide Groundwater Monitoring Work Plan.
- Submit the Annual Groundwater Monitoring Report on or before September 1 of every year.
- Conduct site assessments as required when spills/leaks are discovered.

SECTION 8 DATA TABLES

8.1 BW-1A/B/C, BW-2A/B/C, BW-3A/B/C, BW-4A/4B, BW-5A/B/C

8.2 MW-1, MW-2, MW-4, MW-5

8.3 SMW-2, SMW-4

8.4 OW-11, OW-12

8.5 OW-50, OW-52

8.6 PW-2, PW-3, PW-4

8.7 GWM-1, GWM-2, GWM-3

8.8 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

8.9 OAPIS-1

8.10 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

8.11 RW-1, RW-2, RW-5, RW-6

8.12 OW-1, OW-10

8.13 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

8.14 STP1-NW, STP1-SW, OW-59, OW-60

8.15 EVAPORATION PONDS EP-1 – EP-12B

8.16 STP-1 to EP-2

8-17 MKTF-1 thru MKTF-45

COMPLETE DATA TABLES ON ATTACHED CD.

8.1 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.61 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
WELL ID	**DATE SAMPLED**	**METHOD**					
BW-1C	09/13/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/24/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/28/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-2A	09/13/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/24/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/28/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-2B	09/13/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/24/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/28/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-2C	09/13/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/24/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/28/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-3B	09/13/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/28/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001

8.1 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.61 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
WELL ID	**DATE SAMPLED**	**METHOD**					
BW-3C	09/13/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/28/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
BW-5B	12/08/17	8260B	<0.001	0.0018	<0.001	<0.0015	0.00064
BW-5C	12/08/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.039

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.61 Detection Limits for Organic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.1.1 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS									
			Fluoride (mg/L)	Chloride (mg/L)	Bromide (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	NE	**10**	NE	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	NE	**1**	10	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	NE	1.97	31.59	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (March 2017)			NE	NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**										
BW-1C	09/13/17	300.0/8015D	**2.1**	32	0.15	<0.5	<0.5	<2.5	230	<1	<0.05	<5
	09/08/16	300.0/8015D	**2.4**	32	0.12	<1.0	<1.0	0.36	240	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	**2.5**	33	<0.1	<0.1	<0.1	<0.5	250	<1.0	<0.05	<5.0
	09/10/14	300.0	**2.6**	33	0.12	<1.0	<1.0	<0.5	260			
	09/09/13	300.0	**2.1**	34	<0.1	**14**	**14**	<0.5	260			
	08/24/12	300.0	**2.3**	34	<0.1	<1.0	<1.0	<0.5	260			
	10/28/11	300.0	**2.6**	33	<0.1	1.7	1.7	<0.5	260			
	07/20/10	300.0	**2.7**	37	0.11	<1.0	<1.0	<0.5	290			
BW-2A	09/13/17	300.0/8015D	0.99	36	0.44	<0.5	<0.5	<2.5	6.4	<1	<0.05	<5
	09/08/16	300.0/8015D	0.98	36	0.42	<1.0	<1.0	0.94	7.3	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	1.1	36	0.2	<1.0	<1.0	0.72	7.3	<1.0	<0.05	<5.0
	09/09/14	300.0	1.1	37	0.4	<1.0	<1.0	0.57	7.1			
	09/09/13	300.0	0.9	37	0.39	**3.5**	3.5	<0.5	7.2			
	08/24/12	300.0	0.95	38	0.54	<1.0	<1.0	<0.5	6.8			
	10/28/11	300.0	1.1	37	0.36	<1.0	<1.0	0.58	7.0			
	07/20/10	300.0	1.2	42	0.43	<1.0	<1.0	0.68	7.1			
BW-2B	09/13/17	300.0/8015D	1.5	29	0.73	<0.5	<0.5	<2.5	180	<1	<0.05	<5
	09/08/16	300.0/8015D	1.5	30	0.7	<1.0	<1.0	<0.5	170	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	**1.8**	29	0.14	**1.5**	1.5	<0.5	160	<1.0	<0.05	<5.0
	09/09/14	300.0	**1.6**	29	0.43	<1.0	<1.0	<0.5	160			
	09/09/13	300.0	**1.7**	28	0.14	**33**	**33**	<0.5	150			
	08/24/12	300.0	1.3	27	0.22	**1.4**	1.4	<0.5	150			
	10/28/11	300.0	1.6	27	0.75	<1.0	<1.0	<0.5	140			
	07/20/10	300.0	**1.8**	32	0.82	<1.0	<1.0	<0.5	160			
BW-2C	09/13/17	300.0/8015D	**1.8**	44	0.13	0.11	<0.5	<2.5	260	<1	<0.05	<5
	09/08/16	300.0/8015D	**1.9**	42	0.098	<1.0	<1.0	<0.5	270	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	**1.9**	42	0.11	<1.0	<1.0	<0.5	270	<1.0	<0.05	<5.0
	09/10/14	300.0	**2.0**	42	0.11	<1.0	<1.0	<0.5	260			
	09/09/13	300.0	**1.6**	43	<0.1	**37**	**37**	<0.5	270			
	08/24/12	300.0	**2.0**	41	<0.5	<1.0	<1.0	<2.5	270			
	10/28/11	300.0	**2.0**	43	<0.1	<1.0	<1.0	<0.5	280			
	07/20/10	300.0	**2.1**	62	0.12	<1.0	<1.0	<0.5	310			

8.1.1 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS									
			Fluoride (mg/L)	Chloride (mg/L)	Bromide (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	NE	**10**	NE	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	NE	**1**	10	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	NE	1.97	31.59	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (March 2017)			NE	NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**										
BW-3B	09/13/17	300.0/8015D	1.4	29	0.44	<0.5	<0.5	<2.5	38	<1	<0.05	<5
	09/08/16	300.0/8015D	1.2	30	0.41	<1.0	<1.0	1.3	50	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	1.3	31	0.18	<1.0	<1.0	1.1	46	<1.0	<0.05	<5.0
	09/10/14	300.0	1.6	35	0.44	<1.0	<1.0	1.0	54			
	09/09/13	300.0	1.1	30	0.36	**11**	**11**	0.87	45			
	08/23/12	300.0	1.2	33	0.39	<1.0	<1.0	0.82	46			
	10/28/11	300.0	1.3	28	0.31	<1.0	<1.0	0.84	48			
	07/20/10	300.0	1.4	33	0.42	<0.01	<0.01	1.1	54			
BW-3C	09/13/17	300.0/8015D	1.2	36	0.42	<1.0	<1.0	<2.5	320	<1	<0.05	<5
	09/08/16	300.0/8015D	1.3	35	0.12	<1.0	<1.0	<0.5	330	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	1.3	36	0.12	<1.0	<1.0	<0.5	340	<1.0	<0.05	<5.0
	09/10/14	300.0	1.3	35	0.14	<1.0	<1.0	<0.5	300			
	09/09/13	300.0	1.0	35	<0.1	<1.0	<1.0	<0.5	320			
	08/23/12	300.0	1.1	38	0.11	<1.0	<1.0	<0.5	310			
	10/28/11	300.0	1.4	35	<0.1	<1.0	<1.0	<0.5	320			
	07/20/10	300.0	1.4	41	0.12	<0.1	0.12	<0.5	380			
BW-5B	12/08/17	E300	0.27	110	0.47	0.15	0.15	<2.5	110	<1	0.014	<5
BW-5C	12/08/17	E300	<0.5	**1400**	1.2	0.23	0.23	<2.5	210	<1	0.035	<5

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

8015D analysis added to plan in 2015 per NMED Comment 7(b), Approval with Modification, FWGWMWP - 2012 Updates; 2013 Updates; 2014 Updates for 2015.

8.1.2 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.01**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	2.02	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
BW-1C	09/13/17	200.7/200.8	0.00038	0.02	<0.002	0.0045	0.0027	0.13	<0.0005	0.015	<0.001	<0.0002	0.0099	<0.01
	09/08/16	200.7/200.8	0.00044	0.022	<0.002	0.0036	<0.006	0.089	<0.0005	0.014	0.00055	0.00011	0.008	<0.01
	08/12/15	200.7/200.8	<0.001	0.044	<0.002	0.0073	<0.006	0.36	0.00051	0.049	<0.001	<0.0002	0.01	<0.01
	09/10/14	200.7/200.8	<0.001	0.026	<0.002	<0.006	<0.006	0.43	<0.001	0.028	<0.001	<0.0002	0.0099	<0.01
	09/09/13	200.7/200.8	<0.001	0.027	<0.002	0.018	<0.006	0.4	<0.001	0.025	<0.001	<0.0002	0.006	<0.01
	08/24/12	200.7/200.8	<0.0025	0.028	<0.002	**0.22**	0.0062	0.49	<0.005	0.068	<0.0025	<0.0002	0.0052	0.011
	10/28/11	200.7/200.8	<0.0025	0.018	<0.002	0.031	<0.006	0.1	<0.005	0.0077	<0.0025	<0.0002	0.0043	<0.01
	07/20/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	<0.05	<0.005	0.0083	<0.05	<0.0002	0.003	<0.02
BW-2A	09/13/17	200.7/200.8	0.0075	0.16	<0.002	0.0036	0.0033	1.2	0.00068	0.17	0.0019	<0.0002	<0.0005	<0.01
	09/08/16	200.7/200.8	0.0072	0.15	<0.002	<0.006	<0.006	0.4	<0.0005	0.14	0.0014	0.000053	<0.0005	<0.01
	08/12/15	200.7/200.8	0.0073	0.16	<0.002	<0.006	<0.006	0.5	<0.0005	0.14	<0.001	<0.0002	<0.0005	<0.01
	09/09/14	200.7/200.8	0.0085	0.13	<0.002	<0.006	<0.006	0.34	<0.001	0.12	0.0023	<0.0002	<0.001	<0.01
	09/09/13	200.7/200.8	0.0076	0.15	<0.002	<0.006	<0.006	0.47	<0.001	0.14	<0.001	<0.0002	<0.001	<0.01
	08/24/12	200.7/200.8	0.0072	0.15	<0.002	<0.006	<0.006	0.49	<0.005	0.16	<0.0025	<0.0002	<0.0025	<0.01
	10/28/11	200.7/200.8	0.0072	0.16	<0.002	<0.006	<0.006	0.87	<0.005	0.19	<0.0025	<0.0002	<0.0025	<0.01
	07/20/10	6010B	<0.02	0.13	<0.002	<0.006	<0.006	0.36	<0.005	0.12	<0.05	<0.0002	<0.001	<0.02
BW-2B	09/13/17	200.7/200.8	0.0021	0.087	<0.002	0.0078	0.0042	3.2	0.002	0.22	0.0029	<0.0002	0.014	0.007
	09/08/16	200.7/200.8	0.0015	0.049	<0.002	<0.006	<0.006	0.65	0.00039	0.15	0.0036	<0.0002	0.012	0.012
	08/12/15	200.7/200.8	0.0013	0.1	<0.002	<0.006	<0.006	2.5	0.0012	0.21	0.0019	<0.0002	0.013	0.012
	09/09/14	200.7/200.8	0.0022	0.04	<0.002	<0.006	<0.006	0.21	<0.001	0.14	0.0048	<0.0002	0.015	<0.01
	09/09/13	200.7/200.8	0.0011	0.052	<0.002	<0.006	<0.006	0.38	<0.001	0.16	0.0013	<0.0002	0.014	<0.01
	08/24/12	200.7/200.8	<0.0025	0.044	<0.002	<0.006	<0.006	0.12	<0.005	0.16	<0.0025	<0.0002	0.013	<0.01
	10/28/11	200.7/200.8	<0.0025	0.056	<0.002	<0.006	<0.006	0.57	<0.005	0.26	<0.0025	<0.0002	0.015	<0.01
	07/20/10	6010B	<0.02	0.047	<0.002	<0.006	<0.006	0.16	<0.005	0.22	<0.05	<0.0002	0.012	<0.02

8.1.2 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.01**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	2.02	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
BW-2C	09/13/17	200.7/200.8	0.00076	0.025	<0.002	0.009	0.0035	0.41	0.0005	0.039	0.00092	<0.0002	0.0047	0.0051
	09/08/16	200.7/200.8	0.00057	0.02	<0.002	<0.006	<0.006	0.2	0.00017	0.013	0.00025	0.000058	0.0047	<0.01
	08/12/15	200.7/200.8	<0.001	0.024	<0.002	<0.006	<0.006	0.51	<0.0005	0.014	<0.001	<0.0002	0.0056	<0.01
	09/10/14	200.7/200.8	0.0011	0.055	<0.002	0.01	<0.006	2.5	0.0017	0.067	<0.001	<0.0002	0.0056	0.014
	09/09/13	200.7/200.8	<0.001	0.027	<0.002	<0.006	<0.006	0.39	<0.001	0.025	<0.001	<0.0002	0.0056	<0.01
	08/24/12	200.7/200.8	<0.0025	0.086	**0.013**	0.013	<0.006	2.9	<0.005	0.12	<0.0025	<0.0002	0.0047	0.025
	10/28/11	200.7/200.8	<0.0025	0.021	<0.002	0.0085	<0.006	0.28	<0.005	0.023	<0.0025	<0.0002	0.0043	<0.01
	07/20/10	6010B	<0.02	0.024	<0.002	0.017	<0.006	0.74	<0.005	0.033	<0.05	<0.0002	0.006	<0.02
BW-3B	09/13/17	200.7/200.8	0.0052	0.12	<0.002	0.0018	0.0027	1.1	0.00075	0.12	0.0016	<0.0002	0.0002	0.004
	09/08/16	200.7/200.8	0.0055	0.099	<0.002	<0.006	<0.006	0.34	0.0001	0.078	0.0017	<0.0002	<0.0005	<0.01
	08/12/15	200.7/200.8	0.0048	0.11	<0.002	<0.006	<0.006	0.51	<0.0005	0.11	<0.001	<0.0002	<0.0005	<0.01
	09/10/14	200.7/200.8	0.0047	0.074	<0.002	<0.006	<0.006	0.32	<0.001	0.081	0.0022	<0.0002	<0.001	<0.01
	09/09/13	200.7/200.8	0.0047	0.1	<0.002	<0.006	<0.006	0.51	<0.001	0.1	<0.001	<0.0002	<0.001	<0.01
	08/23/12	200.7/200.8	0.0044	0.22	<0.002	0.01	<0.006	3.6	<0.005	0.22	<0.0025	<0.0002	<0.0025	0.014
	10/28/11	200.7/200.8	0.0049	0.093	<0.002	0.0075	<0.006	0.82	<0.005	0.086	<0.0025	<0.0002	<0.0025	<0.01
	07/20/10	6010B	<0.02	0.079	<0.002	<0.006	<0.006	0.45	<0.005	0.074	<0.05	<0.0002	<0.001	<0.02
BW-3C	09/13/17	200.7/200.8	0.0016	0.032	<0.002	0.015	0.0045	0.62	0.0004	0.025	<0.005	<0.0002	0.0016	0.012
	09/08/16	200.7/200.8	0.0013	0.033	<0.002	<0.006	<0.006	0.34	0.00034	0.021	0.00051	0.000058	0.0014	0.0056
	08/12/15	200.7/200.8	<0.001	0.039	<0.002	<0.006	<0.006	0.81	0.00051	0.028	<0.001	<0.0002	0.0018	0.015
	09/10/14	200.7/200.8	0.0021	0.11	<0.002	0.013	<0.006	2.7	0.0015	0.073	<0.001	<0.0002	0.0017	0.016
	09/09/13	200.7/200.8	0.0021	0.073	<0.002	<0.006	<0.006	1.5	<0.001	0.051	<0.001	<0.0002	0.002	0.01
	08/23/12	200.7/200.8	<0.0025	0.043	<0.002	<0.006	<0.006	0.34	<0.005	0.022	<0.0025	<0.0002	<0.0025	0.012
	10/28/11	200.7/200.8	<0.0025	0.036	<0.002	0.007	<0.006	0.16	<0.005	0.018	<0.0025	<0.0002	<0.0025	<0.01
	07/20/10	6010B	<0.02	0.042	<0.002	0.0068	<0.006	0.83	<0.005	0.021	<0.05	<0.0002	<0.001	<0.02
BW-5B	12/08/17	200.7/200.8	0.003	0.085	<0.002	0.012	<0.006	1.7	0.00097	0.042	<0.005	0.00015	**0.042**	0.0086
BW-5C	12/08/17	200.7/200.8	0.0022	0.12	<0.002	<0.006	<0.006	0.54	<0.0025	0.058	<0.005	0.000081	**0.038**	<0.01

8.1.2 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.01**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	2.02	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	DATE SAMPLED	METHOD												

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1 (Dec 2014)

8.1.3 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											
BW-1C	09/13/17	200.7/200.8	0.00053	0.017	<0.002	0.0014	<0.006	0.031	<0.0005	0.0088	<0.005	0.0092	0.01
	09/08/16	200.7/200.8	0.00032	0.017	<0.002	<0.006	<0.006	0.029	<0.0005	0.0077	0.00063	0.0089	<0.01
	08/12/15	200.7/200.8	<0.005	0.018	<0.002	<0.006	<0.006	0.04	<0.0025	0.011	<0.005	0.0087	<0.01
	09/09/14	200.7/200.8	<0.001	0.02	<0.002	<0.006	<0.006	<0.02	<0.005	0.011	<0.001	0.0089	<0.01
	09/09/13	200.7/200.8	<0.001	0.017	<0.002	<0.006	<0.006	<0.02	<0.001	<0.002	<0.001	0.0057	<0.01
	08/24/12	200.7/200.8	<0.001	0.016	<0.002	<0.006	<0.006	<0.02	<0.005	0.0029	<0.001	0.005	<0.01
	10/28/11	200.7/200.8	<0.001	0.016	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	<0.001	0.0043	0.026
	07/20/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	<0.02	<0.005	0.0094	<0.05	0.003	<0.05
BW-2A	09/13/17	200.7/200.8	0.0079	0.13	<0.002	<0.006	<0.006	0.11	<0.0005	0.13	0.0031	<0.0005	0.0088
	09/08/16	200.7/200.8	0.0079	0.15	<0.002	<0.006	<0.006	0.37	<0.0005	0.14	0.0020	0.000076	<0.01
	08/12/15	200.7/200.8	0.0079	0.15	<0.002	<0.006	<0.006	0.37	<0.0025	0.14	<0.005	<0.0025	0.016
	09/09/14	200.7/200.8	0.0083	0.16	<0.002	<0.006	<0.006	0.38	<0.005	0.13	0.0027	<0.005	<0.01
	09/09/13	200.7/200.8	0.0081	0.15	<0.002	<0.006	<0.006	0.39	<0.001	0.15	0.0015	<0.001	<0.01
	08/24/12	200.7/200.8	0.0072	0.14	<0.002	<0.006	<0.006	0.26	<0.005	0.13	0.001	<0.001	<0.01
	10/28/11	200.7/200.8	0.0065	0.13	<0.002	<0.006	<0.006	0.28	<0.005	0.12	<0.001	<0.001	0.021
	07/20/10	6010B	<0.02	0.14	<0.002	<0.006	<0.006	0.29	<0.005	0.14	<0.05	<0.001	<0.05
BW-2B	09/13/17	200.7/200.8	0.0022	0.042	<0.002	<0.006	<0.006	0.21	<0.0005	0.16	0.0055	0.014	<0.01
	09/08/16	200.7/200.8	0.0017	0.04	<0.002	<0.006	<0.006	0.1	<0.0005	0.15	0.0039	0.013	<0.01
	08/12/15	200.7/200.8	<0.005	0.05	<0.002	<0.006	<0.006	0.6	0.0029	0.16	<0.005	0.012	<0.01
	09/09/14	200.7/200.8	0.0022	0.042	<0.002	<0.006	<0.006	0.096	<0.001	0.14	0.0047	0.014	<0.01
	09/09/13	200.7/200.8	0.0016	0.044	<0.002	<0.006	<0.006	0.078	<0.005	0.16	0.0035	0.014	<0.01
	08/24/12	200.7/200.8	0.0011	0.043	<0.002	<0.006	<0.006	0.064	<0.005	0.16	0.0019	0.014	0.03
	10/28/11	200.7/200.8	<0.001	0.051	<0.002	<0.006	<0.006	0.26	<0.005	**0.25**	0.0013	0.016	0.026
	07/20/10	6010B	<0.02	0.047	<0.002	<0.006	<0.006	0.14	<0.005	**0.22**	**1.2**	0.012	<0.05

8.1.3 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											
BW-2C	09/13/17	200.7/200.8	0.00079	0.014	<0.002	0.0014	<0.006	<0.02	<0.0005	0.0015	<0.005	0.0046	0.087
	09/08/16	200.7/200.8	0.00067	0.016	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0039	0.0007	0.0050	<0.01
	08/12/15	200.7/200.8	<0.005	0.018	<0.002	<0.006	<0.006	<0.02	<0.0025	<0.002	<0.005	0.0054	<0.01
	09/10/14	200.7/200.8	<0.001	0.031	<0.002	<0.006	<0.006	0.81	<0.005	0.026	<0.001	0.0051	<0.01
	09/09/13	200.7/200.8	<0.001	0.018	<0.002	<0.006	<0.006	<0.02	<0.001	0.0025	<0.001	0.0053	<0.01
	08/24/12	200.7/200.8	<0.001	0.086	**0.0056**	<0.006	<0.006	**3.0**	<0.005	0.049	<0.001	0.0048	0.014
	10/28/11	200.7/200.8	<0.001	0.015	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	<0.001	0.0044	0.015
	07/20/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	0.028	<0.005	0.0045	<0.05	0.006	<0.05
BW-3B	09/13/17	200.7/200.8	0.0052	0.083	<0.002	0.0016	<0.006	0.098	<0.0005	0.075	0.0027	0.00016	<0.01
	09/08/16	200.7/200.8	0.0059	0.1	<0.002	<0.006	<0.006	0.41	<0.0025	0.11	0.0024	0.00013	<0.01
	08/12/15	200.7/200.8	0.0053	0.1	<0.002	<0.006	<0.006	0.4	<0.0025	0.11	<0.005	<0.0025	<0.01
	09/10/14	200.7/200.8	0.0061	0.11	<0.002	<0.006	<0.006	0.42	<0.005	0.1	0.0027	<0.005	0.015
	09/09/13	200.7/200.8	0.0052	0.1	<0.002	<0.006	<0.006	0.44	<0.005	0.12	0.002	<0.005	<0.01
	08/23/12	200.7/200.8	0.0049	0.091	<0.002	<0.006	<0.006	0.11	<0.005	0.11	0.001	<0.001	<0.01
	10/28/11	200.7/200.8	0.0049	0.11	<0.002	<0.006	<0.006	0.97	<0.005	0.12	<0.001	<0.001	0.035
	07/20/10	6010B	<0.02	0.076	<0.002	<0.006	<0.006	0.21	<0.005	0.083	<0.05	<0.001	0.054
BW-3C	09/13/17	200.7/200.8	0.0013	0.023	<0.002	0.0027	<0.006	0.044	<0.0005	0.013	<0.005	0.0016	0.014
	09/08/16	200.7/200.8	0.0013	0.027	<0.002	<0.006	<0.006	0.029	<0.0005	0.014	0.00076	0.0015	<0.01
	08/12/15	200.7/200.8	<0.005	0.031	<0.002	<0.006	<0.006	0.13	<0.0025	0.019	<0.005	<0.0025	<0.01
	09/10/14	200.7/200.8	0.0019	0.046	<0.002	<0.006	<0.006	0.73	<0.005	0.024	<0.001	<0.005	<0.01
	09/09/13	200.7/200.8	0.002	0.039	<0.002	<0.006	<0.006	0.46	<0.005	0.022	<0.001	<0.005	<0.01
	08/23/12	200.7/200.8	0.0022	0.035	<0.002	<0.006	<0.006	0.031	<0.005	0.017	<0.001	0.0014	0.012
	10/28/11	200.7/200.8	0.0017	0.034	<0.002	<0.006	<0.006	<0.02	<0.005	0.014	<0.001	0.0013	0.066
	07/20/10	6010B	<0.02	0.035	<0.002	<0.006	<0.006	0.073	<0.005	0.013	<0.05	0.001	<0.05
BW-5B	12/08/17	200.7/200.14	0.0032	0.05	<0.002	<0.006	<0.006	0.024	<0.0005	0.0064	0.0039	**0.04**	0.007
BW-5C	12/08/17	200.7/200.15	<0.02	0.11	<0.002	<0.006	<0.006	0.29	<0.0005	0.043	<0.01	**0.041**	0.0074

8.1.3 BW-1C, BW-2A, BW-2B, BW-2C, BW-3B, BW-3C, BW-5A, BW-5B
Dissolved Metals Analytical Result Summary

			PARAMETERS									
STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.004	6
Well ID	DATE SAMPLED	METHOD											

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

8.1.4 BW-1C, BW-3B, BW-3C, BW-5A, BW-5B
Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS Bis(2-ethylhexyl)phthalate (mg/L)
WQCC 20NMAC 6.2.3103			NE
40 CFR 141.61 MCL			**0.006**
NMED TAP WATER (MARCH 2017)			0.0556
EPA RSL for Tap Water (MAY 2018)			0.0056
Well ID	**DATE SAMPLED**	**METHOD**	
BW-1C	09/03/16	8270C	<0.01
	09/10/14	8270C	<0.01
	09/09/13	8270C	**0.01**
BW-3B	09/03/16	8270C	<0.01
	09/10/14	8270C	<0.01
	09/09/13	8270C	<0.01
	08/23/12	8270C	<0.01
	10/28/11	8270C	<0.01
	07/20/10	8270C	<0.01
	07/06/09	8270C	**0.01** [1]
BW-3C	09/03/16	8270C	<0.01
	09/10/14	8270C	<0.01
	09/09/13	8270C	<0.01
	08/23/12	8270C	<0.01
	10/28/11	8270C	**0.014** [1]
BW-5B	12/08/17	8270C	<0.01
BW-5C	12/08/17	8270C	<0.01

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1 (Dec 2014)

NOTES
1) Detected for the first time. Possible lab contaminant.
2) Request to remove 8270C Analysis in 2015 approved per NMED Comment 7(b), Approval with Modification, FWGWMWP - 2012 Updates; 2013 Updates; 2014 Updates for 2015.

8.2 MW-1, MW-2, MW-4, MW-5
BTEX and MTBE Analytical Result Summary

			PARAMETERS				
STANDARDS			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.61 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.1	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
WELL ID	**DATE SAMPLED**	**METHOD**					
MW-1	09/20/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/14/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/16/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/24/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/06/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/16/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
MW-2	09/20/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/14/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/16/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/24/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/10/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
MW-4	09/21/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/17/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/12/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/19/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
MW-5	09/11/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/14/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
`	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/10/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/19/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001

DEFINITIONS

NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.61 Detection Limits for Organic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.2.1 MW-1, MW-2, MW-4, MW-5

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
WELL ID	**DATE SAMPLED**	**METHOD**								
MW-1	09/20/17	300.0/8015D	0.61	48	<1.0	<1.0	170	<1.0	<0.05	<5.0
	09/07/16	300.0/8015D	0.63	44	<1.0	<1.0	150	<1.0	0.025	<5.0
	08/14/15	300.0/8015D	0.39	23	<1.0	<1.0	73	<1.0	<0.05	<5.0
	09/16/14	300.0/8015B	0.69	44	<1.0	<1.0	150	<1.0	<0.05	<5.0
	09/09/13	300.0/8015B	0.61	44	**4.1**	4.1	150	<1.0	<0.05	<5.0
	08/24/12	300.0/8015B	0.67	47	<1.0	<1.0	140	<1.0	<0.05	<5.0
	10/06/11	300.0/8015B	0.64	47	**27**	**27**	160	<1.0	<0.05	<5.0
	07/16/10	300.0/8015B	NA	NA	NA	NA	NA	<1.0	<0.05	--
MW-2	09/20/17	300.0/8015D	0.63	56	<1.0	<1.0	170	<1.0	<0.05	<5.0
	09/07/16	300.0/8015D	0.66	50	<1.0	<1.0	150	<1.0	0.021	<5.0
	08/14/15	300.0/8015D	0.54	35	<1.0	<1.0	100	<1.0	<0.05	<5.0
	09/16/14	300.0/8015B	0.73	51	**21**	**21**	150	<1.0	<0.05	<5.0
	09/10/13	300.0/8015B	0.77	50	<0.1	0.11	150	<1.0	<0.05	<5.0
	08/24/12	300.0	0.67	49	<1.0	<1.0	150	<1.0	<0.05	<5.0
	10/10/11	300.0	0.79	52	<1.0	<1.0	160	<1.0	<0.05	<5.0
MW-4	09/21/17	300.0/8015D	<0.5	16	<1.0	<1.0	160	<1.0	<0.05	<5.0
	09/07/16	300.0/8015D	0.21	18	<1.0	<1.0	140	<1.0	0.02	<5.0
	08/17/15	300.0/8015D	0.29	18	<1.0	<1.0	140	<1.0	<0.05	<5.0
	09/17/14	300.0/8015B	0.31	18	<1.0	<1.0	140	<1.0	<0.05	<5.0
	09/10/13	300.0/8015B	0.32	18	<0.1	0.14	150	<1.0	<0.05	<5.0
	08/21/12	300.0/8015B	0.29	16	<1.0	<1.0	140	<1.0	<0.05	<5.0
	10/12/11	300.0/8015B	0.35	18	**6.8**	6.8	150	<1.0	<0.05	<5.0
	07/19/10	300.0/8015B	NA	NA	NA	NA	NA	<1.0	<0.05	--
	03/01/10 [1]	8015B	NA	NA	NA	NA	NA	<1.0	<0.05	--

8.2.1 MW-1, MW-2, MW-4, MW-5
General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
WELL ID	**DATE SAMPLED**	**METHOD**								
MW-5	09/11/17	300.0/8015D	0.68	60	<1.0	<1.0	170	<1.0	<0.05	<5.0
	09/07/16	300.0/8015D	0.65	56	<1.0	<1.0	160	<1.0	0.027	<5.0
	08/14/15	300.0/8015D	0.72	58	<1.0	<1.0	160	<1.0	<0.05	<5.0
	09/17/14	300.0/8015B	0.73	56	**1.1**	1.1	150	<1.0	<0.05	<5.0
	09/10/13	300.0/8015B	0.76	57	<0.1	0.8	160	<1.0	<0.05	<5.0
	08/23/12	300.0/8015B	0.67	55	<1.0	<1.0	160	<1.0	<0.05	<5.0
	10/10/11	300.0/8015B	0.79	59	<1.0	<1.0	170	<1.0	<0.05	<5.0
	07/19/10	300.0/8015B	NA	NA	NA	NA	NA	<1.0	<0.05	--
	03/01/10 [1]	8015B	NA	NA	NA	NA	NA	<1.0	<0.05	--

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) This was part of the 10 year RCRA Post Closure Sampling Event

8.2.2 MW-1, MW-2, MW-4, MW-5
Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Cyanide (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.05**	1.0	0.05	0.2	**0.05**	**0.2**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.1	NE	**0.015**	NE	0.05	0.2	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.0057	**13.8**	NE	**2.02**	0.0987	0.00146	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	14	0.015	0.43	0.1	0.0015	0.00063	0.004	6
WELL ID	**DATE SAMPLED**	**METHOD**											
MW-1	09/20/17	200.7/200.8	0.00097	0.015	0.0074	0.26	0.0016	0.014	<0.001	<0.005	<0.0002	NA	<0.01
	09/07/16	200.7/200.8	0.0015	0.012	<0.006	<0.02	0.00014	0.0032	0.00053	<0.01	0.000056	0.01	<0.01
	08/14/15	200.7/200.8	0.0013	0.013	<0.006	0.048	0.00051	0.0033	<0.001	<0.01	<0.0002	0.011	<0.01
	09/16/14	200.7/200.8	0.0011	0.012	<0.006	0.11	0.0017	0.012	<0.001	<0.01	<0.0002	0.012	<0.01
	09/09/13	200.7/200.8	0.0014	0.011	<0.006	<0.02	<0.001	<0.002	<0.001	0.0407	<0.0002	0.011	<0.01
	08/24/12	200.7/200.8	<0.0025	0.014	<0.006	0.078	<0.005	0.0071	<0.0025	NA	<0.0002	0.011	<0.01
	10/06/11	200.7/200.8	<0.0025	0.012	<0.006	0.12	<0.005	0.01	<0.0025	NA	<0.0002	0.011	<0.01
	07/16/10	6010B	0.0015	<0.02	<0.006	NA	<0.005	NA	<0.001	<0.01	<0.0002	NA	<002
	03/01/10 [1]	6010B	<0.005	<0.02	<0.006	NA	<0.005	NA	<0.005	<0.01	<0.0002	NA	<0.02
MW-2	09/20/17	200.7/200.8	0.00073	0.022	<0.006	0.097	0.00055	0.018	<0.001	<0.005	0.00004	NA	<0.01
	09/07/16	200.7/200.8	0.0013	0.02	<0.006	0.023	<0.0005	0.0031	0.00058	<0.01	0.000056	0.0088	<0.01
	08/14/15	200.7/200.8	<0.001	0.02	<0.006	0.023	<0.0005	0.0035	<0.001	<0.01	<0.0002	0.0094	<0.01
	09/16/14	200.7/200.8	<0.001	0.019	<0.006	<0.02	<0.001	0.0031	<0.001	<0.01	<0.0002	0.0095	<0.01
	09/10/13	200.7/200.8	0.001	0.02	<0.006	<0.02	<0.001	0.006	<0.001	<0.01	<0.0002	0.0097	<0.01
	08/24/12	200.7/200.8	<0.0025	0.021	<0.006	0.022	<0.005	0.0072	<0.0025	NA	<0.0002	0.0097	<0.01
	10/10/11	200.7/200.8	<0.0025	0.02	<0.006	<0.02	<0.005	0.008	<0.0025	NA	<0.0002	0.0096	<0.01
	03/01/10 [1]	6010B	<0.005	<0.02	<0.006	NA	<0.005	NA	<0.005	<0.01	<0.0002	NA	<0.02
MW-4	09/21/17	200.7/200.8	0.00084	0.02	<0.006	0.021	0.00017	0.0069	<0.001	<0.005	<0.0002	NA	<0.01
	09/07/16	200.7/200.8	0.00098	0.022	<0.006	0.028	0.00017	0.0064	0.00065	<0.01	<0.0002	0.016	<0.01
	08/17/15	200.7/200.8	<0.001	0.02	<0.006	<0.02	<0.0005	0.0052	<0.001	<0.01	<0.0002	0.016	<0.01
	09/17/14	200.7/200.8	<0.001	0.022	<0.006	<0.02	<0.001	0.0061	<0.001	<0.01	<0.0002	0.018	<0.01
	09/10/13	200.7/200.8	<0.001	0.021	<0.006	<0.02	<0.001	0.0058	<0.001	<0.01	<0.0002	0.018	<0.01
	08/21/12	200.7/200.8	<0.0025	0.02	<0.006	<0.02	<0.005	0.0034	<0.0025	NA	<0.0002	0.018	<0.01
	10/12/11	200.7/200.8	<0.0025	0.022	<0.006	<0.02	<0.005	0.0069	<0.0025	NA	<0.0002	0.018	<0.01
	07/19/10	6010B	0.0012	<0.02	<0.006	NA	<0.005	NA	<0.001	<0.01	<0.0002	NA	<0.02
	03/01/10 [1]	6010B	<0.005	0.023	<0.006	NA	<0.005	NA	<0.005	<0.01	<0.0002	NA	<0.02

8.2.2 MW-1, MW-2, MW-4, MW-5
Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Cyanide (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.05**	1.0	0.05	0.2	**0.05**	**0.2**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.1	NE	**0.015**	NE	0.05	0.2	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.0057	**13.8**	NE	**2.02**	0.0987	0.00146	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	14	0.015	0.43	0.1	0.0015	0.00063	0.004	6
WELL ID	**DATE SAMPLED**	**METHOD**											
MW-5	09/11/17	200.7/200.8	0.001	0.02	<0.006	<0.02	<0.0005	0.0043	<0.001	<0.005	<0.0002	0.0099	<0.01
	09/07/16	200.7/200.8	0.0012	0.041	<0.006	<0.02	<0.0005	0.0046	0.00038	<0.01	0.000055	0.0092	<0.01
	08/14/15	200.7/200.8	<0.001	0.09	<0.006	<0.02	<0.0005	0.0031	<0.001	<0.01	<0.0002	0.0093	<0.01
	09/17/14	200.7/200.8	0.001	0.019	<0.006	<0.02	<0.001	0.0046	<0.001	<0.01	<0.0002	0.0098	<0.01
	09/10/13	200.7/200.8	<0.001	0.04	<0.006	<0.02	<0.001	0.0035	<0.001	<0.01	<0.0002	0.0096	<0.01
	08/23/12	200.7/200.8	<0.0025	0.026	<0.006	<0.02	<0.005	0.012	<0.0025	NA	<0.0002	0.0095	<0.01
	10/10/11	200.7/200.8	<0.0025	0.024	<0.006	<0.02	<0.005	0.0043	<0.0025	NA	<0.0002	0.0097	<0.01
	07/19/10	6010B	0.0014	<0.02	<0.006	NA	<0.005	NA	<0.001	<0.01	<0.0002	NA	<0.02
	03/01/10 [1]	6010B	<0.005	0.024	<0.006	NA	<0.005	NA	<0.005	<0.01	<0.0002	NA	<0.02

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) This was part of the 10 year RCRA Post Closure Sampling Event.

8.2.3 MW-1, MW-2, MW-4, MW-5
Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.3	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.004	6
WELL ID	**DATE SAMPLED**	**METHOD**											
MW-1	09/20/17	200.7/200.8	0.0013	0.013	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0018	0.00088	NA	0.011
	09/07/16	200.7/200.8	0.0013	0.011	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0031	0.00054	0.011	<0.01
	08/14/15	200.7/200.8	<0.01	0.011	<0.002	<0.006	<0.006	<0.02	<0.0025	<0.002	<0.01	0.011	<0.01
	09/16/14	200.7/200.8	0.0012	0.0095	<0.002	<0.006	<0.006	<0.02	<0.001	0.0027	<0.001	0.011	0.014
	09/09/13	200.7/200.8	0.0016	0.012	<0.002	<0.006	<0.006	<0.02	<0.001	<0.002	<0.001	0.012	<0.01
	08/24/12	200.7/200.8	0.0013	0.012	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	<0.001	0.011	<0.01
	10/06/11	200.7/200.8	0.002	0.01	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	<0.001	0.011	0.11
MW-2	09/20/17	200.7/200.8	0.0011	0.018	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0028	0.00081	NA	<0.01
	09/07/16	200.7/200.8	0.0011	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0031	0.0006	0.0095	<0.01
	08/14/15	200.7/200.8	<0.01	0.017	<0.002	<0.006	<0.006	<0.02	<0.0025	0.0021	<0.01	0.0091	<0.01
	09/16/14	200.7/200.8	0.0012	0.017	<0.002	<0.006	<0.006	<0.02	<0.001	0.0026	<0.001	0.0093	0.026
	09/10/13	200.7/200.8	<0.001	0.02	<0.002	<0.006	<0.006	<0.02	<0.001	0.0051	<0.001	0.0095	<0.01
	08/24/12	200.7/200.8	<0.001	0.018	<0.002	<0.006	<0.006	<0.02	<0.005	0.003	<0.001	0.009	0.019
	10/10/11	200.7/200.8	<0.001	0.019	<0.002	<0.006	<0.006	<0.02	<0.005	0.007	<0.001	0.0093	<0.01
MW-4	09/21/17	200.7/200.8	0.00087	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0052	0.00088	NA	0.011
	09/07/16	200.7/200.8	0.00089	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0046	0.00072	0.017	<0.01
	08/17/15	200.7/200.8	<0.01	0.021	<0.002	<0.006	<0.006	<0.02	<0.0025	0.0051	<0.01	0.016	0.036
	09/17/14	200.7/200.8	<0.001	0.018	<0.002	<0.006	<0.006	<0.02	<0.001	0.0057	<0.001	0.017	<0.01
	09/10/13	200.7/200.8	<0.001	0.022	<0.002	<0.006	<0.006	<0.02	<0.001	0.0057	<0.001	0.018	0.017
	08/21/12	200.7/200.8	<0.001	0.019	<0.002	<0.006	<0.006	<0.02	<0.005	0.0031	<0.001	0.016	0.033
	10/12/11	200.7/200.8	<0.001	0.021	<0.002	<0.006	<0.006	<0.02	<0.005	0.0058	<0.001	0.017	0.1
MW-5	09/11/17	200.7/200.8	0.0012	0.017	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0042	0.0012	0.0095	0.029
	09/07/16	200.7/200.8	0.0010	0.017	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0035	0.0005	0.0094	<0.01
	08/14/15	200.7/200.8	<0.01	0.017	<0.002	<0.006	<0.006	<0.02	<0.0025	0.0032	<0.01	0.0091	<0.01
	09/17/14	200.7/200.8	0.0012	0.015	<0.002	<0.006	<0.006	<0.02	<0.001	0.0045	<0.001	0.0094	0.025
	09/10/13	200.7/200.8	0.001	0.018	<0.002	<0.006	<0.006	<0.02	<0.001	0.0034	<0.001	0.01	0.012
	08/23/12	200.7/200.8	<0.001	0.016	<0.002	<0.006	<0.006	<0.02	<0.005	0.0029	<0.001	0.0091	<0.01
	10/10/11	200.7/200.8	0.0011	0.016	<0.002	<0.006	<0.006	<0.02	<0.005	0.0044	<0.001	0.0095	0.12

8.2.3 MW-1, MW-2, MW-4, MW-5
Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.3	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.004	6
WELL ID	**DATE SAMPLED**	**METHOD**											

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.2.4 MW-1, MW-2, MW-4, MW-5

Volatile and Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS						
			Acetone (mg/L)	Diethyl phthalate (mg/L)	Bis (2-ethylhexyl) phthalate (mg/L)	Benzoic Acid (mg/L)	D-n-octyl phthalate (mg/L)	Dimethyl phthalate (mg/L)	Pyrene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE
40 CFR 141.61 MCL			NE	NE	**0.006**	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			**14.1**	**14.8**	0.0556	NE	NE	**0.612**	**0.117**
EPA RSL for Tap Water (MAY 2018)			14	15	0.0056	**75**	**0.2**	NE	0.12
WELL ID	**DATE SAMPLED**	**METHOD**							
MW-1	09/20/17	8260/8270C	0.0044	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
	09/07/16	8260/8270C	<0.01	<0.01	0.004	0.0098	0.0044	0.0051	
	08/14/15	8260/8270C	<0.01	<0.01	<0.01				
	09/16/14	8260/8270C	<0.01	<0.01	<0.01				
	09/09/13	8260/8270C	<0.01	<0.01	<0.01				
	08/24/12	8260/8270C	<0.01	<0.01	<0.01				
	10/06/11	8260B	<0.01	NL	NL				
	07/16/10	8260/8270C	<0.01	0.0010	<0.005				
	03/01/10 [1]	8260/8270C	<0.0025	NL	<0.005				
MW-2	09/20/17	8260/8270C	0.0043	<0.01	0.006	0.0073	<0.01	<0.01	<0.01
	09/07/16	8260/8270C	<0.01	<0.01	0.0038	0.018	0.0035	0.005	0.0052
	08/14/15	8260/8270C	<0.01	<0.01	<0.01				
	09/16/14	8260/8270C	<0.01	<0.01	<0.01				
	09/10/13	8260/8270C	<0.01	<0.01	<0.01				
	08/24/12	8260/8270C	<0.01	<0.01	<0.01				
	10/10/11	8260B	<0.01	NL	NL				
	03/01/10 [1]	8260/8270C	0.0027	<0.01	<0.005				
MW-4	09/21/17	8260/8270C	0.0037	<0.01	0.0051	0.014	<0.01	<0.01	<0.01
	09/07/16	8260/8270C	<0.01	<0.01	0.0035	0.0093	0.0037	0.0045	0.0032
	08/17/15	8260/8270C	<0.01	<0.01	<0.01				
	09/17/14	8260/8270C	<0.01	<0.01	<0.01				
	09/10/13	8260/8270C	<0.01	<0.01	<0.01				
	08/21/12	8260/8270C	<0.01	<0.01	<0.01				
	10/12/11	8260B	<0.01	NL	NL				
	07/19/10	8260/8270C	<0.01	<0.01	<0.005				
	03/01/10 [1]	8260/8270C	<0.0025	<0.01	<0.005				
MW-5	09/11/17	8260/8270C	0.005	<0.01	0.0057	<0.02	<0.01	<0.01	<0.01
	09/07/16	8260/8270C	<0.01	<0.01	0.0033	0.0065	0.0034	0.0051	
	08/14/15	8260/8270C	<0.01	<0.01	<0.01				
	09/17/14	8260/8270C	<0.01	<0.01	<0.01				
	09/10/13	8260/8270C	<0.01	<0.01	<0.01				
	08/23/12	8260/8270C	<0.01	<0.01	<0.01				
	10/10/11	8260B	<0.01	NL	NL				
	07/19/10	8260/8270C	<0.01	<0.01	<0.005				
	3/1/2010 [1]	8260/8270C	0.0034	NL	<0.005				

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) This was part of the 10 year RCRA Post Closure Sampling Event

8.3 SMW-2, SMW-4

BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.61 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
WELL ID	**DATE SAMPLED**	**METHOD**					
SMW-2	09/11/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.011
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.013
	08/18/15	8260B	<0.001	<0.001	<0.001	<0.0015	**1.011**
	09/11/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.012
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.0097
	08/23/12	8260B	<0.01	<0.01	<0.01	<0.015	0.012
	10/12/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.0079
	07/16/10	8260B	<0.001	<0.001	<0.001	<0.0015	0.0088
SMW-4	09/11/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/14/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/11/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/24/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/10/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/16/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.3.1 SMW-2, SMW-4

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (March 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
WELL ID	**DATE SAMPLED**	**METHOD**								
SMW-2	09/11/17	300.0	<0.5	**2900**	<2.0	<2.0	**1400**	**0.41**	**0.23**	<5.0
	09/09/16	300.0	<0.1	**2500**	<2.0	<2.0	**1300**	<1.0	**1.0**	<5.0
	08/18/15	301.0	<2.1	**3000**	<4.0	<4.0	**1601**	<1.1	**1.78**	<5.1
	09/11/14	300.0	<2.0	**2500**	<2.0	<2.0	**1400**	<1.0	**0.23**	<5.0
	09/09/13	300.0	<0.1	**2500**	<4.0	<4.0	**1500**	<1.0	**0.15**	<5.0
	08/23/12	300.0	0.16	**2400**	<2.0	<2.0	**1600**	<1.0	**0.28**	<5.0
	10/12/11	300.0	0.22	**2600**	<10	<10	**1600**	<1.0	**0.36**	<5.0
	07/16/10	300.0	NA	NA	NA	NA	NA	<1.0	<0.05	
SMW-4	09/11/17	300.0	0.96	56	0.35	0.35	160	<1	<0.05	<5.0
	09/07/16	300.0	1.0	53	<1.0	<1.0	150	<1.0	0.028	<5.0
	08/14/15	300.0	1.0	55	<1.0	<1.0	160	<1.0	<0.05	<5.0
	09/11/14	300.0	1.1	53	<1.0	<1.0	150	<1.0	<0.05	<5.0
	09/09/13	300.0	0.93	59	<1.0	<1.0	170	<1.0	<0.05	<5.0
	08/24/12	300.0	1.0	58	<1.0	<1.0	150	<1.0	<0.05	<5.0
	10/10/11	300.0	1.1	58	**1.3**	1.3	170	<1.0	<0.05	<5.0
	07/16/10	300.0	NA	NA	NA	NA	NA	<1.0	<0.05	
	03/01/10 [1]	8015B	NA	NA	NA	NA	NA	<1.0	<0.05	

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) This was part of the 10 year RCRA Post Closure sampling event

8.3.2 SMW-2, SMW-4

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Cyanide (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.01**	**0.05**	**1.0**	1.0	0.05	0.2	**0.05**	**0.2**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.2	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.00146	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.0015	0.00063	0.004	6
WELL ID	**DATE SAMPLED**	**METHOD**													
SMW-2	09/11/17	200.7/200.8	0.0092	0.082	<0.002	**0.39**	0.0042	4	0.0027	0.49	0.024	0.036	<0.0002	**0.12**	0.008
	09/09/16	200.7/200.8	**0.011**	0.042	<0.002	**0.13**	<0.006	1.4	0.0013	0.3	0.016	0.041	0.000096	**0.11**	0.011
	08/18/15	200.7/200.9	<0.02	1.018	<0.003	**1.0071**	<0.007	1.26	<0.006	1.33	<0.02	**1.045**	<0.0003	**1.12**	<0.02
	09/11/14	200.7/200.8	<0.01	0.013	<0.002	<0.006	<0.006	0.052	<0.001	0.28	0.019	0.0456	<0.0002	**0.11**	<0.01
	09/09/13	200.7/200.8	<0.01	0.028	<0.002	0.029	<0.006	0.66	<0.01	0.27	<0.01	0.0406	<0.0002	**0.11**	0.011
	08/23/12	200.7/200.8	0.005	0.038	<0.002	**0.17**	<0.006	1.5	<0.005	0.25	0.0072	NL	<0.0002	**0.11**	0.021
	10/12/11	200.7/200.8	0.0052	0.031	<0.002	**0.11**	<0.006	0.68	<0.005	0.16	0.011	NL	<0.0002	**0.12**	<0.01
	07/16/10	6010B	0.0035	0.022	<0.002	**0.093**	NL	NL	<0.005	NL	<0.001	0.0525	<0.0002	NL	<0.02
SMW-4	09/11/17	200.7/200.8	0.0032	0.065	<0.002	**0.06**	0.0035	3.1	0.0032	0.068	0.00097	<0.005	<0.0002	**0.033**	0.016
	09/07/16	200.7/200.8	0.0030	0.043	<0.002	0.036	0.0099	1.6	0.0017	0.035	0.00096	<0.01	0.000058	**0.031**	0.011
	08/14/15	200.7/200.8	0.0030	0.028	<0.002	0.0078	<0.006	0.32	0.00053	0.01	<0.001	<0.01	<0.0002	**0.036**	<0.01
	09/11/14	200.7/200.8	0.0034	0.024	<0.002	<0.006	<0.006	0.35	<0.001	0.012	0.0013	<0.01	<0.0002	**0.037**	<0.01
	09/09/13	200.7/200.8	0.0025	0.021	<0.002	0.025	<0.006	0.15	<0.001	0.005	<0.001	<0.01	<0.0002	**0.031**	0.012
	08/24/12	200.7/200.8	0.0033	0.019	<0.002	<0.006	<0.006	0.13	<0.005	0.0046	<0.0025	NA	<0.0002	**0.033**	<0.01
	10/10/11	200.7/200.8	0.0029	0.037	<0.002	**0.058**	<0.006	0.94	<0.005	0.029	<0.0025	NL	<0.0002	**0.037**	0.012
	07/16/10	6010B	0.0033	0.027	<0.002	<0.006	NL	NL	<0.005	NL	<0.001	<0.01	<0.0002	NL	<0.02
	03/01/10 [1]	6010B	<0.005	0.035	<0.002	0.0082	NL	NL	<0.005	NL	<0.005	<0.01	<0.0002	NL	<0.02

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) This was part of the 10 year RCRA Post Closure sampling event

8.3.3 SMW-2, SMW-4

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.004	6
WELL ID	**DATE SAMPLED**	**METHOD**											
SMW-2	09/11/17	200.7/200.8	0.0098	0.016	<0.002	0.0014	<0.006	0.054	<0.0025	**0.31**	0.024	**0.12**	0.033
	09/09/16	200.7/200.8	0.0066	0.018	<0.002	<0.006	<0.006	0.032	<0.0005	**0.24**	0.015	**0.11**	0.005
	08/18/15	200.7/200.9	<0.02	**1.015**	<0.003	<0.006	<0.006	**1.022**	<0.0026	**0.31**	<0.02	**0.12**	0.024
	09/11/14	200.7/200.8	<0.01	0.015	<0.002	<0.006	<0.006	0.049	<0.02	**0.27**	0.021	**0.11**	<0.01
	09/09/13	200.7/200.8	0.0055	0.016	<0.002	<0.006	<0.006	0.028	<0.01	0.17	0.011	**0.1**	0.014
	08/23/12	200.7/200.8	<0.005	0.016	<0.002	<0.006	<0.006	0.042	<0.005	**0.22**	0.0072	**0.1**	0.029
	10/12/11	200.7/200.8	0.0064	0.016	<0.002	<0.006	<0.006	<0.1	<0.005	**0.24**	0.015	**0.11**	0.11
	07/16/10	6010B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SMW-4	09/11/17	200.7/200.8	0.0032	0.023	<0.002	0.0043	<0.006	0.12	0.00059	0.01	<0.005	**0.031**	0.046
	09/07/16	200.7/200.8	0.0030	0.019	<0.002	0.0028	<0.006	0.078	0.0021	0.0064	0.0011	**0.032**	0.0029
	08/14/15	200.7/200.8	<0.01	0.02	<0.002	<0.006	<0.006	<0.02	<0.0025	<0.002	<0.01	**0.035**	<0.01
	09/11/14	200.7/200.8	0.0033	0.021	<0.002	<0.006	<0.006	0.041	<0.01	0.0033	0.0013	**0.033**	<0.01
	09/09/13	200.7/200.8	0.0026	0.021	<0.002	0.012	<0.006	<0.02	<0.001	<0.002	<0.001	**0.031**	<0.01
	08/24/12	200.7/200.8	0.0028	0.016	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	<0.001	0.03	<0.01
	10/10/11	200.7/200.8	0.003	0.02	<0.002	0.0092	<0.006	0.035	<0.005	0.0041	0.0011	**0.032**	0.13
	07/16/10	6010B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	03/01/10 [1]	6010B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) This was part of the 10 year RCRA Post Closure sampling event

8.3.4 SMW-2, SMW-4

Volatile and Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS							
			Acetone (mg/L)	Benzoic Acid (mg/L)	bis(2-Ethylhexyl) phthalate (mg/L)	Di-n-octyl phthalate (mg/L)	Diethyl phthalate (mg/L)	Dimethyl phthalate (mg/L)	Phenol (mg/L)	Pyrene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	**0.005**	NE
40 CFR 141.61 MCL			NE	NE	**0.006**	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			**14.1**	NE	0.0556	NE	**14.8**	**0.612**	5.76	**0.117**
EPA RSL for Tap Water (MAY 2018)			14	**75**	0.0056	**0.2**	15	NE	5.8	0.12
WELL ID	**DATE SAMPLED**	**METHOD**								
SMW-2	09/11/17	8260B/8270C	0.0062	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	09/09/16	8260B/8270C	<0.01	0.0069	0.007	0.0033	<0.01	0.003	<0.01	0.0046
	08/18/15	8260B/8270C	<0.01		<0.01		<0.01		<0.01	
	09/11/14	8260B/8270C	<0.01		<0.011		<0.011		<0.11	
	09/09/13	8260B/8270C	<0.01		<0.01		<0.01		<0.01	
	08/23/12	8260B/8270C	<0.1		<0.01		<0.01		<0.01	
	10/12/11	8260B	<0.01		NA		NA		NA	
	07/16/10	8260B/8270C	<0.01		<0.0001		0.0019		<0.001	
SMW-4	09/11/17	8260B/8270C	0.0039	0.033	**0.034**	<0.05	<0.05	<0.05	<0.05	<0.05
	09/07/16	8260B/8270C	<0.01	0.0099	0.0038	0.0049	<0.01	0.0054	<0.01	
	08/14/15	8260B/8270C	<0.01		<0.01		<0.01		<0.01	
	09/11/14	8260B/8270C	<0.01		<0.01		<0.01		<0.01	
	09/09/13	8260B/8270C	<0.01		<0.01		<0.01		<0.01	
	08/24/12	8260B/8270C	<0.01		<0.01		<0.01		<0.01	
	10/10/11	8260B	<0.01		NA		NA		NA	
	07/16/10	8260B/8270C	<0.01		<0.0001		<0.0001		<0.001	
	03/01/10 [1]	8260B/8270C	<0.0025		<0.005		<0.01		<0.01	

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) This was part of the 10 year RCRA Post Closure Sampling requirement, Total Recoverable Metals Analysis

8.4 OW-11, OW-12

BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.61 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-11	09/18/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/17/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/12/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/16/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/26/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/28/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
OW-12	09/19/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/14/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/12/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/10/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/26/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	07/22/10	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.61 Detection Limits for Organic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.4.1 OW-11, OW-12

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS								
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	GRO (mg/L)	DRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	NE	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	**0.055**	**0.0452**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**									
OW-11	09/18/17	300.0/8015D	**1.7**	97	**1.2**	1.2	<2.5	**850**	<0.05	<1	<5.0
	09/09/16	300.0/8015D	**1.6**	100	**1.7**	1.7	<10	**900**	<0.05	<1.0	<5.0
	08/17/15	300.0/8015D	**1.9**	100	**2.1**	2.1	<0.5	**880**	<0.05	<1.0	<5.0
	09/12/14	300.0	**2.3**	77	<0.1	0.34	<0.5	**960**			
	09/16/13	300.0	**2.6**	81	<0.1	0.34	<0.5	**960**			
	08/22/12	300.0	**1.7**	82	<1.0	<1.0	<10	**940**			
	10/26/11	300.0	**2.2**	95	<0.1	0.77	<0.5	**940**			
	07/28/10	300.0	**2.8**	89	<0.1	0.3	<0.5	**1100**			
OW-12	09/19/17	300.0/8015D	0.52	17	<0.5	0.11	<2.5	170	<0.05	<1	<5.0
	09/08/16	300.0/8015D	0.4	19	<1.0	<1.0	0.37	160	<0.05	<1.0	<5.0
	08/14/15	300.0/8015D	0.49	18	<0.1	<0.1	<0.5	151	<0.06	<1.1	<5.1
	09/12/14	300.0	0.47	19	<1.0	<1.0	<0.5	150			
	08/22/12 [1]	300.0	0.48	16	<1.0	<1.0	<0.5	150			

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) General Chemistry analysis requested as part of the annual sampling

8.4.2 OW-11, OW-12

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	0.01	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	2.02	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-11	09/18/17	200.7/200.8	0.0029	0.0077	<0.002	<0.006	<0.006	0.011	<0.0005	0.019	0.005	<0.0002	**0.21**	<0.01
	09/09/16	200.7/200.8	0.0023	0.0080	<0.002	<0.006	<0.006	<0.02	<0.0005	0.016	0.0074	0.000095	**0.18**	<0.01
	08/17/15	200.7/200.8	<0.01	0.0076	<0.002	<0.006	<0.006	0.025	<0.0005	0.015	<0.01	<0.0002	**0.23**	<0.01
	09/12/14	200.7/200.8	0.0027	0.0083	<0.002	<0.006	<0.006	0.047	<0.001	0.021	0.0023	<0.0002	**0.25**	<0.01
	09/16/13	200.7/200.8	0.0023	0.0084	<0.002	<0.006	<0.006	0.028	<0.001	0.019	0.0018	<0.0002	**0.25**	<0.01
	08/22/12	200.7/200.8	<0.0025	0.0086	<0.002	<0.006	<0.006	0.041	<0.005	0.095	0.0032	<0.0002	**0.22**	<0.01
	10/26/11	200.7/200.8	<0.0025	0.0077	<0.002	<0.006	<0.006	<0.02	<0.005	0.016	0.003	<0.0002	**0.21**	<0.01
	07/28/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	<0.05	<0.005	0.016	<0.05	<0.0002	**0.236**	<0.02
OW-12	09/19/17	200.7/200.8	0.0019	0.023	<0.002	0.0041	0.0019	0.11	0.00032	0.0058	0.00089	<0.0002	NA	0.017
	09/08/16	200.7/200.8	0.0021	0.025	<0.002	0.0055	<0.006	0.11	0.00028	0.0063	0.00080	0.00011	0.012	<0.01
	08/14/15	200.7/200.9	0.0016	0.023	<0.002	<0.006	<0.006	1.078	<0.0006	1.00	<0.001	<0.0002	0.014	<0.02
	09/12/14	200.7/200.8	0.0021	0.024	<0.002	<0.006	<0.006	0.12	<0.001	0.0054	0.0011	<0.0002	0.014	<0.01
	09/10/13	200.7/200.8	0.0019	0.027	<0.002	<0.006	<0.006	0.17	<0.001	0.009	<0.001	<0.0002	0.013	<0.01
	08/22/12 [1]	200.7/200.8	<0.0025	0.028	<0.002	<0.006	<0.006	0.29	<0.005	0.013	<0.0025	<0.0002	0.013	<0.01

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Method 200.7/200.8 analysis requested as part of the annual sampling

8.4.3 OW-11, OW-12

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Barium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2.0	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.7898	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.8	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
OW-11	09/18/17	200.7/200.8	0.0026	0.0078	0.0044	<0.02	<0.0005	0.019	0.0042	NA	0.087
	09/09/16	200.7/200.8	0.0021	0.0087	<0.006	<0.02	<0.0005	0.015	0.0081	**0.18**	0.0091
	08/17/15	200.7/200.8	<0.005	0.0074	<0.006	<0.02	<0.0025	0.015	0.0083	**0.21**	<0.01
	09/12/14	200.7/200.8	0.0026	0.0080	<0.006	<0.02	<0.001	0.017	0.0020	**0.25**	<0.01
	09/16/13	200.7/200.8	0.0024	0.0084	<0.006	<0.02	<0.001	0.019	0.0024	**0.23**	0.021
	08/22/12	200.7/200.8	0.0021	0.0084	<0.006	<0.02	<0.005	0.012	0.0034	**0.21**	0.024
	10/26/11	200.7/200.8	0.002	0.0075	<0.006	<0.02	<0.005	0.016	0.0034	**0.22**	0.11
	07/28/10	6010B	<0.02	<0.02	<0.006	<0.02	<0.005	0.016	<0.05	**0.215**	<0.05
OW-12	09/19/17	200.7/200.8	0.002	0.02	<0.006	0.049	<0.0005	0.0026	<0.005	NA	0.035
	09/08/16	200.7/200.8	0.002	0.02	<0.006	0.047	0.00021	0.0027	0.00094	0.013	0.004
	08/14/15	200.7/200.9	<0.006	**1.02**	<0.006	**1.043**	<0.0026	**1.003**	<0.006	0.012	<0.02
	09/12/14	200.7/200.8	0.002	0.021	<0.006	0.037	<0.01	<0.002	0.0011	0.012	0.023
	09/10/13	200.7/200.8	0.002	0.022	<0.006	0.048	<0.001	0.0021	<0.001	0.013	0.014
	08/22/12 [1]	200.7/200.8	0.0018	0.021	<0.006	0.053	<0.005	0.0033	<0.001	0.012	0.031

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Method 200.7/200.8 analysis requested as part of the annual sampling

8.4.4 OW-11, OW-12

Semi-Volatile Organic Compound Analytical Result Summary

			PARAMETERS
			Bis (2-ethylhexyl) phthalate (mg/L)
STANDARDS			
WQCC 20NMAC 6.2.3103			NE
40 CFR 141.61 MCL			**0.006**
NMED TAP WATER (MARCH 2017)			0.0556
EPA RSL for Tap Water (MAY 2018)			0.0056
WELL ID	**DATE SAMPLED**	**METHOD**	
OW-11	08/17/15	8270C	<0.01
	09/12/14	8270C	<0.01
	09/16/13	8270C	**0.011**

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.61 Detection Limits for Organic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.5 OW-50, OW-52

BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-50	09/11/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0059
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00024
	08/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/15/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/04/13 [1]	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/27/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/13/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	12/15/11	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005
	10/25/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/20/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/01/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/09/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/27/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/01/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/16/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
OW-52	09/11/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.001
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00046
	08/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/15/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/04/13 [1]	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/27/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/13/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	12/13/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/25/11	8021B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/20/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/01/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/09/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/27/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/01/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/16/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Beginning in 2013, sampling frequency changed to annual per concurrence by NMED in Comment 6 of NMED Disapproval Facility Wide Ground Water Monitoring Work Plan 2011 Updates 9/24/12.

8.5.1 OW-50, OW-52

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**								
OW-50	09/11/17	300.0/8015B	0.37	35	<1.0	<1.0	160	<1	<0.05	<5.0
	09/09/16	300.0/8015B	0.36	31	<1.0	<1.0	150	<1.0	<0.05	<5.0
	08/11/15	300.0/8015B	0.47	31	<1.0	<1.0	150	<1.1	<0.06	<5.1
	09/15/14	300.0/8015B	0.45	30	<0.1	<0.1	150	<1.0	<0.05	<5.0
	09/04/13 [1]	300.0/8015B	0.5	26	**2**	2	140	<1.0	<0.05	<5.0
	11/27/12	300.0/8015B	0.54	28	<1.0	<1.0	160	<1.0	<0.05	<5.0
	08/23/12	300.0/8015B	0.42	26	<1.0	<1.0	140	<1.0	<0.05	<5.0
	06/13/12	300.0/8015B	0.54	27	<1.0	<1.0	140	<1.0	<0.05	<5.0
	03/22/12	300.0/8015B	0.59	27	<0.1	0.15	150	<1.0	<0.05	<5.0
	12/15/11	300.0/8015B	0.49	25	<1.0	<1.0	140	<1.0	<0.05	<5.0
	10/25/11	300.0/8015B	0.49	26	NL	NL	140	<1.0	<0.05	<5.0
	06/20/11	300.0/8015B	0.53	28	<0.1	<0.1	150	<1.0	<0.05	<5.0
	03/01/11	300.0/8015B	0.49	26	<0.1	<0.1	140	<1.0	<0.05	<5.0
	11/09/10	300.0/8015B	0.51	29	<0.1	<0.1	160	<1.0	<0.05	NA
	09/27/10	300.0/8015B	0.41	26	<0.1	<0.1	140	<1.0	<0.05	NA
	06/01/10	300.0/8015B	0.53	27	<0.1	<0.1	140	<1.0	<0.05	NA
	03/16/10	300.0/8015B	0.53	29	<0.1	<0.1	150	<1.0	<0.05	NA

8.5.1 OW-50, OW-52

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**								
OW-52	09/11/17	300.0/8015B	0.43	25	<1.0	<1.0	130	<1.0	<0.05	<5.0
	09/09/16	300.0/8015B	0.38	27	<1.0	<1.0	140	<1.0	<0.05	<5.0
	08/11/15	300.0/8015B	0.47	25	<1.0	<1.0	130	<1.1	<0.06	<5.1
	09/15/14	300.0/8015B	0.5	27	<0.1	<0.1	130	<1.0	<0.05	<5.0
	09/04/13 [1]	300.0/8015B	0.5	27	**4.6**	4.6	140	<1.0	<0.05	<5.0
	11/27/12	300.0/8015B	0.64	28	<1.0	<1.0	140	<1.0	<0.05	<5.0
	08/23/12	300.0/8015B	0.49	25	<1.0	<1.0	120	<1.0	<0.05	<5.0
	06/13/12	300.0/8015B	0.58	27	<1.0	<1.0	140	<1.0	<0.05	<5.0
	03/22/12	300.0/8015B	0.56	26	<0.1	<0.1	130	<1.0	<0.05	<5.0
	12/13/11	300.0/8015B	<0.5	27	<1.0	<1.0	130	<1.0	<0.05	<5.0
	10/25/11	300.0/8015B	0.4	20	**1.3**	1.3	100	<1.0	<0.05	<5.0
	06/20/11	300.0/8015B	0.56	24	<0.1	<0.1	140	<1.0	<0.05	<5.0
	03/01/11	300.0/8015B	0.57	25	<0.1	<0.1	130	<1.0	<0.05	<5.0
	11/09/10	300.0/8015B	0.54	32	<0.1	<0.1	140	<1.0	<0.05	NA
	09/27/10	300.0/8015B	0.52	27	<0.1	<0.1	140	<1.0	<0.05	NA
	06/01/10	300.0/8015B	0.52	28	<0.1	<0.1	140	<1.0	<0.05	NA
	03/16/10	300.0/8015B	0.56	31	<0.1	<0.1	150	<1.0	<0.05	NA

8.5.1 OW-50, OW-52

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**								

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) *Sampling frequency changed to annual per concurrence by NMED in Comment 6 of NMED Disapproval Facility Wide Ground Water Monitoring Work Plan 2011 Updates, 9/24/12.*

8.5.2 OW-50, OW-52

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS												
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.79	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
OW-50	09/11/17	200.7/200.8	0.0021	0.11	<0.002	0.0029	<0.006	1.7	0.0015	0.13	0.0014	<0.005	<0.0002	0.012	0.0068
	09/09/16	200.7/200.8	0.0021	0.087	<0.002	<0.006	<0.006	0.68	0.00087	0.12	0.0015	<0.005	0.000096	0.01	0.0027
	08/11/15	200.7/200.9	0.0019	0.14	<0.002	<0.006	<0.006	0.68	0.0024	0.14	<0.001	<0.005	<0.0002	0.011	0.017
	09/15/14	200.7/200.8	0.0019	0.075	<0.002	<0.006	<0.006	0.18	<0.001	0.11	0.001	<0.005	<0.0002	0.01	<0.01
	09/04/13	200.7/200.8	0.0018	0.058	<0.002	<0.006	<0.006	0.6	0.0021	0.11	<0.001	<0.005	<0.0002	0.0084	0.013
	11/27/12	200.7/200.8	<0.0025	0.12	<0.002	<0.006	<0.006	1.3	<0.005	0.12	<0.0025	<0.005	<0.0002	0.0096	<0.01
	08/23/12	200.7/200.8	<0.0025	0.043	<0.002	<0.006	0.0086	0.071	<0.005	0.058	<0.0025	<0.005	<0.0002	0.008	0.011
	06/13/12	200.7/200.8	<0.0025	0.081	<0.002	<0.006	<0.006	0.89	<0.005	0.1	<0.0025	<0.005	<0.0002	0.0074	<0.01
	03/22/12	200.7/200.8	<0.0025	0.029	<0.002	<0.006	<0.006	0.31	<0.005	0.035	<0.0025	<0.005	<0.0002	0.011	<0.01
	12/15/11	200.7/200.8	<0.0025	0.07	<0.002	<0.006	<0.006	0.51	<0.005	0.095	<0.0025	<0.005	<0.0002	0.0087	<0.01
	10/25/11	200.7/200.8	<0.0025	0.041	<0.002	<0.006	<0.006	0.022	<0.005	0.082	<0.0025	<0.005	<0.002	0.0072	<0.01
	06/20/11	200.7/200.8	<0.0025	0.046	<0.002	<0.006	<0.006	0.16	<0.005	0.085	<0.0025	<0.005	<0.0002	0.0071	<0.01
	03/01/11	200.7/200.8	0.003	0.045	<0.002	<0.006	<0.006	0.24	<0.005	0.086	<0.05	<0.005	<0.0002	0.0072	<0.01
	11/09/10	200.7/200.8	0.0031	0.038	<0.002	<0.006	<0.006	<0.02	<0.005	0.079	0.0055	<0.005	<0.0002	NA	0.02
	09/27/10	6010B	<0.02	0.041	<0.002	<0.006	<0.006	0.15	<0.005	0.032	<0.05	<0.005	<0.0002	0.006	<0.02
	06/01/10	6010B	<0.02	0.042	<0.002	<0.006	NA	NA	<0.005	NA	<0.05	<0.005	<0.0002	NA	<0.02
	03/16/10	6010B	<0.02	0.038	<0.002	<0.006	<0.006	<0.05	<0.005	0.079	<0.05	<0.005	<0.0002	0.00626	<0.02
OW-52	09/11/17	200.7/200.8	0.00051	0.029	<0.002	<0.006	<0.006	0.091	<0.0005	0.026	<0.001	<0.005	<0.0002	0.011	<0.01
	09/09/16	200.7/200.8	0.00096	0.032	<0.002	<0.006	<0.006	0.15	0.000086	0.03	0.00084	<0.005	0.000094	0.01	<0.01
	08/11/15	200.7/200.9	<0.002	1.031	<0.002	<0.006	<0.006	1.17	<0.0006	1.033	<0.001	<0.005	<0.0002	**1.012**	<0.02
	09/15/14	200.7/200.8	<0.001	0.032	<0.002	<0.006	<0.006	0.31	<0.001	0.036	<0.001	<0.005	<0.0002	0.011	<0.01
	09/04/13	200.7/200.8	<0.001	0.029	<0.002	<0.006	<0.006	0.22	<0.001	0.043	<0.001	<0.005	<0.0002	0.011	<0.01
	11/27/12	200.7/200.8	<0.0025	0.029	<0.002	<0.006	<0.006	0.15	<0.005	0.029	<0.0025	<0.005	<0.0002	0.011	<0.01
	08/23/12	200.7/200.8	<0.0025	0.029	<0.002	<0.006	0.014	0.3	<0.005	0.026	<0.0025	<0.005	<0.0002	0.0076	0.012
	06/13/12	200.7/200.8	<0.0025	0.028	<0.002	<0.006	<0.006	0.17	<0.005	0.027	<0.0025	<0.005	<0.0002	0.01	<0.01
	03/22/12	200.7/200.8	<0.0025	0.072	<0.002	<0.006	<0.006	0.52	<0.005	0.094	<0.0025	<0.005	<0.0002	0.0076	<0.01
	12/13/11	200.7/200.8	<0.0025	0.034	<0.002	0.0069	<0.006	0.43	<0.005	0.039	<0.0025	<0.005	<0.0002	0.01	<0.01
	10/25/11	200.7/200.8	<0.0025	0.025	<0.002	<0.006	<0.006	0.13	<0.005	0.032	<0.0025	<0.005	<0.0002	0.01	<0.01
	06/20/11	200.7/200.8	<0.0025	0.026	<0.002	<0.006	<0.006	0.11	<0.005	0.036	<0.0025	<0.005	<0.002	0.012	<0.01
	03/01/11	200.7/200.8	<0.0025	0.027	<0.002	<0.006	<0.006	0.35	<0.005	0.044	<0.05	<0.005	NA	0.0036	<0.01
	11/19/10	200.7/200.8	<0.0025	0.026	<0.002	<0.006	<0.006	0.056	<0.005	0.028	0.0046	<0.005	<0.0002	NL	<0.01
	09/27/10	6010B	<0.02	0.025	<0.002	<0.006	<0.006	0.065	<0.005	0.03	<0.05	<0.005	<0.0002	0.01	<0.02
	06/01/10	6010B	<0.02	0.024	<0.002	<0.006	NA	NA	<0.005	NA	<0.05	<0.005	<0.0002	NA	NA
	03/16/10	6010B	<0.02	0.027	<0.002	<0.006	<0.006	0.15	<0.005	0.032	<0.05	<0.005	<0.0002	0.0103	<0.02

8.5.2 OW-50, OW-52

Total Metals Analytical Result Summary

STANDARDS	PARAMETERS												
	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103	0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL	**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)	0.000855	3.28	0.00624	0.0057	0.79	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)	0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID / DATE SAMPLED / METHOD													

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.5.3 OW-50, OW-52

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-50	09/11/17	200.7/200.8	0.0024	0.053	<0.002	<0.006	<0.006	0.031	<0.0005	0.11	0.0026	<0.005	0.012	0.079
	09/09/16	200.7/200.8	0.0023	0.055	<0.002	<0.006	<0.006	0.68	<0.0005	0.12	0.0014	<0.005	0.012	0.0027
	08/11/15	200.7/200.9	<0.006	**1.048**	<0.003	<0.006	<0.006	<0.02	<0.0025	**1.089**	<0.005	<0.005	0.01	<0.02
	09/15/14	200.7/200.8	0.0024	0.047	<0.002	<0.006	<0.006	<0.02	<0.001	0.091	0.0017	<0.005	0.0098	<0.01
	09/04/13	200.7/200.8	<0.005	0.042	<0.002	<0.006	<0.006	<0.02	<0.005	0.1	<0.005	<0.005	<0.01	<0.01
	11/27/12	200.7/200.8	0.0019	0.052	<0.002	<0.006	<0.006	0.41	<0.005	0.093	<0.001	<0.005	0.0093	0.012
	08/23/12	200.7/200.8	0.0019	0.04	<0.002	<0.006	<0.006	<0.02	<0.005	0.051	<0.001	<0.005	0.0077	0.014
	06/13/12	200.7/200.8	0.0019	0.041	<0.002	<0.006	<0.006	<0.02	<0.005	0.081	<0.001	<0.005	0.0085	0.012
	03/22/12	200.7/200.8	0.0019	0.041	<0.002	<0.006	<0.006	<0.02	<0.005	0.082	<0.001	<0.005	0.0076	0.039
	12/15/11	200.7/200.8	0.0018	0.04	<0.002	<0.006	<0.006	<0.1	<0.005	0.079	<0.001	<0.005	0.0081	<0.01
	10/25/11	200.7/200.8	0.0019	0.041	<0.002	<0.006	<0.006	<0.02	<0.005	0.082	<0.001	<0.005	0.0074	<0.01
	06/20/11	200.7/200.8	0.0022	NA	<0.002	<0.006	NA	<0.02	<0.005	0.088	0.0013	<0.005	0.0075	0.021
	03/01/11	200.7/200.8	0.0026	0.039	<0.002	<0.006	<0.006	<0.02	<0.005	0.082	<0.05	<0.005	0.0069	0.081
	11/09/10	200.7/200.8	NA	0.037	<0.002	<0.006	<0.006	<0.02	<0.005	0.078	0.0014	<0.005	NA	<0.01
	09/27/10	6010B	<0.02	0.04	<0.002	<0.006	<0.006	<0.02	<0.005	0.081	<0.05	<0.005	0.006	0.064
	06/01/10	6010B	<0.02	0.04	<0.002	<0.006	<0.006	<0.02	<0.005	0.083	<0.05	<0.005	NA	<0.05
	03/16/10	6010B	<0.02	0.036	<0.002	<0.006	<0.006	<0.02	<0.005	0.076	<0.05	<0.005	0.00641	<0.05

8.5.3 OW-50, OW-52

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-52	09/11/17	200.7/200.8	<0.005	0.029	<0.002	<0.006	<0.006	0.05	<0.0005	0.025	<0.005	<0.005	0.011	0.063
	09/09/16	200.7/200.8	0.00086	0.028	<0.002	<0.006	<0.006	0.05	<0.0005	0.026	<0.005	<0.005	0.011	<0.01
	08/11/15	200.7/200.9	<0.006	**1.027**	<0.003	<0.006	<0.006	**1.035**	<0.0026	0.031	<0.005	<0.005	0.011	<0.02
	09/15/14	200.7/200.8	<0.001	0.029	<0.002	<0.006	<0.006	0.051	<0.001	0.026	0.0012	<0.005	0.011	<0.01
	09/04/13	200.7/200.8	<0.005	0.026	<0.002	<0.006	<0.006	0.063	<0.005	0.038	<0.005	<0.005	0.011	<0.01
	11/27/12	200.7/200.8	<0.001	0.027	<0.002	<0.006	<0.006	0.066	<0.005	0.025	<0.001	<0.005	0.011	0.011
	08/23/12	200.7/200.8	<0.001	0.022	<0.002	<0.006	<0.006	<0.02	<0.005	0.0054	<0.001	<0.005	0.0072	0.039
	06/13/12	200.7/200.8	<0.001	0.026	<0.002	<0.006	<0.006	0.076	<0.005	0.023	<0.001	<0.005	0.011	0.023
	03/22/12	200.7/200.8	<0.001	0.025	<0.002	<0.006	<0.006	0.071	<0.005	0.03	<0.001	<0.005	0.01	0.084
	12/13/11	200.7/200.8	<0.001	0.025	<0.002	<0.006	<0.006	0.08	<0.005	0.025	<0.001	<0.005	0.01	<0.01
	10/25/11	200.7/200.8	<0.001	0.025	<0.002	<0.006	<0.006	0.12	<0.005	0.031	<0.001	<0.005	0.011	<0.01
	06/20/11	200.7/200.8	<0.001	NA	<0.002	<0.006	NA	0.12	<0.005	0.037	0.0015	<0.005	0.013	0.024
	03/01/11	200.7/200.8	<0.001	0.36	<0.02	<0.006	<0.006	0.064	<0.005	**0.68**	<0.05	<0.005	0.0071	<0.01
	11/09/10	200.7/200.8	NA	0.025	<0.02	<0.006	<0.006	0.048	<0.005	0.027	NA	<0.005	NA	<0.01
	09/27/10	6010B	<0.02	0.026	<0.002	<0.006	<0.006	0.058	<0.005	0.031	<0.05	<0.005	0.009	0.079
	06/01/10	6010B	<0.02	0.026	<0.002	<0.006	<0.006	0.058	<0.005	0.032	<0.05	<0.005	0.00926	<0.05
	03/16/10	6010B	<0.02	0.023	<0.002	<0.006	<0.006	0.034	<0.005	0.028	<0.05	<0.005	0.0092	<0.05

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.5.4 OW-50, OW-52

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS		
			Benzoic Acid (mg/L)	Bis(2-ethylhexyl)phthalate (mg/L)	1,2-Dichloroethane (EDC) (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01
40 CFR 141.62 MCL			NE	**0.006**	**0.005**
NMED TAP WATER (MARCH 2017)			NE	0.0556	0.0017
EPA RSL for Tap Water (MAY 2018)			**75**	0.0056	0.005
Well ID	**DATE SAMPLED**	**METHOD**			
OW-50	09/11/17	8260B	NA	NA	<0.001
	09/09/16	8260B	NA	NA	0.0005
	08/11/15	8270C/8260B	<0.02	<0.01	
	09/15/14	8270C	<0.02	<0.01	
	09/04/13	8270C	<0.04	<0.01	
	12/05/12 [1]	8270C	<0.02	<0.01	
	08/23/12	8270C	<0.02	<0.01	
	06/13/12	8270C	<0.02	<0.01	
	03/22/12	8270C	<0.02	<0.01	
	12/15/11	8270C	<0.02	<0.01	
	10/25/11	8270C	<0.02	<0.01	
	06/20/11	8270C	<0.02	<0.01	
	03/01/11	8270C	<0.02	<0.01	
	11/09/10	8270C	<0.02	<0.01	
	09/27/10	8270C	<0.02	<0.01	
	06/01/10	8270C	<0.02	<0.01	
	03/16/10	8270C	0.02	**0.011**	
	11/17/09	8270C	<0.02	<0.01	
OW-52	09/11/17	8270C/8260B	NA	NA	<0.001
	09/09/16	8270C/8260B	NA	NA	0.00049

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Sampled for 8270C only. Samples not collected for this analysis during the 4th quarter sampling.

8.6 PW-2, PW-3, PW-4

BTEX, MTBE, General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS												
			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	NE	**10**	**1.6**	**250**	**600**	NE	NE	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	**1**	10	4	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.1	0.0149	0.193	**0.143**	1.97	31.59	1.18	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	2	32	0.8	NE	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**													
PW-2	09/18/17	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	0.19	0.19	<0.5	6.8	340	NA	NA	NA
	09/10/14	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	NL	0.12						
	12/15/11 [1]	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	NL	0.15						
	10/26/11	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	<0.1	<0.1						
	09/12/08	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.01	<1.0	<1.0						
PW-3	09/18/17	8260B/300.0	<0.001	<0.001	<0.001	<0.0015	<0.001	<1	<1	<0.5	34	**770**	NA	NA	NA
	08/31/16	8260B/300.0	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<1.0	NA	NA	NA	NA	NA	NA
	08/23/15	8260B/300.0	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<1.0	0.16	31	**750**	<1.0	<0.05	<5.0
	09/10/14	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	NL	<0.1						
	09/10/13	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	NL	0.15						
	08/24/12	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<1.0						
	10/31/11	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.01	NL	<0.1						
	09/23/10	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.01	<1.0	<1.0						
	08/21/08	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.01	<0.01	0.13						
	01/01/08	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.01	<0.2	<0.2						
PW-4	09/18/17	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	0.18	0.18	<0.5	7.4	410	NA	NA	NA
	03/30/17	8260B/Anions	<0.0005	<0.0005	<0.0005	<0.00075	<0.0005	NA	0.51	NA	NA	NA	NA	NA	NA
	08/31/16	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	NL	<1.0						
	06/10/16 [2]	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	NA	NA						
	09/10/13	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	NA	0.19						
	07/28/10	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.001	<0.01	0.14						
	09/12/08	8260B/Anions	<0.001	<0.001	<0.001	<0.0015	<0.01	<0.01	<0.02						

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) Re-sampled on 12/15/2011 due to detection of PCE during the Annual sampling event on 10/26/2011.

2) Per NMED directive - sampling of PW-4 switched to semi-annual beginning in the second quarter of 2016.

8.6.1 PW-2, PW-3, PW-4

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Cyanide (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.01**	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.2**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.2	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000513	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.00146	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.015	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
PW-2	09/18/17	200.7/200.8	0.0031	0.013	<0.002	<0.006	<0.006	0.042	<0.0005	0.0033	0.0011	<0.0002	<0.005	0.0023	0.0071
	09/10/14	200.7/200.8	0.0033	0.014	<0.002	<0.006	<0.006	0.05	<0.001	<0.002	0.0014	<0.0002	<0.01	0.0024	<0.01
	12/15/11 [1]	200.7/200.8	0.0055	0.12	<0.002	<0.006	<0.006	0.74	<0.005	0.011	<0.0025	<0.0002	<0.01	<0.0025	<0.01
	10/26/11 [1]	200.7/200.8	<0.0025	0.016	<0.002	<0.006	<0.006	0.29	<0.005	0.058	<0.0025	<0.0002	<0.01	<0.0025	<0.01
	09/12/08	6010B	<0.02	0.013	<0.002	<0.006	<0.006	0.07	<0.005	<0.002	<0.05	<0.0002	<0.01	0.0016	<0.05
PW-3	09/18/17	200.7/200.8	0.0036	0.01	<0.002	<0.006	<0.006	0.12	<0.0005	0.0021	0.0014	<0.0002	<0.005	0.0016	0.0039
	08/31/16	200.7/200.8	0.0041	0.011	<0.002	<0.006	<0.006	0.24	0.00025	0.0016	0.0017	NL	<0.01	0.0017	0.0072
	08/23/15	200.7/200.8	0.0035	0.01	<0.002	<0.006	<0.006	0.079	<0.0005	<0.002	0.0012	<0.0002	<0.01	0.0017	<0.01
	09/10/14	200.7/200.8	0.0039	0.011	<0.002	<0.006	<0.006	0.3	<0.001	0.0025	0.0019	<0.0002	<0.01	0.0016	0.01
	09/10/13	200.7/200.8	0.0038	0.011	<0.002	<0.006	<0.006	0.2	<0.001	0.0022	0.0011	<0.0002	<0.01	0.0015	0.014
	08/24/12	200.7/200.8	0.004	0.011	<0.002	<0.006	<0.006	0.24	<0.005	<0.002	<0.0025	<0.0002	0.0085	<0.0025	0.027
	10/31/11	200.7/200.8	0.0035	0.01	<0.002	<0.006	<0.006	0.09	<0.005	0.003	0.0012	<0.0002	<0.01	0.0014	0.023
	09/23/10	6010B	<0.02	<0.02	<0.002	<0.006	0.032	0.47	0.0074	0.0046	<0.05	<0.0002	<0.005	0.001	0.037
	08/21/08	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	<0.05	<0.005	<0.0002	<0.25	<0.0002	<0.004	<0.00063	<0.05
	01/01/08	6010B	<0.02	0.014	<0.002	<0.006	<0.006	0.2	0.0056	0.015	<0.5	<0.0002	<0.01	<0.1	0.041
PW-4	09/18/17	6010B	0.0029	0.013	<0.002	<0.006	<0.006	0.087	<0.0005	<0.002	0.0012	<0.0002	<0.005	0.0016	<0.01
	03/30/17	6010B	0.0032	0.012	<0.002	<0.006	<0.006	0.15	<0.0005	0.00087	0.0013	0.000052	<0.005	0.0015	<0.01
	08/31/16	6010B	0.0037	0.014	<0.002	<0.006	<0.006	0.14	<0.005	0.0012	0.0016	NL	<0.01	0.0018	0.0036
	06/10/16	200.7/200.8	0.0036	0.014	<0.002	<0.006	<0.006	0.26	<0.0005	0.0025	0.0013	<0.0002	<0.01	0.0016	<0.01
	09/10/13	6010B	0.0029	0.014	<0.002	<0.006	<0.006	1.5	<0.001	0.014	0.0012	<0.0002	<0.01	0.0017	0.025
	07/28/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	0.23	<0.005	0.0044	<0.05	<0.0002	<0.01	0.0021	<0.02
	09/12/08	6010B	<0.02	0.013	<0.002	<0.006	<0.006	0.11	<0.005	0.005	<0.05	<0.0002	<0.01	0.0014	<0.02

DEFINITIONS

NL = Not listed

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) PW-2 was re-sampled on 12/15/2011 due to detection of PCE during the Annual sampling event on 10/26/2011.

8.6.2 PW-2, PW-3, PW-4

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											
PW-2	09/18/17	200.7/200.8	0.0031	0.014	<0.002	<0.006	<0.006	0.028	<0.0005	0.0012	0.0017	NA	0.041
	09/10/14	200.7/200.8	0.0031	0.012	<0.002	<0.006	<0.006	0.042	<0.001	<0.002	0.0014	0.0024	0.012
	12/15/11 [1]	200.7/200.8	0.0027	0.014	<0.002	<0.006	<0.006	0.23	<0.005	0.006	<0.001	0.0019	0.053
	10/26/11	200.7/200.8	<0.001	0.016	<0.002	<0.006	<0.006	<0.02	<0.005	0.06	<0.001	0.0022	0.045
	09/12/08	6010B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PW-3	09/18/17	200.7/200.8	0.0038	0.011	<0.002	<0.006	<0.006	0.055	<0.0005	0.002	0.0022	NA	0.038
	08/31/16	200.7/200.8	0.0035	0.011	<0.002	<0.006	<0.006	0.092	<0.0005	0.0014	0.0018	0.0015	0.011
	08/23/15	200.7/200.8	0.0034	0.011	<0.002	<0.006	<0.006	0.034	<0.0005	<0.002	0.0014	0.0016	<0.01
	09/10/14	200.7/200.8	0.0039	0.011	<0.002	<0.006	<0.006	0.13	<0.001	<0.002	0.002	0.0016	0.011
	09/10/13	200.7/200.8	0.0037	0.011	<0.002	<0.006	<0.006	0.28	<0.001	0.0036	0.0014	0.0016	0.029
	08/24/12	200.7/200.8	0.0034	0.011	<0.002	<0.006	<0.006	0.042	<0.005	<0.002	0.0012	0.0015	0.03
	10/31/11	200.7/200.8	0.0033	0.011	<0.002	<0.006	<0.006	0.079	<0.005	0.0035	0.0012	0.0014	0.06
	09/23/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	0.098	<0.005	<0.002	<0.05	0.001	<0.05
	08/23/08	6010B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	01/01/08	6010B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PW-4	09/18/17	200.7/200.8	0.0031	0.014	<0.002	<0.006	<0.006	0.04	<0.0005	0.00074	0.0016	NA	0.053
	03/30/17	200.7/200.8	0.0030	0.013	<0.002	<0.006	<0.006	0.074	<0.0005	0.00088	0.0018	0.0015	0.031
	08/31/16	200.7/200.8	0.0029	0.014	<0.002	<0.006	<0.006	0.061	<0.0005	0.00098	0.0018	0.0015	<0.01
	06/10/16	200.7/200.8	0.003	0.014	<0.002	<0.006	<0.006	0.11	<0.0005	0.0012	0.0017	0.0016	<0.01
	09/10/13	200.7/200.8	0.003	0.014	<0.002	<0.006	<0.006	0.12	<0.001	0.007	0.0012	0.0016	<0.01
	07/28/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.006	0.09	<0.005	0.0036	<0.05	0.00146	0.086
	09/12/08	6010B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) PW-2 was re-sampled on 12/15/2011 due to detection of PCE during the Annual sampling event on 10/26/2011.

In the field blank submitted with the 10/26/11 sampling, toluene was detected at 0.0017 ppm.

8.6.3 PW-2, PW-3, PW-4

Volatile and Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS															
			Bis(2-ethylhexyl) phthalate (mg/L)	Di-n-octyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Tetrachloro ethene (PCE) (mg/L)	1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	n-Propyl benzene (mg/L)	Benzoic acid (mg/L)	Diethyl phthalate (mg/L)	Dimethyl phthalate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	**0.005**	0.02	NE	NE	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			**0.006**	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			0.0556	NE	**0.354**	NE	NE	**0.17**	5.76	0.113	NE	NE	**0.00165**	0.0114	0.035	NE	NE	**14.8**	**0.612**
EPA RSL for Tap Water (MAY 2018)			0.0056	**0.2**	0.36	**0.93**	**0.93**	NE	5.8	0.011	**0.056**	**0.060**	0.00017	**0.0011**	**0.036**	**0.66**	**75**	15	NE
Well ID	**DATE SAMPLED**	**METHOD**																	
PW-2	09/18/17	8270C/8260B	<0.01	0.0051	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.001	0.01	<0.01	<0.01
	09/10/14	8270C/8260B			<0.01	<0.02	<0.01	<0.01	<0.01	<0.001					<0.01				
	12/15/11 [3]	8270C/8260B			<0.01	<0.01	<0.01	<0.01	<0.01	<0.001					<0.01				
	10/26/11	8270C/8260B			<0.01	<0.01	<0.01	<0.01	<0.01	0.0073 [2]					<0.004				
PW-3	09/18/17	8270C/8260B	0.0052	0.0048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.001	<0.02	<0.01	<0.01
	08/31/16	8270C/8260B	0.0041	0.0043	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001					<0.01		0.0085	0.0037	0.0079
	08/23/15	8270C/8260B			<0.01	<0.01	<0.01	<0.01	<0.01	<0.001					<0.01				
	09/10/14	8270C/8260B			<0.01	<0.01	<0.01	<0.01	<0.01	<0.001					<0.01				
	09/10/13	8270C/8260B			<0.01	<0.01	<0.01	<0.01	<0.01	<0.001					<0.01				
	08/24/12	8270C/8260B			<0.01	<0.01	<0.01	<0.01	<0.01	<0.001					<0.01				
	10/31/11	8270C/8260B			<0.01	<0.01	<0.01	<0.01	<0.01						<0.01				
	11/01/10	8270C			<0.01	<0.01	<0.01	<0.01	<0.01						<0.01				
	09/23/10	8270C			<0.01	<0.01	<0.01	<0.01	<0.01						<0.01				
	08/21/08	8270C			<0.01	<0.01	<0.01	<0.01	<0.01						<0.01				
	01/01/08 [1]	8270C			0.016	0.21	0.36	0.017	0.8						0.032				
PW-4	09/18/17	8270	0.0053	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.001	<0.02	<0.01	<0.01
	03/30/17	8270	**0.0069**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.002	<0.0005	0.0074	<0.01	<0.01
	08/31/16	8270	0.0031	0.0038							<0.001	<0.001	<0.002	<0.004	<0.004	<0.001	0.0087	0.0029	0.0064
	06/10/16	8270C/8260B	0.0038	0.0054							0.00045	0.00031	0.00048	0.00072	0.00083	<0.001			
	09/09/13	8260B									0.0068 [4]	0.0023 [4]				0.0013 [4]			

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Due to inclement weather conditions in December 2007, the 2007 annual sampling was completed in January 2008.

2) PW-2: Detected for the first time. In the field blank submitted, toluene was detected at 0.0017 mg/L.

3) PW-2 was re-sampled due to the detection of PCE in the 10/26/2011 sample.

4) PW-4: Detected for the first time.

8.7 GWM-1, GWM-2, GWM-3

BTEX and MTBE Analytical Result Summary

			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00454	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00045	0.11	0.0015	0.019	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
GWM-1	2017	--	NO SAMPLES COLLECTED - SPH DETECTED				
	2016	--	NO SAMPLES COLLECTED - SPH DETECTED				
	10/29/15	--	NO SAMPLES COLLECTED - SPH DETECTED				
	08/24/15	8260B	**0.0085**	0.033	0.011	0.11	0.04
	06/02/15	8021B	**0.012**	0.0033	0.0056	0.024	0.051
	03/10/15	8021B	**0.011**	0.0022	0.0051	0.021	0.049
	11/13/14	8260B	**0.012**	<0.005	0.0057	0.023	0.05
	09/12/14	8260B	**0.01**	0.0031	0.004	0.016	0.041
	06/05/14	8260B	**0.011**	0.0021	0.0048	0.019	0.051
	03/11/14	8260B	**0.0088**	0.0022	0.0037	0.015	0.039
	11/11/13	8260B	**0.008**	0.0023	0.0038	0.014	0.039
	09/03/13	8260B	**0.008**	<0.005	<0.005	0.016	0.035
	06/12/13	8260B	**0.0077**	0.0048	0.0039	0.018	0.04
	03/18/13	8260B	**0.0098**	<0.005	<0.005	0.018	0.043
	11/28/12	8260B	<0.01	<0.01	<0.01	<0.015	0.052
	08/21/12	8260B	**0.0078**	0.0024	0.0035	0.015	0.044
	06/12/12	8260B	**0.0053**	0.0014	0.0025	0.0094	0.04
	03/20/12	8260B	**0.0057**	<0.001	0.0019	0.007	0.054
	12/14/11	8260B	**0.0085**	0.0019	0.0042	0.014	0.054
	09/26/11	8260B	**0.0096**	0.0052	0.0059	0.03	0.051
	06/15/11	8260B	**0.0074**	0.0027	0.0053	0.026	0.047
	02/16/11	8260B	**0.0095**	0.0034	0.0054	0.023	0.057
	11/02/10	8260B	**0.0069**	0.0023	0.0035	0.022	0.062
	09/16/10	8260B	**0.0075**	0.0049	0.0067	0.03	0.053
	07/20/10	8260B	**0.008**	0.002	0.0068	0.03	0.077
	03/03/10[2]	8260B	**0.012**	0.005	0.011	0.05	0.078
GWM-2	2017	--	DRY				
	2016	--	DRY				
	2015	--	DRY				
	2014	--	DRY				
	11/11/13	--	INSUFFICIENT WATER VOLUME TO SAMPLE				
	09/03/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.0023
	06/12/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.0026
	03/18/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.002
	11/28/12	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	08/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.0026
	06/12/12	8021B	<0.005	<0.005	<0.005	<0.01	<0.012
	03/20/12	8021B	<0.005	<0.005	<0.005	<0.01	<0.012
	12/14/11	8021B	<0.001	<0.001	<0.001	<0.001	0.0027
	09/26/11	8021B	<0.001	<0.001	<0.001	<0.002	0.0026
	06/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.003
	02/16/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.0083
	10/04/10	8260B	<0.001	<0.001	<0.001	<0.003	0.011
	09/16/10	8260B	<0.001	<0.001	<0.001	<0.003	0.011

8.7 GWM-1, GWM-2, GWM-3

BTEX and MTBE Analytical Result Summary

			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00454	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00045	0.11	0.0015	0.019	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
GWM-3	2017	--	DRY				
	2016	--	DRY				
	2015	--	DRY				
	2014	--	DRY				
	2013	--	DRY				
	11/28/12	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	08/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.0015
	06/12/12	8021B	<0.005	<0.005	<0.005	<0.01	<0.012
	03/20/12	8021B	<0.005	<0.005	<0.005	<0.01	<0.012
	12/14/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	09/26/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	06/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.002
	02/16/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.0081
	10/04/10	8260B	<0.001	<0.001	<0.001	<0.003	0.0092
	09/16/10	8260B	<0.001	<0.001	<0.001	<0.003	0.009

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Wate

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1 (Jul 2015)

NOTES

8.7.1 GWM-1, GWM-2, GWM-3

General Chemistry and DRO/GRO/MRO Analytical Result Summary

			PARAMETERS						
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			1.6	250	NE	10	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	1	10	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.6	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.08	NE	0.2	3.2	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	0.0452	0.055	0.0902
Well ID	**DATE SAMPLED**	**METHOD**							
GWM-1	2017	--	NO SAMPLES COLLECTED - SPH DETECTED						
	2016	--	NO SAMPLES COLLECTED - SPH DETECTED						
	10/29/15	--	NO SAMPLES COLLECTED - SPH DETECTED						
	09/23/15 [1]	8015D	NA	NA	NA	NA	68	<2.5	18
	08/24/15	300.0/8015D	2.6	1100	<1.0	<1.0	250	1.2	<50
	06/02/15	300.0/8015D	2.7	1100	<2.0	<2.0	1.7	NA	<5.0
	03/10/15	300.0/8015D	2.2	1000	<0.5	<0.5	2.4	0.49	<5.0
	11/13/14	300.0/8015B	1.8	1000	<1.0	<1.0	2.3	0.5	<5.0
	09/12/14	300.0/8015B	2.4	910	<1.0	<1.0	2.1	0.51	<5.0
	06/05/14	300.0/8015B	2.2	890	<1.0	<1.0	3.4	0.56	<5.0
	03/11/14	300.0/8015B	2.6	930	<1.0	<1.0	3.3	0.66	<5.0
	11/11/13	300.0/8015B	2.3	1000	4.1	4.1	7.1	0.49	NA
	09/03/13	300.0/8015B	3.1	960	35	35	2.3	0.49	<5.0
	06/12/13	300.0/8015B	2.7	940	<1.0	<1.0	3.9	0.66	<5.0
	03/18/13	300.0/8015B	2.7	1000	<1.0	<1.0	5.3	0.57	<5.0
	11/28/12	300.0/8015B	3.2	1000	<0.5	<0.5	1.6	1.1	<5.0
	08/21/12	300.0/8015B	3	1200	<0.5	<0.5	<1.0	1.2	<5.0
	06/12/12	300.0/8015B	3.4	1300	<0.5	<0.5	<1.0	1.2	<5.0
	03/20/12	300.0/8015B	3.6	1200	<0.5	<0.5	3.5	1	<5.0
	12/14/11	300.0/8015B	1.2	1300	<1.0	<1.0	2.9	0.81	<5.0
	09/26/11	300.0/8015B	3.5	1300	<4.0	<4.0	3.9	0.65	<5.0
	06/15/11	300.0/8015B	2.6	1200	<2.0	<2.0	4	0.53	<5.0
	02/16/11	300.0/8015B	2.8	1400	2.1	2.1	5.4	0.7	<5.0
	11/02/10	300.0/8015B	3.5	1300	<1.0	<1.0	6	0.68	
	09/16/10	300.0/8015B	2.9	1400	<4.0	<4.0	7.7	0.71	
	07/20/10	300.0	2.9	1500	<4.0	<4.0	NA	NA	
	03/03/10	300.0/8015B	2.1	1600	<4.0	<4.0	3.9	0.88	
GWM-2	2017	--	DRY						
	2016	--	DRY						
	2015	--	DRY						
	2014	--	DRY						
	11/11/13	--	INSUFFICIENT WATER VOLUME TO SAMPLE						
	09/03/13	300.0/8015B	0.84	990	44	44	<1.0	<0.05	<5.0
	06/12/13	300.0/8015B	<1.0	960	<1.0	<1.0	<1.0	<0.05	<5.0
	03/18/13	300.0/8015B	1.6	1100	<2.0	<2.0	<1.0	0.052	<5.0
	11/28/12	300.0/8015B	3.8	1000	<0.5	15	<1.0	<0.5	<5.0
	08/21/12	300.0/8015B	2.8	1200	<0.5	14	<1.0	<0.25	<5.0
	06/12/12	300.0/8015B	3.5	1200	<0.5	24	<1.0	<0.25	<5.0
	03/20/12	300.0/8015B	3.6	1500	<0.5	38	2.4	<0.25	<5.0
	12/14/11	300.0/8015B	0.48	2100	25	25	<1.0	<0.05	<5.0
	09/26/11	300.0/8015B	1.6	2200	52	52	<1.0	<0.05	<5.0
	06/15/11	300.0/8015B	3.1	2200	66	66	<1.0	<0.05	<5.0
	02/16/11	300.0/8015B	0.43	910	2.6	2.6	<1.0	<0.05	
	10/04/10	300.0/8015B	0.52	1800	<4.0	<4.0	<1.0	<0.05	
	09/16/10	300.0/8015B	0.46	1400	<4.0	<4.0	<1.0	<0.05	

8.7.1 GWM-1, GWM-2, GWM-3

General Chemistry and DRO/GRO/MRO Analytical Result Summary

			PARAMETERS						
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**1**	10	NE	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.6	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.08	NE	0.2	3.2	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**							
GWM-3	2017	--				DRY			
	2016	--				DRY			
	2015	--				DRY			
	2014	--				DRY			
	2013	--				DRY			
	11/28/12	300.0/8015B	**5.6**	**1200**	<0.5	8.8	<1.0	**0.088**	<5.0
	08/21/12	300.0/8015B	**4.9**	**1200**	<0.5	**43**	<1.0	<0.25	<5.0
	06/12/12	300.0/8015B	**4.4**	**1400**	<0.5	6.2	<1.0	<0.25	<5.0
	03/20/12	300.0/8015B	**4.9**	**1300**	<0.5	**18**	**2.7**	<0.25	<5.0
	12/14/11	300.0/8015B	**5**	**1400**	**51**	**51**	**1.3**	<0.05	<5.0
	09/26/11	300.0/8015B	**5.3**	**1000**	**130**	**130**	**2.7**	<0.05	<5.0
	06/15/11	300.0/8015B	**5.5**	**610**	<2.0	<2.0	**1.1**	**0.12**	<5.0
	02/16/11	300.0/8015B	**4.2**	**1100**	**61**	**61**	<1.0	<0.05	<5.0
	10/04/10	300.0/8015B	**5.9**	**1800**	**61**	**61**	**1.3**	**0.12**	
	09/16/10	300.0/8015B	**4.7**	**2000**	**66**	**66**	**3.7**	**0.066**	

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1 (Jul 2015)

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) Oil sample collected from GWM-1 - sampled for DRO/GRO/MRO only.

8.7.2 GWM-1, GWM-2, GWM-3

Total Metals Analytical Result Summary

			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.00513	3.28	0.0057	0.79	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.08	1.4	0.015	NE	0.01	0.000063	0.006	0.6
Well ID	**DATE SAMPLED**	**METHOD**											
GWM-1	2017	--	NO SAMPLES COLLECTED - SPH DETECTED										
	2016	--	NO SAMPLES COLLECTED - SPH DETECTED										
	10/29/15	--	NO SAMPLES COLLECTED - SPH DETECTED										
	08/24/15	200.7/200.8	**0.27**	0.47	<0.006	<0.006	12	0.0077	**2.1**	0.011	<0.0002	0.015	0.025
	06/02/15	200.7/200.8	**0.11**	0.43	0.0072	<0.006	11	0.0079	2	<0.02	<0.0002	0.016	0.022
	03/10/15	200.7/200.8	**0.13**	0.49	<0.006	<0.006	12	0.0055	**2.4**	<0.02	<0.0002	0.016	0.02
	11/13/14	200.7/200.8	**0.16**	0.51	<0.006	0.0082	**17**	0.013	**2.2**	<0.05	<0.0002	0.015	0.027
	09/12/14	200.7/200.8	**0.14**	0.67	<0.006	<0.006	13	0.0042	**2.6**	0.019	<0.0002	0.015	0.018
	06/05/14	200.7/200.8	**0.13**	0.54	<0.006	<0.006	13	0.008	**2.5**	0.019	<0.0002	0.012	0.021
	03/11/14	200.7/200.8	**0.12**	0.49	<0.006	<0.006	**14**	0.0062	**2.5**	0.015	<0.0002	0.015	0.018
	11/11/13	200.7/200.8	**0.13**	0.51	<0.006	0.015	**17**	**0.017**	**2.2**	0.014	<0.0002	0.015	0.038
	09/03/13	200.7/200.8	**0.12**	0.85	<0.006	<0.006	**15**	0.0041	**2.8**	0.01	<0.0002	0.01	0.024
	06/12/13	200.7/200.8	**0.15**	0.93	<0.006	<0.006	11	NL	**3.1**	0.013	<0.0002	0.0073	0.019
	03/18/13	200.7/200.8	**0.12**	0.88	<0.006	<0.006	8	0.0059	**2.9**	0.0039	<0.0002	0.0055	0.012
	11/28/12	200.7/200.8	**0.092**	0.73	<0.006	0.021	10	0.012	**2.7**	0.0049	<0.0002	0.016	0.021
	08/21/12	200.7/200.8	**0.09**	1.1	<0.006	0.0091	9.8	0.0056	**3.1**	0.0075	<0.0002	0.0052	0.019
	06/12/12	200.7/200.8	**0.066**	0.84	<0.006	<0.006	8.7	0.011	**2.7**	0.0093	<0.001	0.011	0.019
	03/20/12	200.7/200.8	**0.073**	1.1	<0.006	<0.006	8.9	0.0058	**3**	0.01	<0.001	0.0069	0.016
	12/14/11	200.7/200.8	**0.097**	0.67	<0.006	0.029	**15**	**0.023**	**2.5**	0.0047	<0.0002	0.02	0.041
	09/26/11	200.7/200.8	**0.12**	1.5	<0.006	<0.006	**17**	<0.005	**2.8**	0.0082	<0.0002	0.007	0.025
	06/15/11	200.7/200.8	**0.14**	1.5	<0.006	<0.006	**17**	0.01	**2.8**	0.015	<0.0002	0.0084	0.026
	02/16/11	200.7/200.8	**0.16**	0.94	0.0089	0.0089	**17**	0.0098	**3**	0.02	<0.0002	0.015	0.038
	11/02/10	6010B	**0.14**	1.4	<0.006	<0.006	7.9	0.0095	**3**	<0.05	<0.0002	0.009	0.025
	09/16/10	6010B	**0.12**	0.87	<0.006	0.0098	**15**	0.012	**2.9**	<0.05	<0.0002	0.015	0.023
	07/20/10	6010B	**0.16**	1.2	<0.006	0.019	**20**	0.011	**3**	<0.05	<0.0002	0.011	0.031
	03/03/10	6010B	**0.098**	0.42	<0.006	0.0072	**15**	0.0078	**3**	<0.05	<0.0002	0.0224	0.03

8.7.2 GWM-1, GWM-2, GWM-3

Total Metals Analytical Result Summary

			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.00513	3.28	0.0057	0.79	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.08	1.4	0.015	NE	0.01	0.000063	0.006	0.6
Well ID	**DATE SAMPLED**	**METHOD**											
GWM-2	2017	--	DRY										
	2016	--	DRY										
	2015	--	DRY										
	2014	--	DRY										
	11/11/13	--	INSUFFICIENT WATER VOLUME TO SAMPLE										
	09/03/13	200.7/200.8	0.0076	0.059	<0.006	0.016	0.87	0.0094	1.1	0.014	<0.0002	**0.16**	0.026
	06/12/13	200.7/200.8	<0.01	0.068	<0.006	0.012	1.6	NA	1.1	0.019	<0.0002	**0.17**	0.021
	08/21/12	200.7/200.8	0.0066	0.04	<0.006	0.045	0.44	0.0071	0.45	0.0099	<0.0002	**0.12**	0.025
GWM-3	2017	--	DRY										
	2016	--	DRY										
	2015	--	DRY										
	2014	--	DRY										
	2013	--	DRY										
	08/21/12	200.7/200.8	0.0033	0.04	<0.006	0.22	1.7	**0.07**	1	0.0092	<0.0002	**0.067**	0.47

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.7.3 GWM-1, GWM-2, GWM-3

Dissolved Metals Analytical Result Summary

			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	NE	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	NE	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.01	NE	0.006	0.6
Well ID	**DATE SAMPLED**	**METHOD**												
GWM-1	2017	--	NO SAMPLES COLLECTED - SPH DETECTED											
	2016	--	NO SAMPLES COLLECTED - SPH DETECTED											
	10/29/15	--	NO SAMPLES COLLECTED - SPH DETECTED											
	08/24/15	200.7/200.8	**0.14**	0.44	<0.002	<0.006	<0.006	**9.2**	0.0041	**2**	0.011	1100	0.015	0.026
	06/02/15	200.7/200.8	**0.11**	0.38	<0.002	0.008	<0.006	**11**	<0.01	**1.9**	0.011	1100	0.015	0.027
	03/10/15	200.7/200.8	**0.12**	0.56	<0.002	<0.006	<0.006	**9.8**	<0.005	**2.3**	<0.02	1100	0.011	0.021
	11/11/13	200.7/200.8	**0.14**	0.45	<0.002	<0.006	<0.006	**15**	<0.01	**2.3**	<0.01	1100	0.014	0.029
	09/12/14	200.7/200.8	**0.13**	0.78	<0.002	<0.006	<0.006	**11**	0.0026	**2.4**	0.02	1100	0.015	0.023
	06/05/14	200.7/200.8	**0.13**	0.56	<0.002	<0.006	<0.006	**12**	<0.005	**2.6**	0.018	NL	0.011	0.065
	03/11/13	200.7/200.8	**0.081**	0.47	<0.002	<0.006	<0.006	**2.4**	<0.001	**2.5**	<0.01	NL	0.015	0.021
	11/11/13	200.7/200.8	**0.11**	0.51	<0.002	<0.006	<0.006	**11**	0.0037	**2.2**	0.015	1200	0.014	0.11
	09/03/13	200.7/200.8	**0.12**	0.83	<0.002	<0.006	<0.006	**13**	<0.005	**2.7**	0.013	1100	0.011	0.1
	06/12/13	200.7/200.8	**0.12**	0.87	<0.002	<0.006	<0.006	**8.1**	0.0024	**3.2**	0.02	1000	0.0068	0.017
	03/18/13	200.7/200.8	**0.11**	0.83	<0.002	<0.006	<0.006	**6**	0.006	**2.8**	<0.005	860	0.005	0.013
	11/28/12	200.7/200.8	**0.084**	0.83	<0.002	<0.006	<0.006	**8.7**	0.0037	**2.9**	0.0055	1000	0.019	0.11
	08/21/12	200.7/200.8	**0.082**	**1.1**	<0.002	<0.006	<0.006	**6.8**	<0.005	**3.1**	0.0076	990	0.0038	0.03
	06/12/12	200.7/200.8	**0.054**	**1.1**	<0.002	<0.006	<0.006	**4**	<0.005	**2.9**	0.0099	980	0.0055	0.016
	03/20/12	200.7/200.8	**0.073**	0.97	<0.002	<0.006	<0.006	**9.4**	0.0052	**3**	0.0096	1100	0.006	0.067
	12/14/11	200.7/200.8	**0.088**	0.52	<0.01	<0.03	<0.03	**11**	<0.025	**2.3**	0.0067	1200	0.02	<0.05
	09/26/11	200.7/200.8	**0.12**	**1.3**	<0.002	<0.006	<0.006	**14**	<0.005	**2.7**	0.012	1200	0.0081	0.028
	06/15/11	200.7/200.8	**0.1**	**1.4**	<0.01	<0.03	<0.03	**14**	<0.025	**2.7**	0.025	1000	0.0075	0.063
	02/16/11	200.7/200.8	**0.15**	0.95	<0.01	<0.03	<0.03	**14**	<0.025	**2.9**	0.014	1200	0.013	<0.05
	11/02/10	6010B	<0.2	**1.3**	<0.002	<0.006	<0.006	**5.2**	0.0094	**3**	<0.05	1100	0.007	NL
	09/16/10	6010B	**0.12**	**1.2**	<0.002	<0.006	<0.006	**15**	0.0086	**2.9**	<0.25	1200	0.01	NL
	07/20/10 [2]	6010B	**0.15**	**1.1**	<0.002	<0.006	<0.006	**14**	0.0056	**2.9**	<0.05	1200	NL	<0.05
	03/02/10 [1]	6010B	**0.074**	0.38	<0.002	<0.006	<0.006	**12**	0.0084	**2.7**	<0.05	1200	0.028	0.059

8.7.3 GWM-1, GWM-2, GWM-3

Dissolved Metals Analytical Result Summary

			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	NE	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	NE	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.01	NE	0.006	0.6
Well ID	**DATE SAMPLED**	**METHOD**												
GWM-2	2017	--	DRY											
	2016	--	DRY											
	2015	--	DRY											
	2014	--	DRY											
	11/11/13	--	INSUFFICIENT WATER VOLUME TO SAMPLE											
	09/03/13	200.7/200.8	0.0084	0.036	<0.002	<0.006	0.014	0.19	0.0081	**1.1**	0.018	1000	**0.17**	0.059
	06/12/13	200.7/200.8	0.0093	0.029	<0.002	<0.006	0.011	0.12	0.0081	**1.3**	0.023	1100	**0.17**	0.02
	03/18/13	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1100	NA	NA
	11/28/12	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1300	NA	NA
	08/21/12	200.7/200.8	0.0069	0.033	<0.002	<0.006	0.041	0.13	0.012	**0.55**	0.012	1300	**0.12**	0.039
	06/12/12	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1400	NA	NA
	03/20/12	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1500	NA	NA
	12/14/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1500	NA	NA
	09/26/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1600	NA	NA
	06/15/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1600	NA	NA
	02/16/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000	NA	NA
	10/04/10	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	910	NA	NA
	09/16/10	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

8.7.3 GWM-1, GWM-2, GWM-3

Dissolved Metals Analytical Result Summary

			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Sodium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	0.01	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	NE	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2.0	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	NE	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.01	NE	0.006	0.6
Well ID	**DATE SAMPLED**	**METHOD**												
GWM-3	2017	--						DRY						
	2016	--						DRY						
	2015	--						DRY						
	2014	--						DRY						
	2013	--						DRY						
	11/28/12	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1200	NA	NA
	08/21/12	200.7/200.8	<0.005	0.029	<0.002	<0.006	0.23	0.88	**0.063**	**1.7**	0.0099	1200	**0.066**	0.46
	06/12/12	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1300	NA	NA
	03/20/12	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1400	NA	NA
	12/14/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1300	NA	NA
	09/26/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1300	NA	NA
	06/15/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1200	NA	NA
	02/16/11	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1200	NA	NA
	10/04/10	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	1300	NA	NA
	09/16/10	CATIONS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1 (Jul 2015)

NOTES

8.7.4 GWM-1, GWM-2, GWM-3

Volatile and Semi-Volatile Organic Compound Analytical Result Summary

			PARAMETERS																			
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Isopropyl benzene (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	1,2-Dichloro ethane (EDC)	2,4-Dimethyl phenol (mg/L)	Benz(a) anthracene (mg/L)	Benzo(a) pyrene (mg/L)	Benzo (g,H,i) perylene (mg/L)	Chrysene (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Pyrene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	0.01	NE	NE	0.0007	NE	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.61 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	**0.0002**	NE	NE	NE	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	**0.00165**	NE	NE	**14.1**	**0.447**	NE	NE	0.00171	**0.354**	NE	0.0000343	NE	**0.0343**	**0.288**	NE	NE	**0.00165**	**0.17**	**0.117**
EPA RSL for Tap Water (MAY 2018)			**0.015**	**0.12**	0.00017	**0.0011**	**0.036**	14	0.045	**1**	**0.66**	0.017	0.36	**0.000012**	**0.0000034**	NE	0.0034	0.29	**0.0011**	**0.036**	0.00017	NE	0.12
Well ID	**DATE SAMPLED**	**METHOD**																					
GWM-1	2017	--	NO SAMPLES COLLECTED - SPH DETECTED																				
	2016	--	NO SAMPLES COLLECTED - SPH DETECTED																				
	10/29/15	--	NO SAMPLES COLLECTED - SPH DETECTED																				
	08/24/15	8260B/8270C	0.063	0.017	**0.045**	**0.067**	0.087	<0.05	<0.005	<0.015	<0.005	<0.005	<0.250	**1.3**	**0.062**	0.34	**1.8**	**5.4**	**37**	**27**	**2.5**	**25**	**4.8**
	06/02/15	8021B	0.0047	0.0012	NA	NA	NA	NA	NA	NA	NA	NA	NA										
	03/10/15	8021B	0.0028	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA										
	11/13/14	8260B	0.0057	<0.005	<0.01	<0.02	<0.02	<0.05	<0.005	<0.015	<0.005	**0.027**	NA										
	09/12/14	8260B/8270C	0.0098	0.0012	<0002	**0.013**	<0.004	<0.01	0.0014	<0.003	0.003	<0.001	0.078										
	06/05/14	8260B	0.011	0.0012	<0.002	**0.012**	<0.004	0.02	0.0017	<0.003	0.0021	NA	NA										
	03/11/14	8260B	**7**	<0.001	<0.002	**0.0068**	<0.004	<0.01	0.0011	<0.003	0.0016	NA	NA										
	11/11/13	8260B	0.0052	<0.001	<0.002	**0.0047**	<0.004	<0.01	0.0012	<0.003	0.0018	NA	NA										
	09/03/13	8260B/8270C	0.011	<0.005	<0.01	<0.02	<0.02	<0.05	<0.005	<0.015	<0.005	0.077	0.077										
	06/12/13	8260B	0.013	0.0027	<0.002	**0.018**	<0.004	0.013	0.0012	<0.003	0.0018	NA	NA										
	03/18/13	8260B	**0.019**	<0.005	<0.01	<0.02	<0.02	<0.05	<0.005	<0.015	<0.005	NA	NA										
	11/28/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1	<0.01	<0.03	<0.01	NA	NA										
	08/21/12	8260B/8270C	0.0097	0.0019	<0.002	**0.013**	<0.004	<0.01	0.0011	<0.003	0.0022	0.032	0.032										
	06/12/12	8260B	0.0049	<0.001	<0.002	**0.0063**	<0.004	0.011	<0.001	<0.001	0.0016	NA	NA										
	03/20/12	8260B	0.0018	<0.001	<0.002	<0.004	<0.004	0.011	<0.001	<0.001	0.0011	NA	NA										
	12/14/11	8260B	0.004	<0.001	<0.002	**0.0052**	<0.004	<0.01	0.0013	<0.001	0.0022	NA	NA										
	09/26/11	8260B	**0.019**	0.0029	**0.0044**	**0.028**	<0.004	<0.01	0.0019	<0.01	0.0027	NA	NA										
	06/15/11	8260B	**0.018**	0.0031	**0.0055**	**0.024**	0.0062	<0.01	0.0018	<0.01	0.0028	NA	NA										
	02/16/11	8260B	0.008	<0.001	<0.002	**0.01**	<0.004	<0.01	0.0014	<0.001	0.0018	NA	NA										
	11/02/10	8260B	0.0075	<0.001	<0.02	**0.011**	<0.004	<0.01	<0.001	0.0016	0.0012	NA	NA										
	09/16/10	8260B Short List	0.012	0.0019	NA	NA	NA	NA	NA	NA	NA	NA	NA										
	07/20/10	8260B/8270C	0.013	<0.001	**0.0035**	**0.0072**	<0.004	0.012	0.0016	0.0019	0.0015	0.052	0.052										
	03/03/10	8260B	0.0081	<0.005	<0.01	<0.02	<0.02	<0.05	<0.005	<0.005	<0.005	NA	NA										
GWM-2	2017	--	DRY																				
	2016	--	DRY																				
	2015	--	DRY																				
	2014	--	DRY																				
	11/11/13	--	INSUFFICIENT WATER VOLUME TO SAMPLE																				
	9/3/2013	8206B	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.001	<0.003	<0.001	<0.01	<0.01										
	6/12/2013	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.011	<0.001	<0.003	<0.001	NA	NA										
	3/18/2013	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.011	<0.001	<0.003	<0.001	NA	NA										
	6/15/2011	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.001	<0.001	<0.001	NA	NA										
	2/16/2011	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.001	<0.001	<0.001	NA	NA										
GWM-3	2017	--	DRY																				
	2016	--	DRY																				
	2015	--	DRY																				
	2014	--	DRY																				
	2013	--	DRY																				
	6/15/2011	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.001	<0.001	<0.001	NA	NA										
	2/16/2011	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.001	<0.001	<0.001	NA	NA										

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.8 NAPIS-1, NAPIS-2, NAPIS-3, KA-3
BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
NAPIS-1	06/02/17	8260B	0.000067	<0.001	<0.001	<0.0015	0.0031
	02/21/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0013
	11/14/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00087
	09/01/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0018
	06/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.002
	03/01/16	8260B	<0.001	<0.001	<0.001	**9.2**	0.0003
	10/28/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/02/15	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/10/15	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	11/11/14	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	09/11/14	8260B	0.0014	<0.001	<0.001	<0.0015	<0.001
	06/05/14	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/10/14	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	11/12/13	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	09/03/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/12/13	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/18/13	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	11/28/12	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	08/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/12/12	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/20/12	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	12/14/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	09/27/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	06/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/02/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	11/02/10	8260	<0.001	<0.001	<0.001	<0.003	<0.0015
	09/15/10	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	06/08/10	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/08/10	8021B	<0.001	<0.001	<0.001	<0.002	NA
NAPIS-2	12/04/17	8260B	**0.021**	0.00031	0.038	0.00069	**0.16**
	09/05/17	8260B	**0.030**	0.00030	0.037	0.00078	0.14
	06/01/17	8260B	**0.035**	0.00025	0.016	0.00071	0.14
	02/21/17	8260B	**0.024**	0.00014	0.0031	0.00053	**0.18**
	11/14/16	8260B	0.0041	0.0001	0.0014	<0.0015	**0.16**
	09/01/16	8260B	0.0050	<0.001	0.0015	<0.0015	**0.18**
	06/07/16	8260B	0.0045	0.0001	0.0051	<0.0015	0.14
	03/01/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/28/15	8260B	**0.0091**	<0.001	0.0021	<0.0015	**0.23**
	08/11/15	8260B	**0.012**	<0.001	0.0028	<0.0015	**0.2**
	06/02/15	8021B	**0.016**	<0.001	0.0073	<0.002	**0.2**
	03/10/15	8021B	**0.032**	<0.001	0.0120	0.0027	**0.22**
	11/11/14	8021B	**0.016**	<0.001	0.0052	<0.002	**0.34**
	09/11/14	8260B	**0.027**	<0.001	0.007	<0.0015	**0.29**
	06/05/14	8021B	**0.086**	0.0021	0.028	0.0037	**0.2**
	03/10/14	8021B	**0.067**	<0.002	0.028	<0.004	**0.21**
	11/12/13	8021B	0.001	<0.001	0.0083	<0.002	**0.25**

8.8 NAPIS-1, NAPIS-2, NAPIS-3, KA-3
BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
NAPIS-2	09/03/13	8260B	**0.018**	<0.001	0.013	0.0016	**0.24**
	06/12/13	8021B	**0.013**	<0.001	0.047	<0.002	**0.3**
	03/18/13	8021B	**0.07**	<0.001	0.056	0.0022	**0.38**
	11/28/12	8021B	**0.016**	<0.002	0.003	<0.004	**0.36**
	08/21/12	8260B	**0.01**	<0.005	<0.005	<0.0075	**0.16**
	06/12/12	8021B	**0.018**	<0.01	0.012	<0.02	**0.34**
	03/20/12	8021B	**0.019**	<0.01	0.011	<0.02	**0.37**
	12/14/11	8021B	**0.022**	<0.005	0.0089	<0.01	**0.33**
	09/27/11	8021B	**0.035**	<0.005	<0.005	<0.01	**0.33**
	06/15/11	8260B	**0.027**	<0.005	0.018	<0.0075	**0.28**
	03/02/11	8021B	**0.04**	<0.005	0.014	<0.01	**0.34**
	11/02/10	8260	**0.015**	<0.005	<0.005	<0.0015	**0.27**
	09/15/10	8260B	**0.066**	<0.005	0.0083	<0.015	**0.23**
	06/10/10	8021B	**0.14**	<0.005	0.0096	<0.001	**0.23**
	03/08/10	8260B	**0.083**	0.0014	0.016	0.0021	**0.25**
NAPIS-3	12/04/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.042
	09/05/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.018
	06/02/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.040
	02/21/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.016
	11/14/16	8260B	<0.001	0.00021	<0.001	<0.0015	0.01500
	09/01/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00084
	06/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00044
	03/01/16	8260B	**0.013**	0.00023	0.0053	<0.0015	**0.16**
	10/28/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/02/15	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/10/15	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	11/13/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/11/14	8260B	0.0038	<0.001	0.0019	<0.0015	0.011
	06/05/14	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/10/14	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	11/12/13	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	09/03/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/12/13	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/18/13	8021B	<0.002	<0.002	<0.002	<0.004	<0.005
	11/28/12	8021B	<0.002	<0.002	<0.002	<0.004	<0.005
	10/2/2012 [1]	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	06/12/12	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/20/12	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	12/14/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	09/27/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	06/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/02/11	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	11/02/10	8260	<0.001	<0.001	<0.001	<0.0015	<0.0015
	09/15/10	8021B	0.001	<0.001	<0.001	<0.002	<0.0025
	06/10/10	8021B	**0.2**	<0.001	0.012	<0.002	0.08
	03/08/10	8021B	**0.072**	<0.001	0.001	<0.002	NA

8.8 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
KA-3	12/04/17	8260B	0.0042	<0.001	0.002	<0.0015	0.040
	09/05/17	8260B	0.0025	<0.001	0.0011	<0.0015	0.041
	06/01/17	8260B	0.00048	<0.001	0.00027	<0.0015	0.046
	02/21/17	8260B	**0.017**	<0.001	0.0077	<0.0015	0.046
	11/14/16	8260B	0.0044	<0.001	0.0013	<0.0015	0.037
	09/01/16	8260B	**0.0071**	<0.001	0.0032	<0.0015	0.045
	06/07/16	8260B	**0.0060**	<0.001	0.0015	<0.0015	0.037
	03/03/16	8260B	**0.0054**	<0.001	0.0027	<0.0015	0.015
	10/28/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.011
	08/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.011
	06/02/15	8021B	<0.001	<0.001	<0.001	<0.002	0.012
	03/10/15	8021B	<0.001	<0.001	<0.001	<0.002	0.0088
	11/11/14	8021B	<0.001	<0.001	<0.001	<0.002	0.0130
	09/11/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/05/14	8021B	<0.001	<0.001	<0.001	<0.002	0.0056
	03/10/14	8021B	<0.001	<0.001	<0.001	<0.002	0.0039
	11/12/13	8021B	0.0024	<0.001	0.0018	<0.002	0.0065
	09/03/13	8260B	0.0034	<0.001	0.0014	<0.0015	**0.2000**
	06/12/13	8021B	**0.009**	<0.001	0.0083	<0.002	0.031
	03/18/13	8021B	**0.011**	<0.001	0.0110	<0.002	0.017
	11/28/12	8021B	<0.002	<0.002	<0.002	<0.004	<0.005
	08/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.023
	06/12/12	8021B	**0.013**	<0.001	0.0045	<0.002	0.028
	03/20/12	8021B	**0.015**	<0.002	0.0042	<0.004	0.035
	12/14/11	8021B	**0.024**	<0.001	0.0045	<0.002	0.057
	09/27/11	8021B	**0.064**	<0.001	0.011	<0.002	0.099
	06/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.077
	03/02/11	8021B	<0.005	<0.005	<0.005	<0.01	0.088
	11/02/10	8260	**0.23**	<0.01	0.014	<0.03	0.1
	09/15/10	8260B	**0.52**	<0.01	0.031	<0.03	0.11
	06/10/10	8021B	<0.001	<0.001	<0.001	<0.002	<0.0025
	03/08/10	8021B	<0.01	<0.01	<0.01	<0.01	NA

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.61 Detection Limits for Organic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Was not sampled in September due to low recharge rate.

8.8.1 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS								
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	NE	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**1.0**	10	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			1.18	NE	1.97	31.6	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.62	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-1	06/02/17	300.0/8015D	0.25	130	**16**	**16**	<0.5	110	<1	<0.05	<5
	02/21/17	300.0/8015D	0.32	110	**27**	**27**	<0.5	110	<1	<0.05	<5
	11/14/16	300.0/8015D	0.56	110	**12**	**12**	<0.5	99	<1.0	<0.05	<5.0
	09/01/16	300.0/8015D	0.27	0.97	<0.1	10	<0.5	99	<1.0	<0.05	<5.0
	06/07/16	300.0/8015D	0.44	130	**21**	**21**	<0.5	140	<1.0	<0.05	<5.0
	03/01/16	300.0/8015D	0.38	110	**14**	**14**	<2.5	110	<1.0	<0.05	<5.0
	10/28/15	300.0/8015D	0.52	85	**6.9**	6.9	<0.5	85	<1.0	<0.05	<5.0
	08/11/15	300.0/8015D	0.67	110	**8.6**	8.6	<0.5	100	<1.0	<0.05	<5.0
	06/02/15	300.0/8015D	<1.0	100	**9.1**	9.1	<5.0	93	<1.0	NA	<5.0
	03/10/15	300.0/8015D	0.35	82	**5.6**	5.6	<0.5	75	<1.0	<0.05	<5.0
	11/11/14	300.0/8015B	0.69	**1100**	**5.1**	5.1	<0.5	130	<1.0	<0.05	NA
	09/11/14	300.0/8015B	0.46	91	**7.1**	7.1	<0.5	110	<1.0	<0.05	<5.0
	06/05/14	300.0/8015B	0.4	86	**14**	**14**	<0.5	140	<1.0	<0.05	<5.0
	03/10/14	300.0/8015B	<0.5	79	<0.5	**29**	<2.5	180	<1.0	<0.05	<5.0
	11/12/13	300.0/8015B	0.42	120	<0.1	**30**	<0.5	210	<1.0	<0.05	NA
	09/03/13	300.0/8015B	0.53	110	**34**	**34**	<0.5	69	<1.0	<0.05	<5.0
	06/12/13	300.0/8015B	<1.0	89	**3.3**	3.3	<5.0	35	<1.0	<0.05	<5.0
	03/18/13	300.0/8015B	0.63	97	**1.1**	1.1	<2.5	39	<1.0	<0.05	<5.0
	11/28/12	300.0/8015B	1.1	110	<0.5	1.4	<2.5	70	<1.0	<0.05	<5.0
	08/21/12	300.0/8015B	0.54	96	<0.5	2.6	<2.5	52	<1.0	<0.05	<5.0
	06/12/12	300.0/8015B	0.88	120	<0.5	2.9	<2.5	68	<1.0	<0.05	<5.0
	03/20/12	300.0/8015B	0.49	100	<0.1	3.3	<0.5	56	<1.0	<0.05	<5.0
	12/14/11	300.0/8015B	0.67	150	**4.7**	4.7	<10	82	<1.0	<0.05	<5.0
	09/27/11	300.0/8015B	1.1	180	**58**	**58**	<2.5	110	<1.0	<0.05	<5.0
	06/15/11	300.0/8015B	0.52	140	<0.1	6.2	<0.5	78	<1.0	**0.11**	<5.0
	03/02/11	300.0/8015B	0.42	180	**9.5**	9.5	<0.5	92	<1.0	<0.05	<5.0
	11/02/10	300.0/8015B	0.96	200	<2.0	6.9	<0.5	98	<1.0	<0.05	
	09/15/10	300.0/8015B	0.5	189	**11.2**	**11.2**	0.019	65	<1.0	<0.05	
	06/08/10	300.0/8015B	0.73	170	**4.0**	4.0	<0.5	56	<1.0	<0.05	
	03/08/10	300.0/8015B	0.75	130	**2.0**	2.0	<0.5	52	<1.0	<0.05	

8.8.1 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			1.6	250.0	NE	10	NE	600.0	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	1.0	10	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			1.18	NE	1.97	31.6	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.62	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	0.0452	0.055	0.0902
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-2	12/04/17	300.0/8015D	1.5	270	<1.0	<1.0	<2.5	6.1	2.1	0.88	<5
	09/05/17	300.0/8015D	1.5	280	<1.0	<1.0	<2.5	6.5	1.7	0.63	<5
	06/01/17	300.0/8015D	1.5	260	<1.0	<1.0	<0.5	6.5	1.2	0.53	<5
	02/21/17	300.0/8015D	1.8	250	<1.0	<1.0	<0.5	8.7	2.4	0.6	<5
	11/14/16	300.0/8015D	1.7	310	<1.0	<1.0	<0.5	11	1.0	0.56	<5.0
	09/01/16	300.0/8015D	1.7	300	<0.5	<0.5	<2.5	7.8	1.1	0.75	<5.0
	06/07/16	300.0/8015D	1.7	340	<1.0	<1.0	<0.5	19	<1.0	0.44	<5.0
	03/01/16	300.0/8015D	1.6	330	<1.0	<1.0	<2.5	18	<1.0	0.38	<5.0
	10/28/15	300.0/8015B	1.7	320	<1.0	<1.0	<0.5	13	1.1	0.37	<5.0
	08/11/15	300.0/8015D	1.6	310	<1.0	<1.0	<0.5	11	<1.0	0.51	<5.0
	06/02/15	300.0/8015D	2.1	290	<2.0	<2.0	<5.0	9.9	<1.0	NA	<5.0
	03/10/15	300.0/8015B	1.4	300	<0.5	<0.5	<2.5	7.8	1.2	0.49	<5.0
	11/11/14	300.0/8015B	1.6	330	<1.0	<1.0	<2.5	11.0	<1.0	0.6	<5.0
	09/11/14	300.0/8015B	1.6	360	<1.0	<1.0	<0.5	11.0	1.3	0.41	<5.0
	06/05/14	300.0/8015B	1.3	330	<1.0	<1.0	<0.5	4.8	1.5	0.62	<5.0
	03/10/14	300.0/8015B	1.5	220	<1.0	<1.0	<5.0	10.0	1.8	0.64	<5.0
	11/12/13	300.0/8015B	1.7	260	<0.1	<0.1	<0.5	23	1.4	0.41	NA
	09/03/13	300.0/8015B	1.8	290	5.2	5.2	<0.5	7.8	<1.0	0.47	<5.0
	06/12/13	300.0/8015B	1.6	230	<1.0	<1.0	<5.0	7.8	1.9	0.74	<5.0
	03/18/13	300.0/8015B	1.6	270	<1.0	<1.0	<2.5	4.9	2.9	0.65	<5.0
	11/28/12	300.0/8015B	1.7	370	<0.5	<0.5	<2.5	11	<1.0	0.52	<5.0
	08/21/12	300.0/8015B	1.6	370	<0.5	<0.5	<2.5	11	<1.0	1.4	<5.0
	06/12/12	300.0/8015B	1.7	350	<0.5	<0.5	<2.5	7.9	<1.0	1.3	<5.0
	03/20/12	300.0/8015B	0.49	330	<1.0	<1.0	<0.5	5.3	4.7	1.4	<5.0
	1/30/2012 [2]	300.0/8015B	1.1	420	<1.0	<1.0	<2.5	<2.5	NA	NA	NA
	12/14/2011 [1]	300.0/8015B	NA	NA	NA	NA	NA	NA	3.4	0.61	<5.0
	09/27/11	300.0/8015B	1.8	270	80	80	<2.5	6.0	3.1	0.69	<5.0
	06/15/11	300.0/8015B	1.4	380	<0.5	<2.0	<2.5	3.3	1.8	0.97	<5.0
	03/02/11	300.0/8015B	1.3	360	<1.0	<1.0	<2.5	3.7	2.8	1.3	<5.0
	11/02/10	300.0/8015B	1.7	230	<1.0	<1.0	<0.5	7.8	5.1	0.57	
	09/15/10	300.0/8015B	1.3	220	<0.5	<0.5	0.01	6.0	5.3	1.0	
	06/10/10	300.0/8015B	1.2	340	<1.0	<1.0	<2.5	8.7	6.3	1.3	
	03/08/10	300.0/8015B	1.4	320	<1.0	<1.0	<0.05	11	3.8	1.0	

8.8.1 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	NE	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**1.0**	10	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			1.18	NE	1.97	31.6	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.62	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-3	12/04/17	300.0/8015D	0.62	**260**	**1.2**	1.2	<2.5	89	<1	**0.09**	<5
	09/05/17	300.0/8015D	NA	NA	NA	NA	NA	NA	<1	0.055	<5
	06/02/17	300.0/8015D	0.72	240	0.56	0.56	<0.5	88	<1	**0.063**	<5
	02/21/17	300.0/8015D	1.3	**350**	**1.9**	1.9	<0.5	150	**1.5**	<0.05	<5
	11/14/16	300.0/8015D	**1.7**	**320**	<0.5	3.5	0.9	230	**0.89**	<0.05	<5.0
	09/01/16	300.0/8015D	**2.1**	**310**	<0.5	5.0	1.1	210	<1.0	<0.05	<5.0
	06/07/16	300.0/8015D	0.56	**870**	**14**	**14**	<0.5	320	<1.0	<0.05	<5.0
	03/01/16	300.0/8015D	0.53	**850**	**14**	**14**	<0.5	350	<1.0	<0.05	<5.0
	10/28/15	300.0/8015B	0.6	**880**	**15**	**15**	<0.5	420	<1.0	<0.05	<5.0
	08/11/15	300.0/8015D	0.28	**920**	**24**	**24**	<0.5	380	<1.0	<0.05	<5.0
	06/02/15	300.0/8015D	<1.0	**790**	**15**	**15**	<5.0	440	<1.0	NA	<5.0
	03/10/15	300.0/8015B	0.42	**940**	<2.0	**20**	<0.5	430	<1.0	<0.05	<5.0
	11/13/14	300.0/8015B	0.35	**890**	**19**	**19**	<0.5	400	<1.0	<0.05	<5.0
	09/11/14	300.0/8015B	1.1	160	**1.1**	1.1	<0.5	61	<1.0	<0.05	<5.0
	06/05/14	300.0/8015B	0.3	**910**	**19**	**19**	<0.5	400	<1.0	<0.05	<5.0
	03/10/14	300.0/8015B	<0.5	**920**	<0.5	**20**	<2.5	430	<1.0	<0.05	<5.0
	11/12/13	300.0/8015B	0.36	**990**	<2.0	**20**	<2.5	380	<1.0	<0.05	NA
	09/03/13	300.0/8015B	0.27	**980**	**20**	**20**	<0.5	410	<1.0	<0.05	<5.0
	06/12/13	300.0/8015B	<1.0	**940**	**17**	**17**	<5.0	400	<1.0	<0.05	<5.0
	03/18/13	300.0/8015B	1.3	**940**	**17**	**17**	<2.5	380	<1.0	<0.1	<5.0
	11/28/12	300.0/8015B	0.68	**880**	<0.5	**14**	<2.5	280	<1.0	<0.1	<5.0
	10/02/12	300.0/8015B	0.84	**990**	**20**	**20**	<2.5	400	<1.0	<0.05	<5.0
	06/12/12	300.0/8015B	0.55	**1000**	<0.5	**19**	<2.5	450	<1.0	<0.05	<5.0
	03/20/12	300.0/8015B	0.59	**970**	<0.5	**19**	<2.5	390	<1.0	<0.05	<5.0
	12/14/11	300.0/8015B	0.29	**1100**	**19**	**19**	<10	420	<1.0	<0.05	<5.0
	09/27/11	300.0/8015B	<0.5	**1000**	**49**	**49**	<2.5	400	<1.0	<0.05	<5.0
	06/15/11	300.0/8015B	1.5	**530**	<0.5	3.5	<2.5	170	<1.0	<0.05	<5.0
	03/02/11	300.0/8015B	0.44	**1100**	**14**	**14**	<0.05	420	<1.0	<0.05	<5.0
	11/02/10	300.0/8015B	0.48	**1100**	**18**	**18**	<0.5	430	<1.0	<0.05	
	09/15/10	300.0/8015B	NL	**1040**	**24.1**	**24.1**	0.023	290	<1.0	<0.05	
	06/10/10	300.0/8015B	1.5	**260**	<1.0	<1.0	<0.5	39	**1.8**	**0.89**	
	03/08/10	300.0/8015B	0.46	**410**	**5.5**	5.5	<0.5	400	<1.0	<0.5	

8.8.1 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			1.6	250.0	NE	10	NE	600.0	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	1.0	10	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			1.18	NE	1.97	31.6	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.62	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	0.0452	0.055	0.0902
Well ID	**DATE SAMPLED**	**METHOD**									
KA-3	12/04/17	300.0/8015D	0.84	200	<1.0	<1.0	<2.5	27	0.66	0.15	<5.0
	09/05/17	300.0/8015D	NA	NA	NA	NA	NA	NA	<1.0	0.12	<5.0
	06/01/17	300.0/8015D	0.66	220	0.34	0.34	<0.5	41	<1.0	0.068	<5.0
	02/21/17	300.0/8015D	1.0	160	<1.0	<1.0	<0.5	26	<1.0	0.20	<5.0
	11/14/16	300.0/8015D	0.93	190	<1.0	<1.0	<0.5	35	<1.0	0.13	<5.0
	09/01/16	300.0/8015D	0.86	210	<0.1	<0.5	<0.5	36	<1.0	0.18	<5.0
	06/07/16	300.0/8015D	1	190	<1.0	<1.0	<0.5	25	<1.0	0.11	<5.0
	03/03/16	300.0/8015D	0.96	110	<0.1	0.71	<0.5	34	<1.0	0.063	<5.0
	10/28/15	300.0/8015B	1.1	120	<1.0	<1.0	<0.5	57	<1.0	<0.05	<5.0
	08/11/15	300.0/8015D	1	130	2.8	2.8	<0.5	52	<1.0	<0.05	<5.0
	06/02/15	300.0/8015D	1.5	150	<2.0	<2.0	<5.0	42	<1.0	NA	<5.0
	03/10/15	300.0/8015D	1.1	120	<0.1	0.53	<0.5	43	<1.0	<0.05	<5.0
	11/11/14	300.0/8015B	1.1	160	<1.0	<1.0	<0.5	54	<1.0	<0.05	NL
	09/11/14	300.0/8015B	0.45	760	19	19	<0.5	420	<1.0	<0.05	<5.0
	06/05/14	300.0/8015B	1.0	180	7.7	7.7	<0.5	95	<1.0	<0.05	<5.0
	03/10/14	300.0/8015B	1.1	140	<0.5	13	<2.5	72	<1.0	<0.05	<5.0
	11/12/13	300.0/8015B	1.3	110	0.2	9.3	<0.5	54	<1.0	<0.05	NA
	09/03/13	300.0/8015B	1.1	170	20	20	<0.5	39	<1.0	<0.05	<5.0
	06/12/13	300.0/8015B	1.4	190	<1.0	<1.0	<5.0	33	<1.0	0.072	<5.0
	03/18/13	300.0/8015B	1.8	180	2.4	2.4	<2.5	81	<1.0	0.063	<5.0
	11/28/12	300.0/8015B	0.98	870	2.8	9.9	<2.5	270	<1.0	<0.1	<5.0
	08/21/12	300.0/8015B	<2.0	250	<0.1	0.31	<0.5	43	<1.0	0.1	<5.0
	06/12/12	300.0/8015B	1.3	710	2.1	11	<2.5	220	<1.0	0.14	<5.0
	03/20/12	300.0/8015B	2.0	440	<1.0	15	<2.5	220	1.8	0.16	<5.0
	12/14/11	300.0/8015B	1.3	260	<1.0	<1.0	<0.5	38	<1.0	0.15	
	09/27/11	300.0/8015B	1.5	290	48	48	<2.5	48	2.1	0.35	
	06/15/11	300.0/8015B	0.51	970	<0.5	18	<0.5	370	<1.0	<0.25	
	03/02/11	300.0/8015B	1.2	600	4.3	4.3	<0.5	150	<1.0	<0.25	
	11/02/10	300.0/8015B	1.7	260	<1.0	<1.0	<5.0	38	1.7	0.68	
	09/15/10	300.0/8015B	1.4	277	<0.5	<0.5	0.013	37	3.0	1.9	
	06/10/10	300.0/8015B	0.38	1100	17	17	<0.05	390	<1.0	<0.05	
	03/08/10	300.0/8015B	1.6	410	5.5	5.5	<0.05	90	<1.0	0.47	

8.8.1 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	NE	**600.0**	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**1.0**	10	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			1.18	NE	1.97	31.6	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.62	NE	2	32	NE	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**									

DEFINITIONS

NE = Not established

NA = Not analyzed

BOLD values represent values above the applicable standard

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) 12/14/11 - General Chemistry parameters missed this quarter. Notified NMED and instructed to re-sample for general chemistry parameters only.

2) Resampled for General Chemistry parameters only.

8.8.2 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											
NAPIS-1	06/01/17	200.7/200.8	0.0018	0.15	<0.006	<0.006	<0.020	0.00051	0.14	0.0045	<0.0002	0.015	0.019
	02/21/17	200.7/200.8	0.0042	0.13	<0.006	<0.006	0.14	0.00028	0.26	0.0085	<0.0002	NA	0.018
	11/14/16	200.7/200.8	0.0036	0.1300	<0.006	<0.006	0.550	0.0008	0.250	0.0072	0.0001	**0.034**	0.0053
	09/01/16	200.7/200.8	0.0041	0.1400	<0.006	<0.006	0.290	0.0005	0.250	<0.02	NA	0.019	0.0028
	06/07/16	200.7/200.8	<0.01	0.1600	<0.006	<0.006	0.820	0.0010	0.260	0.0078	0.0001	0.015	0.0048
	10/28/15	200.7/200.8	<0.005	0.1400	<0.006	<0.006	0.590	0.0008	0.130	0.0054	<0.0002	0.013	<0.01
	08/11/15	200.7/200.8	<0.01	0.1100	<0.006	<0.006	0.720	0.0011	0.099	<0.01	<0.0002	0.025	0.0100
	06/02/15	200.7/200.8	<0.01	0.1500	<0.006	<0.006	0.600	<0.005	0.250	<0.01	<0.0002	0.014	<0.01
	03/10/15	200.7/200.8	<0.01	0.1300	<0.006	<0.006	0.460	<0.001	0.200	<0.01	<0.0002	0.013	<0.01
	11/11/14	200.7/200.8	<0.01	0.1300	<0.006	<0.006	0.790	0.0010	0.240	<0.01	<0.0002	0.012	0.0100
	09/11/14	200.7/200.8	<0.01	0.1300	<0.006	<0.006	0.240	<0.01	0.120	0.0120	<0.0002	0.012	<0.01
	03/05/14	200.7/200.8	<0.005	0.1500	<0.006	<0.006	1.200	<0.005	0.120	0.0100	<0.0002	0.014	0.0120
	03/10/14	200.7/200.8	0.0018	0.1400	<0.006	<0.006	0.280	<0.001	0.095	0.0055	<0.0002	0.013	0.0120
	11/12/13	200.7/200.8	0.0034	0.1900	<0.006	<0.006	0.360	<0.001	0.170	0.0100	<0.0002	0.012	0.0110
	09/03/13	200.7/200.8	0.0026	0.1700	<0.006	<0.006	0.570	<0.001	0.089	0.0073	<0.0002	0.010	<0.01
	06/12/13	200.7/200.8	0.0027	0.1300	<0.006	<0.006	0.250	NL	0.068	0.0076	<0.0002	0.011	<0.01
	03/18/13	200.7/200.8	<0.0025	0.1300	<0.006	<0.006	1.400	<0.005	0.140	0.0039	<0.0002	0.017	0.0110
	11/28/12	200.7/200.8	<0.0025	0.1200	<0.006	<0.006	1.100	<0.005	0.099	0.0027	<0.001	0.030	0.0130
	08/21/12	200.7/200.8	<0.0025	0.1300	<0.006	<0.006	0.066	<0.005	0.018	0.0043	<0.0002	0.009	<0.01
	06/02/12	200.7/200.8	0.0031	0.2700	0.0068	<0.06	7.500	<0.005	0.360	0.0052	<0.001	**0.032**	0.0370
	03/20/12	200.7/200.8	<0.0025	0.1300	<0.006	<0.006	0.990	<0.005	0.039	0.0053	<0.0002	0.012	<0.01
	12/14/11	200.7/200.8	<0.0025	0.1900	<0.006	<0.006	2.900	<0.005	0.120	0.0033	<0.0002	0.019	0.0170
	09/27/11	200.7/200.8	<0.0025	0.1300	<0.006	<0.006	0.590	<0.005	0.092	0.0067	<0.0002	**0.046**	<0.01
	6/15/2011	200.7/200.8	0.0040	0.1900	<0.006	<0.006	2.200	<0.005	0.058	0.0100	<0.0002	0.013	0.0120
	3/2/2011	200.7/200.8	<0.0025	0.1700	<0.006	<0.006	1.000	<0.005	0.035	<0.05	NA	0.021	<0.01
	11/02/10	6010B	<0.02	0.2600	0.0062	<0.006	6.400	<0.005	0.160	<0.05	<0.0002	**0.045**	0.0270
	09/15/10	6010B	<0.02	0.1900	<0.006	<0.006	0.560	<0.005	0.044	<0.05	<0.0002	0.018	<0.02
	06/08/10	6010B	<0.02	0.1800	<0.006	NA	NA	<0.005	NA	<0.05	<0.0002	NA	NA
	03/08/10	6020A	<0.001	0.1330	0.0011	0.0026	0.548	<0.001	0.015	<0.001	<0.0001	**0.273**	0.0049

8.8.2 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											
NAPIS-2	12/04/17	200.7/200.8	0.0055	1.9	<0.006	<0.006	2.2	<0.005	1.0	<0.01	<0.0002	<0.005	<0.01
	09/05/17	200.7/200.8	0.0068	**2.2**	0.0029	0.0051	5.7	0.0044	1.1	0.0056	<0.0002	0.00056	0.017
	06/01/17	200.7/200.8	0.0050	**2.1**	0.0032	0.0079	4.8	0.0029	0.98	0.0024	<0.0002	0.00066	0.013
	02/21/17	200.7/200.8	0.0080	1.8	0.0062	0.0043	4.0	0.0038	0.96	0.0067	<0.0002	NA	0.016
	11/14/16	200.7/200.8	0.0084	1.9	0.0069	0.0071	5.5	0.0070	1.3	0.0050	0.0001	0.0009	0.0300
	09/01/16	200.7/200.8	0.0087	2.0	0.0110	0.0100	7.8	0.0081	1.4	0.0110	NL	0.0013	0.057
	06/07/16	200.7/200.8	0.0082	1.6	0.0034	<0.006	5.6	0.0053	1.2	0.0059	0.0001	0.0015	0.022
	10/28/15	200.7/200.8	0.0080	1.6	<0.006	<0.006	3.3	0.0018	1.2	<0.01	<0.0002	<0.0005	0.011
	08/11/15	200.7/200.8	0.0080	1.6	<0.006	0.0099	3.3	0.0023	1.2	<0.005	<0.0002	<0.0005	0.016
	06/02/15	200.7/200.8	<0.01	1.6	<0.006	<0.006	2.9	<0.005	1.2	<0.01	<0.0002	<0.005	<0.01
	03/10/15	200.7/200.8	<0.01	1.9	<0.006	<0.006	3.0	0.0013	1.1	<0.01	<0.0002	<0.001	<0.01
	11/11/14	200.7/200.8	<0.01	1.7	<0.006	<0.006	2.9	<0.001	1.4	<0.01	<0.0002	<0.001	0.013
	09/11/14	200.7/200.8	0.0100	**2.1**	<0.006	0.0120	3.5	0.0030	1.3	0.0110	<0.0002	<0.001	0.047
	06/05/14	200.7/200.8	<0.005	2.0	<0.006	0.0097	3.9	<0.005	1.3	0.0095	<0.0002	<0.005	0.013
	03/10/14	200.7/200.8	0.0060	1.5	<0.006	<0.006	2.9	<0.001	1.4	0.0071	<0.0002	<0.001	<0.01
	11/12/13	200.7/200.8	0.0081	1.4	<0.006	0.0097	3.2	0.0013	1.4	0.0077	<0.0002	<0.001	0.018
NAPIS-2	09/03/13	200.7/200.8	0.0063	2.0	<0.006	<0.006	3.9	0.0014	1.4	0.0045	<0.0002	<0.001	0.012
	06/12/13	200.7/200.8	0.0070	2.0	<0.006	<0.006	3.2	NA	1.5	0.0051	<0.0002	<0.001	<0.01
	03/18/13	200.7/200.8	0.0073	1.6	<0.006	<0.006	2.9	<0.005	1.3	<0.0025	<0.0002	<0.0025	0.015
	11/28/12	200.7/200.8	0.0069	1.7	<0.006	<0.006	3.3	0.0052	1.6	<0.0025	<0.0002	<0.0025	<0.01
	08/21/12	200.7/200.8	0.0097	1.7	<0.006	<0.006	3.1	<0.005	1.7	0.0031	<0.0002	<0.0025	<0.01
	06/12/12	200.7/200.8	0.0100	1.9	<0.006	<0.06	3.8	<0.005	1.9	0.0035	<0.001	<0.0025	<0.01
	03/20/12	200.7/200.8	**0.0110**	**2.1**	<0.006	0.0071	5.0	<0.005	1.6	0.0036	<0.0002	<0.0025	0.015
	12/14/11	200.7/200.8	0.0099	1.7	<0.006	<0.006	4.1	<0.005	1.4	<0.0025	<0.0002	<0.0025	0.011
	09/27/11	200.7/200.8	**0.0120**	1.7	<0.006	<0.006	4.2	<0.005	1.3	0.0034	<0.0002	<0.0025	0.016
	06/15/11	200.7/200.8	**0.0120**	**2.1**	<0.006	<0.006	5.4	<0.005	1.5	0.0063	<0.0002	<0.0025	<0.01
	03/02/11	200.7/200.8	**0.0110**	**2.4**	<0.006	0.0075	5.4	<0.005	1.3	<0.05	NA	<0.0025	<0.01
	11/02/10	6010B	<0.02	1.2	<0.006	<0.006	4.2	<0.005	1.2	<0.05	<0.0002	NA	<0.02
	09/15/10	6010B	<0.02	1.4	<0.006	<0.006	4.3	<0.005	1.1	<0.05	<0.0002	<0.001	<0.02
	06/10/10	6010B	<0.02	1.7	<0.006	NA	NA	<0.005	NA	<0.05	<0.0002	NA	NA
	03/08/10	6020A	0.0046	**2.1**	0.0011	0.0025	4.7	0.0014	1.3	<0.001	<0.0001	<0.001	0.007

8.8.2 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											
NAPIS-3	12/04/17	200.7/200.8	<0.010	0.099	<0.006	0.0054	0.040	<0.005	0.13	<0.01	<0.0002	0.025	<0.010
	09/05/17	200.7/200.8	0.0062	0.21	0.0085	0.0084	4.3	0.0050	0.19	0.012	<0.0002	**0.041**	0.064
	06/02/17	200.7/200.8	<0.0050	0.093	<0.006	0.0041	<0.020	0.00043	0.10	<0.0050	<0.0002	0.030	0.0049
	02/21/17	200.7/200.8	0.0052	0.089	0.0015	<0.006	0.23	0.0140	0.10	0.0088	<0.0002	NA	0.027
	11/14/16	200.7/200.8	**0.0110**	**3.0**	**0.078**	0.1100	**29.0**	**0.0790**	**2.9000**	0.0120	0.0008	**0.0410**	0.5600
	09/01/16	200.7/200.8	0.0048	1.0	0.025	0.0300	11.0	**0.0250**	0.9600	0.0086	NA	0.0290	0.1500
	06/07/16	200.7/200.8	<0.05	0.3	0.019	0.0110	6.8	0.0110	0.3300	0.0170	0.0001	**0.0390**	0.2000
	10/28/15	200.7/200.8	<0.01	0.1	<0.006	<0.006	1.6	0.0019	0.093	0.018	<0.0002	**0.039**	0.016
	08/11/15	200.7/200.8	<0.01	0.1	0.010	<0.006	2.2	0.0035	0.081	0.019	<0.0002	**0.038**	0.070
	06/03/15	200.7/200.8	<0.01	0.1	0.007	0.0075	1.4	<0.005	0.080	<0.02	<0.0002	**0.038**	0.028
	03/10/15	200.7/200.8	<0.02	0.1	<0.006	<0.006	1.1	0.0015	0.260	<0.05	<0.0002	**0.042**	0.018
	11/13/14	200.7/200.8	<0.05	0.1	0.010	<0.006	2.1	0.0034	0.070	<0.05	<0.0002	**0.039**	0.063
	09/11/14	200.7/200.8	<0.01	0.2	<0.006	<0.006	0.1	<0.001	0.550	<0.01	<0.0002	0.019	<0.01
	06/05/14	200.7/200.8	0.0076	0.2	0.016	<0.006	5.8	0.0073	0.160	0.032	<0.0002	**0.032**	0.140
	03/10/14	200.7/200.8	<0.01	0.2	0.013	0.0073	4.3	0.0053	0.120	0.027	<0.0002	**0.036**	0.091
	11/12/13	200.7/200.8	0.0097	0.7	0.029	0.0210	13.0	**0.0190**	0.700	0.030	<0.0002	**0.038**	0.240
	09/03/13	200.7/200.8	0.0052	0.2	0.009	0.0061	3.4	0.0039	0.160	0.019	<0.0002	**0.038**	0.043
	06/12/13	200.7/200.8	0.0064	0.9	0.036	0.0300	**15.0**	NL	0.570	0.016	<0.0002	**0.039**	0.260
	03/18/13	200.7/200.8	**0.0160**	**3.8**	**0.130**	0.1600	**62.0**	**0.0970**	**3.800**	0.009	0.0016	**0.052**	1.100
	11/28/12	200.7/200.8	0.0048	0.6	0.018	0.0180	9.9	0.0081	0.460	0.010	<0.0002	**0.040**	0.120
	10/02/12	200.7/200.8	0.0042	0.2	<0.006	<0.006	1.8	<0.005	0.110	0.016	<0.0002	**0.037**	0.020
	06/12/12	200.7/200.8	0.0051	0.1	0.008	<0.006	2.4	0.0052	0.082	0.017	<0.001	**0.041**	0.057
	03/20/12	200.7/200.8	0.0060	0.2	0.017	0.0083	5.5	0.0082	0.120	0.017	<0.0002	**0.038**	0.220
	12/14/11	200.7/200.8	0.0044	0.2	0.019	<0.006	6.0	0.0081	0.110	0.011	<0.0002	**0.041**	0.230
	09/27/11	200.7/200.8	0.0072	0.3	0.044	0.0120	2.0	0.0140	0.210	**0.200**	<0.0002	**0.041**	0.510
	06/15/11	200.7/200.8	0.0070	0.2	<0.006	<0.006	0.7	<0.005	1.000	0.012	<0.0002	0.013	<0.01
	03/02/11	200.7/200.8	<0.0025	0.1	<0.006	<0.006	0.5	<0.005	0.017	<0.05	NA	**0.044**	0.014
	11/02/10	6010B	<0.02	0.1	0.008	0.0120	2.6	0.0110	0.120	<0.05	<0.0002	**0.032**	0.590
	09/15/10	6010B	<0.02	0.1	**0.098**	0.0140	3.9	0.0120	0.150	<0.05	<0.0002	**0.035**	0.360
	06/10/10	6010B	<0.02	0.5	<0.006	NA	NA	<0.005	NA	<0.05	<0.0002	NA	NA
	03/08/10	6020A	0.0016	0.1	0.004	0.0032	0.3	0.0012	0.018	0.004	<0.0002	**0.032**	0.009

8.8.2 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											
KA-3	12/04/17	200.7/200.8	0.0044	1.7	<0.006	<0.006	0.53	<0.005	1.4	<0.01	<0.0002	0.0074	0.004
	09/05/17	200.7/200.8	0.0072	1.4	<0.006	<0.006	1.5	0.00054	1.4	0.0082	<0.0002	0.010	<0.010
	06/01/17	200.7/200.8	0.0035	0.77	<0.006	<0.006	0.55	0.00038	1.2	0.0036	<0.0002	0.016	<0.01
	02/21/17	200.7/200.8	0.0068	1.1	<0.006	<0.006	1.80	0.00035	1.1	0.0057	<0.0002	NA	0.0047
	11/14/16	200.7/200.8	0.0068	1.20	<0.006	<0.006	1.80	0.0003	1.30	0.0049	<0.0002	0.009	0.004
	09/01/16	200.7/200.8	0.0050	0.95	<0.006	<0.006	0.93	0.0004	**2.70**	<0.02	NA	0.014	0.007
	06/07/16	200.7/200.8	0.0047	0.77	<0.006	0.0092	0.53	0.0005	2.00	0.0045	0.0001	0.010	0.011
	10/28/15	200.7/200.8	0.0035	0.31	<0.006	<0.006	0.11	<0.0005	1.70	<0.005	<0.0002	0.013	<0.01
	08/11/15	200.7/200.8	0.0023	0.29	<0.006	<0.006	0.42	0.0008	1.60	<0.005	<0.0002	0.019	<0.01
	06/02/15	200.7/200.8	<0.01	0.35	<0.006	<0.006	0.29	<0.005	**3.00**	<0.01	<0.0002	0.018	<0.01
	03/10/15	200.7/200.8	<0.01	0.27	<0.006	<0.006	0.35	<0.001	1.60	<0.01	<0.0002	0.015	<0.01
	09/11/14	200.7/200.8	**0.0110**	0.07	<0.006	0.0084	1.00	0.0015	0.04	0.0340	<0.0002	**0.047**	0.018
	03/10/14	200.7/200.8	<0.005	0.11	<0.006	<0.006	0.95	<0.001	0.26	0.0082	<0.0002	**0.089**	0.016
	11/12/13	200.7/200.8	0.0033	0.16	<0.006	<0.006	0.22	<0.001	0.44	0.0082	<0.0002	0.021	0.010
	09/03/13	200.7/200.8	0.0022	0.17	<0.006	<0.006	0.33	<0.001	0.42	0.0034	<0.0002	0.013	0.013
	06/12/13	200.7-200.8	0.0019	0.16	<0.006	<0.006	0.40	NL	0.35	0.0030	<0.0002	0.014	<0.01
	03/18/13	200.7/200.8	<0.0025	0.08	<0.006	<0.006	0.62	0.0058	0.58	<0.0025	<0.0002	0.020	<0.01
	11/28/12	200.7/200.8	0.0060	1.30	0.0360	0.0130	**30.00**	<0.005	1.70	0.0100	<0.0002	**0.032**	0.092
	08/21/12	200.7/200.8	0.0028	0.30	<0.006	0.0070	0.32	<0.005	0.81	<0.0025	<0.0002	0.004	0.014
	06/12/12	200.7/200.8	0.0057	0.61	0.0220	0.0092	**15.00**	<0.005	0.93	0.0120	<0.001	0.027	0.055
	03/20/12	200.7/200.8	0.0065	0.99	0.0330	0.0170	**24.00**	<0.005	1.80	0.0088	<0.0002	0.023	0.095
	12/14/11	200.7/200.8	0.0038	0.34	<0.006	<0.006	1.10	<0.005	1.10	<0.0025	<0.0002	0.005	0.013
	09/27/11	200.7/200.8	0.0063	0.30	<0.006	<0.006	2.20	<0.005	1.10	0.0030	<0.0002	0.006	0.024
	06/15/11	200.7/200.8	0.0089	0.22	0.0280	<0.006	9.40	0.0140	0.16	0.0300	<0.0002	**0.035**	0.320
	03/02/11	200.7/200.8	0.0063	0.44	<0.006	<0.006	0.64	<0.005	1.40	<0.05	NL	0.015	<0.01
	11/02/10	6010B	<0.02	0.60	<0.006	<0.006	1.20	<0.005	1.40	<0.05	<0.0002	NL	<0.02
	09/15/10	6010B	<0.02	0.47	**0.0960**	<0.006	1.60	<0.005	1.30	<0.05	<0.0002	0.003	<0.02
	06/10/10	6010B	<0.02	0.17	0.0064	NL	NL	<0.005	NL	<0.05	<0.0002	NL	<0.02
	03/08/10	6020A	**0.0110**	0.34	0.0014	0.0114	2.35	0.0030	**2.10**	<0.001	<0.0001	0.007	0.021

8.8.2 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1.0**	**0.05**	**1.0**	1.0	0.05	**0.2**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**											

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1 (Dec 2014)

NOTES

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-1	06/02/17	200.7/200.8	0.0023	<0.006	<0.006	<0.02	<0.0005	0.14	0.0072	0.013	0.019
	02/21/17	200.7/200.8	0.0028	<0.006	<0.006	<0.02	<0.0005	0.09	0.0082	NA	0.018
	11/14/16	200.7/200.8	0.0040	<0.006	<0.006	<0.02	<0.0005	0.093	0.012	**0.036**	0.004
	09/01/16	200.7/200.8	<0.02	<0.006	<0.006	<0.02	<0.0005	0.130	0.008	0.013	0.370
	06/07/16	200.7/200.8	0.0031	<0.006	<0.006	<0.02	<0.0005	0.110	0.008	0.015	<0.01
	10/28/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0005	0.061	<0.01	0.013	<0.01
	08/11/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0025	0.028	0.005	0.020	<0.01
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.01	0.067	<0.01	0.013	0.010
	03/10/15	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.001	0.067	<0.02	0.013	<0.01
	11/11/14	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.001	0.065	<0.01	0.012	0.050
	09/11/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.01	0.130	0.012	<0.01	0.010
	06/05/14	200.7/200.8	<0.005	<0.006	<0.006	0.0250	<0.001	0.059	0.013	0.010	<0.01
	03/10/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.001	0.053	<0.005	0.013	0.017
	11/12/13	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.005	0.071	0.011	0.011	<0.01
	09/09/13	200.7/200.8	<0.005	<0.03	<0.03	<0.1	<0.005	0.064	0.009	<0.01	<0.05
	06/12/13	200.7/200.8	0.0034	<0.006	<0.006	0.0570	<0.001	0.027	0.011	0.011	<0.01
	03/18/13	200.7/200.8	0.0016	<0.006	<0.006	<0.02	<0.005	0.004	0.003	0.017	<0.01
	11/28/12	200.7/200.8	0.0019	<0.006	<0.006	<0.02	<0.001	0.010	0.004	0.029	0.013
	08/21/12	200.7/200.8	0.0021	<0.006	<0.006	<0.02	<0.005	0.011	0.004	0.011	0.017
	06/12/12	200.7/200.8	0.0023	<0.006	<0.006	0.0250	<0.005	0.004	0.006	0.014	0.014
	03/20/12	200.7/200.8	0.0018	<0.006	<0.006	<0.02	<0.005	0.006	0.006	0.010	0.022
	12/14/11	200.7/200.8	0.0017	<0.006	<0.006	0.2700	<0.005	0.007	0.004	0.021	<0.01
	09/27/11	200.7/200.8	0.0029	<0.006	<0.006	<0.02	<0.005	0.056	0.009	**0.032**	0.011
	06/15/11	200.7/200.8	0.0047	<0.006	<0.006	<0.020	<0.005	0.002	0.017	0.016	0.028
	03/02/11	200.7/200.8	0.0013	<0.006	<0.006	0.0320	<0.005	<0.002	<0.05	0.017	<0.01
	11/02/10	6010B	<0.1	<0.006	<0.006	0.0570	<0.005	0.016	<0.25	**0.034**	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	0.2900	0.0064	0.007	<0.05	0.011	NA
	06/08/10	6010B	<0.2	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0011	<0.001	0.0021	<0.01	<0.001	<0.001	0.000	0.028	0.026

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-2	12/04/17	200.7/200.8	0.0049	<0.006	<0.002	**1.8**	<0.0005	**0.94**	0.0045	0.00017	0.010
	09/05/17	200.7/200.8	0.0054	0.0017	<0.006	0.56	<0.0025	**0.89**	<0.02	0.00054	0.026
	06/01/17	200.7/200.8	0.0035	<0.006	<0.006	0.52	0.00021	**0.86**	<0.01	0.00070	0.018
	02/21/17	200.7/200.8	0.0053	<0.006	<0.006	0.88	<0.0005	**0.97**	0.0047	NA	0.020
	11/14/16	200.7/200.8	0.0085	<0.006	<0.006	**1.5**	0.0003	**1.1**	0.0078	0.0005	<0.01
	09/01/16	200.7/200.8	0.0075	<0.006	<0.006	**1.6**	<0.0005	**1.1**	0.0066	0.0003	0.170
	06/07/16	200.7/200.8	0.0086	<0.006	<0.006	**1.8**	<0.0005	**1.1**	0.0062	0.0009	0.055
	10/28/15	200.7/200.8	0.0084	<0.006	<0.006	**1.8**	<0.0005	**1.2**	0.0097	<0.0005	0.022
	08/11/15	200.7/200.8	0.0072	<0.006	<0.006	**1.4**	<0.0025	**1.2**	<0.005	<0.0025	<0.01
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	**1.2**	<0.01	**1.1**	<0.01	<0.01	<0.01
	03/10/15	200.7/200.8	<0.01	<0.006	<0.006	**1.9**	<0.001	**1.0**	<0.01	<0.001	<0.01
	11/11/14	200.7/200.8	0.0076	<0.006	<0.006	**1.8**	<0.001	**1.3**	0.0062	<0.001	0.019
	09/11/14	200.7/200.8	0.0070	<0.006	<0.006	**1.6**	<0.01	**1.2**	0.0110	<0.01	0.047
	06/05/14	200.7/200.8	0.0064	<0.006	<0.006	**2.6**	<0.005	**1.4**	0.0100	<0.001	<0.01
	03/10/14	200.7/200.8	0.0053	<0.006	<0.006	**1.8**	<0.001	**1.2**	<0.005	<0.001	0.012
	11/12/13	200.7/200.8	0.0077	<0.006	<0.006	**1.8**	<0.001	**1.3**	0.0080	<0.001	<0.01
	09/09/13	200.7/200.8	0.0069	<0.006	<0.006	**2.6**	<0.005	**1.3**	0.0060	<0.01	0.021
	06/12/13	200.7/200.8	0.0068	<0.006	<0.006	**1.7**	<0.001	**1.6**	0.0071	<0.001	0.010
	03/18/13	200.7/200.8	0.0062	<0.006	<0.006	**1.1**	<0.005	**1.2**	0.0024	<0.002	<0.01
	11/28/12	200.7/200.8	0.0083	<0.006	<0.006	**2.9**	<0.001	**1.8**	0.0034	<0.001	0.011
	08/21/12	200.7/200.8	**0.0140**	<0.006	<0.006	**1.9**	<0.005	**1.6**	**3.4000**	<0.001	0.016
	06/12/12	200.7/200.8	0.0089	<0.006	<0.006	**2.7**	<0.005	**1.6**	0.0047	<0.001	0.180
	03/20/12	200.7/200.8	0.0093	<0.006	<0.006	**3.0**	<0.005	**1.5**	0.0042	<0.001	0.070
	12/14/11	200.7/200.8	0.0089	<0.006	<0.006	**3.2**	<0.005	**1.3**	0.0028	<0.001	<0.01
	09/27/11	200.7/200.8	**0.0110**	<0.006	<0.006	**2.2**	<0.005	**1.2**	0.0050	<0.001	0.015
	06/15/11	200.7/200.8	**0.0120**	<0.006	<0.006	**3.2**	<0.005	**1.3**	0.0095	<0.001	0.041
	03/02/11	200.7/200.8	**0.0130**	<0.006	<0.006	**4.8**	<0.005	<0.002	<0.05	<0.001	<0.01
	11/02/10	6010B	<0.1	<0.006	<0.006	**2.9**	<0.005	**1.2**	<0.05	NA	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	**3.7**	<0.005	**1.0**	<0.05	<0.001	NA
	06/10/10	6010B	<0.02	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0047	<0.001	<0.001	**3.8**	<0.001	**1.1**	<0.001	<0.001	0.053

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-3	12/04/17	200.7/200.8	<0.010	<0.006	0.0048	<0.020	0.00024	0.13	<0.01	0.025	0.012
	09/05/17	200.7/200.8	0.0041	<0.006	<0.006	0.14	0.00058	0.12	0.0093	**0.043**	0.064
	06/02/17	200.7/200.8	0.0021	<0.006	0.0041	<0.020	0.0005	0.10	0.0060	0.030	0.012
	02/21/17	200.7/200.8	0.0039	0.0015	<0.006	0.23	0.0011	0.10	0.0083	NA	0.027
	11/14/16	200.7/200.8	0.0070	0.0031	0.0080	**1.40**	0.0063	**0.3600**	0.0160	**0.034**	0.047
	09/01/16	200.7/200.8	0.0039	<0.006	<0.006	0.31	0.0010	0.0110	0.0096	0.023	0.047
	06/07/16	200.7/200.8	0.0072	0.0038	<0.006	0.23	0.0016	0.0033	0.0220	**0.041**	0.023
	10/28/15	200.7/200.8	<0.05	<0.006	<0.006	<0.02	<0.0005	0.0081	<0.05	**0.040**	<0.01
	08/11/15	200.7/200.8	<0.01	<0.006	<0.006	0.04	<0.0025	0.0029	0.0200	**0.038**	0.049
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	0.06	<0.01	0.0038	0.0160	**0.043**	0.049
	03/10/15	200.7/200.8	<0.02	<0.006	<0.006	<0.02	<0.001	<0.002	<0.05	**0.036**	0.044
	11/13/14	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.01	<0.002	<0.05	**0.039**	0.089
	09/11/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.01	**0.4700**	0.0089	0.014	0.011
	06/05/14	200.7/200.8	**0.0110**	0.0073	<0.006	**2.60**	<0.01	0.0580	0.0450	**0.034**	0.070
	03/10/14	200.7/200.8	<0.01	<0.006	<0.006	0.24	<0.001	0.0073	0.0110	**0.039**	0.017
	11/12/13	200.7/200.8	0.0076	<0.006	<0.006	0.15	<0.001	0.0047	0.0290	**0.036**	0.024
	09/09/13	200.7/200.8	0.0063	<0.006	<0.006	0.17	<0.001	0.0075	0.0230	**0.041**	0.028
	06/12/13	200.7/200.8	0.0077	<0.006	<0.006	0.57	0.0014	0.0380	0.0320	**0.038**	0.019
	03/18/13	200.7/200.8	0.0048	<0.006	0.0065	**4.60**	<0.005	**0.2500**	0.0120	**0.037**	0.037
	11/28/12	200.7/200.8	0.0052	<0.006	0.0140	**15.00**	0.0100	**0.3900**	0.0120	**0.035**	0.100
	10/02/12	200.7/200.8	0.0040	<0.006	<0.006	**3.20**	<0.005	0.1400	0.0130	**0.038**	0.035
	06/12/12	200.7/200.8	0.0050	<0.006	<0.006	0.02	<0.005	<0.002	0.0190	**0.039**	0.015
	03/20/12	200.7/200.8	0.0039	0.0079	<0.006	0.51	<0.005	0.0140	0.0170	**0.032**	0.084
	12/14/11	200.7/200.8	0.0037	<0.006	<0.006	0.12	<0.005	0.0047	0.0130	**0.040**	0.018
	09/27/11	200.7/200.8	0.0064	<0.006	<0.006	0.14	<0.005	0.0035	0.0250	**0.038**	0.018
	06/15/11	200.7/200.8	0.0085	<0.006	<0.006	0.06	<0.005	**0.9200**	0.0190	0.013	0.270
	03/02/11	200.7/200.8	<0.001	<0.006	<0.006	<0.02	<0.005	<0.002	<0.05	**0.039**	<0.01
	11/02/10	6010B	<0.02	<0.006	<0.006	0.03	<0.005	0.0100	<0.05	**0.035**	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	0.02	<0.005	0.0021	<0.05	**0.032**	NA
	06/10/10	6010B	<0.02	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0031	0.0027	0.0022	<0.01	<0.001	0.0014	0.0036	0.030	0.034

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
KA-3	12/04/17	200.7/200.8	0.0033	<0.006	<0.006	0.045	<0.0005	**1.3**	<0.010	0.0076	0.011
	09/05/17	200.7/200.8	0.0039	<0.006	<0.006	0.088	<0.0005	**1.3**	<0.020	0.010	0.046
	06/01/17	200.7/200.8	0.0028	<0.006	<0.006	0.056	<0.0005	**1.1**	0.0047	0.015	0.026
	02/21/17	200.7/200.8	0.0019	<0.006	<0.006	0.17	<0.0005	**1.1**	0.0035	NA	0.028
	11/14/16	200.7/200.8	0.0036	<0.006	<0.006	0.1200	<0.0005	**1.30**	0.0071	0.0099	0.0031
	09/01/16	200.7/200.8	0.0029	<0.006	<0.006	0.0590	<0.0005	**1.90**	0.0049	0.0075	0.0410
	06/07/16	200.7/200.8	0.0038	<0.006	<0.006	0.1000	<0.0005	**1.50**	0.0058	0.0095	0.0052
	10/28/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0005	**0.61**	<0.01	0.0120	<0.01
	08/11/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0025	**0.64**	<0.005	0.0180	0.2800
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.01	**0.77**	<0.01	0.0190	<0.01
	03/10/15	200.8	0.0020	<0.006	<0.006	<0.02	<0.001	**0.69**	<0.01	0.0180	0.0100
	11/11/14	200.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/11/14	200.7/200.8	**0.0110**	<0.006	<0.006	<0.02	<0.01	<0.002	0.0350	**0.0390**	<0.01
	06/05/14	200.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	03/10/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.001	**0.38**	<0.005	**0.0480**	0.0120
	11/12/13	200.7/200.8	0.0036	<0.006	<0.006	<0.02	<0.001	**0.37**	0.0091	0.0200	0.0110
	09/09/13	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.005	**0.37**	0.0056	0.0110	0.0300
	06/12/13	200.7/200.8	0.0030	<0.006	<0.006	<0.02	<0.001	**0.31**	0.0077	0.0150	<0.01
	03/18/13	200.7/200.8	0.0019	<0.006	<0.006	<0.02	<0.005	**0.53**	0.0029	0.0190	0.0220
	11/28/12	200.7/200.8	0.0046	<0.006	<0.006	**4.2000**	0.0046	**0.61**	0.0087	0.0240	0.0210
	08/21/12	200.7/200.8	0.0031	<0.006	<0.006	<0.02	<0.005	**0.39**	0.0047	0.0130	0.0220
	06/12/12	200.7/200.8	0.0038	<0.006	<0.006	0.1500	<0.005	**0.38**	0.0072	0.0150	0.0120
	03/20/12	200.7/200.8	0.0033	0.0110	<0.006	0.3500	<0.005	**0.35**	0.0085	0.0180	0.0330
	12/14/11	200.7/200.8	0.0034	<0.006	<0.006	0.1400	<0.005	**0.95**	0.0021	0.0042	<0.01
	09/27/11	200.7/200.8	0.0060	<0.006	<0.006	0.0830	<0.005	**0.89**	0.0057	0.0067	0.0180
	06/15/11	200.7/200.8	0.0100	<0.006	<0.006	<0.02	<0.005	0.00	0.0420	**0.0340**	0.0440
	03/02/11	200.7/200.8	0.0062	<0.006	<0.006	0.1100	<0.005	0.04	<0.05	0.0100	<0.01
	11/02/10	6010B	<0.1	<0.006	<0.006	0.3200	<0.005	**1.40**	<0.05	NA	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	0.5600	<0.005	**1.20**	<0.05	0.0010	NA
	06/10/10	6010B	<0.02	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0098	<0.001	0.0043	**1.5500**	<0.001	**1.86**	0.0010	0.0070	0.0382

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									

DEFINITIONS

NE = Not established

NA = Not analyzed

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-1	06/02/17	200.7/200.8	0.0023	<0.006	<0.006	<0.02	<0.0005	0.14	0.0072	0.013	0.019
	02/21/17	200.7/200.8	0.0028	<0.006	<0.006	<0.02	<0.0005	0.09	0.0082	NA	0.018
	11/14/16	200.7/200.8	0.0040	<0.006	<0.006	<0.02	<0.0005	0.093	0.012	**0.036**	0.004
	09/01/16	200.7/200.8	<0.02	<0.006	<0.006	<0.02	<0.0005	0.130	0.008	0.013	0.370
	06/07/16	200.7/200.8	0.0031	<0.006	<0.006	<0.02	<0.0005	0.110	0.008	0.015	<0.01
	10/28/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0005	0.061	<0.01	0.013	<0.01
	08/11/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0025	0.028	0.005	0.020	<0.01
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.01	0.067	<0.01	0.013	0.010
	03/10/15	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.001	0.067	<0.02	0.013	<0.01
	11/11/14	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.001	0.065	<0.01	0.012	0.050
	09/11/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.01	0.130	0.012	<0.01	0.010
	06/05/14	200.7/200.8	<0.005	<0.006	<0.006	0.0250	<0.001	0.059	0.013	0.010	<0.01
	03/10/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.001	0.053	<0.005	0.013	0.017
	11/12/13	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.005	0.071	0.011	0.011	<0.01
	09/09/13	200.7/200.8	<0.005	<0.03	<0.03	<0.1	<0.005	0.064	0.009	<0.01	<0.05
	06/12/13	200.7/200.8	0.0034	<0.006	<0.006	0.0570	<0.001	0.027	0.011	0.011	<0.01
	03/18/13	200.7/200.8	0.0016	<0.006	<0.006	<0.02	<0.005	0.004	0.003	0.017	<0.01
	11/28/12	200.7/200.8	0.0019	<0.006	<0.006	<0.02	<0.001	0.010	0.004	0.029	0.013
	08/21/12	200.7/200.8	0.0021	<0.006	<0.006	<0.02	<0.005	0.011	0.004	0.011	0.017
	06/12/12	200.7/200.8	0.0023	<0.006	<0.006	0.0250	<0.005	0.004	0.006	0.014	0.014
	03/20/12	200.7/200.8	0.0018	<0.006	<0.006	<0.02	<0.005	0.006	0.006	0.010	0.022
	12/14/11	200.7/200.8	0.0017	<0.006	<0.006	0.2700	<0.005	0.007	0.004	0.021	<0.01
	09/27/11	200.7/200.8	0.0029	<0.006	<0.006	<0.02	<0.005	0.056	0.009	**0.032**	0.011
	06/15/11	200.7/200.8	0.0047	<0.006	<0.006	<0.020	<0.005	0.002	0.017	0.016	0.028
	03/02/11	200.7/200.8	0.0013	<0.006	<0.006	0.0320	<0.005	<0.002	<0.05	0.017	<0.01
	11/02/10	6010B	<0.1	<0.006	<0.006	0.0570	<0.005	0.016	<0.25	**0.034**	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	0.2900	0.0064	0.007	<0.05	0.011	NA
	06/08/10	6010B	<0.2	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0011	<0.001	0.0021	<0.01	<0.001	<0.001	0.000	0.028	0.026

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-2	12/04/17	200.7/200.8	0.0049	<0.006	<0.002	**1.8**	<0.0005	**0.94**	0.0045	0.00017	0.010
	09/05/17	200.7/200.8	0.0054	0.0017	<0.006	0.56	<0.0025	**0.89**	<0.02	0.00054	0.026
	06/01/17	200.7/200.8	0.0035	<0.006	<0.006	0.52	0.00021	**0.86**	<0.01	0.00070	0.018
	02/21/17	200.7/200.8	0.0053	<0.006	<0.006	0.88	<0.0005	**0.97**	0.0047	NA	0.020
	11/14/16	200.7/200.8	0.0085	<0.006	<0.006	**1.5**	0.0003	**1.1**	0.0078	0.0005	<0.01
	09/01/16	200.7/200.8	0.0075	<0.006	<0.006	**1.6**	<0.0005	**1.1**	0.0066	0.0003	0.170
	06/07/16	200.7/200.8	0.0086	<0.006	<0.006	**1.8**	<0.0005	**1.1**	0.0062	0.0009	0.055
	10/28/15	200.7/200.8	0.0084	<0.006	<0.006	**1.8**	<0.0005	**1.2**	0.0097	<0.0005	0.022
	08/11/15	200.7/200.8	0.0072	<0.006	<0.006	**1.4**	<0.0025	**1.2**	<0.005	<0.0025	<0.01
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	**1.2**	<0.01	**1.1**	<0.01	<0.01	<0.01
	03/10/15	200.7/200.8	<0.01	<0.006	<0.006	**1.9**	<0.001	**1.0**	<0.01	<0.001	<0.01
	11/11/14	200.7/200.8	0.0076	<0.006	<0.006	**1.8**	<0.001	**1.3**	0.0062	<0.001	0.019
	09/11/14	200.7/200.8	0.0070	<0.006	<0.006	**1.6**	<0.01	**1.2**	0.0110	<0.01	0.047
	06/05/14	200.7/200.8	0.0064	<0.006	<0.006	**2.6**	<0.005	**1.4**	0.0100	<0.001	<0.01
	03/10/14	200.7/200.8	0.0053	<0.006	<0.006	**1.8**	<0.001	**1.2**	<0.005	<0.001	0.012
	11/12/13	200.7/200.8	0.0077	<0.006	<0.006	**1.8**	<0.001	**1.3**	0.0080	<0.001	<0.01
	09/09/13	200.7/200.8	0.0069	<0.006	<0.006	**2.6**	<0.005	**1.3**	0.0060	<0.01	0.021
	06/12/13	200.7/200.8	0.0068	<0.006	<0.006	**1.7**	<0.001	**1.6**	0.0071	<0.001	0.010
	03/18/13	200.7/200.8	0.0062	<0.006	<0.006	**1.1**	<0.005	**1.2**	0.0024	<0.002	<0.01
	11/28/12	200.7/200.8	0.0083	<0.006	<0.006	**2.9**	<0.001	**1.8**	0.0034	<0.001	0.011
	08/21/12	200.7/200.8	**0.0140**	<0.006	<0.006	**1.9**	<0.005	**1.6**	**3.4000**	<0.001	0.016
	06/12/12	200.7/200.8	0.0089	<0.006	<0.006	**2.7**	<0.005	**1.6**	0.0047	<0.001	0.180
	03/20/12	200.7/200.8	0.0093	<0.006	<0.006	**3.0**	<0.005	**1.5**	0.0042	<0.001	0.070
	12/14/11	200.7/200.8	0.0089	<0.006	<0.006	**3.2**	<0.005	**1.3**	0.0028	<0.001	<0.01
	09/27/11	200.7/200.8	**0.0110**	<0.006	<0.006	**2.2**	<0.005	**1.2**	0.0050	<0.001	0.015
	06/15/11	200.7/200.8	**0.0120**	<0.006	<0.006	**3.2**	<0.005	**1.3**	0.0095	<0.001	0.041
	03/02/11	200.7/200.8	**0.0130**	<0.006	<0.006	**4.8**	<0.005	<0.002	<0.05	<0.001	<0.01
	11/02/10	6010B	<0.1	<0.006	<0.006	**2.9**	<0.005	**1.2**	<0.05	NA	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	**3.7**	<0.005	**1.0**	<0.05	<0.001	NA
	06/10/10	6010B	<0.02	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0047	<0.001	<0.001	**3.8**	<0.001	**1.1**	<0.001	<0.001	0.053

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
NAPIS-3	12/04/17	200.7/200.8	<0.010	<0.006	0.0048	<0.020	0.00024	0.13	<0.01	0.025	0.012
	09/05/17	200.7/200.8	0.0041	<0.006	<0.006	0.14	0.00058	0.12	0.0093	0.043	0.064
	06/02/17	200.7/200.8	0.0021	<0.006	0.0041	<0.020	0.0005	0.10	0.0060	0.030	0.012
	02/21/17	200.7/200.8	0.0039	0.0015	<0.006	0.23	0.0011	0.10	0.0083	NA	0.027
	11/14/16	200.7/200.8	0.0070	0.0031	0.0080	**1.40**	0.0063	**0.3600**	0.0160	**0.034**	0.047
	09/01/16	200.7/200.8	0.0039	<0.006	<0.006	0.31	0.0010	0.0110	0.0096	0.023	0.047
	06/07/16	200.7/200.8	0.0072	0.0038	<0.006	0.23	0.0016	0.0033	0.0220	**0.041**	0.023
	10/28/15	200.7/200.8	<0.05	<0.006	<0.006	<0.02	<0.0005	0.0081	<0.05	**0.040**	<0.01
	08/11/15	200.7/200.8	<0.01	<0.006	<0.006	0.04	<0.0025	0.0029	0.0200	**0.038**	0.049
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	0.06	<0.01	0.0038	0.0160	**0.043**	0.049
	03/10/15	200.7/200.8	<0.02	<0.006	<0.006	<0.02	<0.001	<0.002	<0.05	**0.036**	0.044
	11/13/14	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.01	<0.002	<0.05	**0.039**	0.089
	09/11/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.01	**0.4700**	0.0089	0.014	0.011
	06/05/14	200.7/200.8	**0.0110**	0.0073	<0.006	**2.60**	<0.01	0.0580	0.0450	**0.034**	0.070
	03/10/14	200.7/200.8	<0.01	<0.006	<0.006	0.24	<0.001	0.0073	0.0110	**0.039**	0.017
	11/12/13	200.7/200.8	0.0076	<0.006	<0.006	0.15	<0.001	0.0047	0.0290	**0.036**	0.024
	09/09/13	200.7/200.8	0.0063	<0.006	<0.006	0.17	<0.001	0.0075	0.0230	**0.041**	0.028
	06/12/13	200.7/200.8	0.0077	<0.006	<0.006	0.57	0.0014	0.0380	0.0320	**0.038**	0.019
	03/18/13	200.7/200.8	0.0048	<0.006	0.0065	**4.60**	<0.005	**0.2500**	0.0120	**0.037**	0.037
	11/28/12	200.7/200.8	0.0052	<0.006	0.0140	**15.00**	0.0100	**0.3900**	0.0120	**0.035**	0.100
	10/02/12	200.7/200.8	0.0040	<0.006	<0.006	**3.20**	<0.005	0.1400	0.0130	**0.038**	0.035
	06/12/12	200.7/200.8	0.0050	<0.006	<0.006	0.02	<0.005	<0.002	0.0190	**0.039**	0.015
	03/20/12	200.7/200.8	0.0039	0.0079	<0.006	0.51	<0.005	0.0140	0.0170	**0.032**	0.084
	12/14/11	200.7/200.8	0.0037	<0.006	<0.006	0.12	<0.005	0.0047	0.0130	**0.040**	0.018
	09/27/11	200.7/200.8	0.0064	<0.006	<0.006	0.14	<0.005	0.0035	0.0250	**0.038**	0.018
	06/15/11	200.7/200.8	0.0085	<0.006	<0.006	0.06	<0.005	**0.9200**	0.0190	0.013	0.270
	03/02/11	200.7/200.8	<0.001	<0.006	<0.006	<0.02	<0.005	<0.002	<0.05	**0.039**	<0.01
	11/02/10	6010B	<0.02	<0.006	<0.006	0.03	<0.005	0.0100	<0.05	**0.035**	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	0.02	<0.005	0.0021	<0.05	**0.032**	NA
	06/10/10	6010B	<0.02	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0031	0.0027	0.0022	<0.01	<0.001	0.0014	0.0036	0.030	0.034

8.8.3 NAPIS-1, NAPIS-2, NAPIS-3, KA-3

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS								
			Arsenic (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**0.05**	**1.0**	**1.0**	0.05	**0.2**	**0.05**	**0.03**	**10.0**
40 CFR 141.62 MCL			**0.01**	0.1	1.3	NE	**0.015**	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	0.0057	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	NE	0.08	14	0.015	0.43	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**									
KA-3	12/04/17	200.7/200.8	0.0033	<0.006	<0.006	0.045	<0.0005	**1.3**	<0.010	0.0076	0.011
	09/05/17	200.7/200.8	0.0039	<0.006	<0.006	0.088	<0.0005	**1.3**	<0.020	0.010	0.046
	06/01/17	200.7/200.8	0.0028	<0.006	<0.006	0.056	<0.0005	**1.1**	0.0047	0.015	0.026
	02/21/17	200.7/200.8	0.0019	<0.006	<0.006	0.17	<0.0005	**1.1**	0.0035	NA	0.028
	11/14/16	200.7/200.8	0.0036	<0.006	<0.006	0.1200	<0.0005	**1.30**	0.0071	0.0099	0.0031
	09/01/16	200.7/200.8	0.0029	<0.006	<0.006	0.0590	<0.0005	**1.90**	0.0049	0.0075	0.0410
	06/07/16	200.7/200.8	0.0038	<0.006	<0.006	0.1000	<0.0005	**1.50**	0.0058	0.0095	0.0052
	10/28/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0005	**0.61**	<0.01	0.0120	<0.01
	08/11/15	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.0025	**0.64**	<0.005	0.0180	0.2800
	06/02/15	200.7/200.8	<0.01	<0.006	<0.006	<0.02	<0.01	**0.77**	<0.01	0.0190	<0.01
	03/10/15	200.8	0.0020	<0.006	<0.006	<0.02	<0.001	**0.69**	<0.01	0.0180	0.0100
	11/11/14	200.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/11/14	200.7/200.8	**0.0110**	<0.006	<0.006	<0.02	<0.01	<0.002	0.0350	**0.0390**	<0.01
	06/05/14	200.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
	03/10/14	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.001	**0.38**	<0.005	**0.0480**	0.0120
	11/12/13	200.7/200.8	0.0036	<0.006	<0.006	<0.02	<0.001	**0.37**	0.0091	0.0200	0.0110
	09/09/13	200.7/200.8	<0.005	<0.006	<0.006	<0.02	<0.005	**0.37**	0.0056	0.0110	0.0300
	06/12/13	200.7/200.8	0.0030	<0.006	<0.006	<0.02	<0.001	**0.31**	0.0077	0.0150	<0.01
	03/18/13	200.7/200.8	0.0019	<0.006	<0.006	<0.02	<0.005	**0.53**	0.0029	0.0190	0.0220
	11/28/12	200.7/200.8	0.0046	<0.006	<0.006	**4.2000**	0.0046	**0.61**	0.0087	0.0240	0.0210
	08/21/12	200.7/200.8	0.0031	<0.006	<0.006	<0.02	<0.005	**0.39**	0.0047	0.0130	0.0220
	06/12/12	200.7/200.8	0.0038	<0.006	<0.006	0.1500	<0.005	**0.38**	0.0072	0.0150	0.0120
	03/20/12	200.7/200.8	0.0033	0.0110	<0.006	0.3500	<0.005	**0.35**	0.0085	0.0180	0.0330
	12/14/11	200.7/200.8	0.0034	<0.006	<0.006	0.1400	<0.005	**0.95**	0.0021	0.0042	<0.01
	09/27/11	200.7/200.8	0.0060	<0.006	<0.006	0.0830	<0.005	**0.89**	0.0057	0.0067	0.0180
	06/15/11	200.7/200.8	0.0100	<0.006	<0.006	<0.02	<0.005	0.00	0.0420	**0.0340**	0.0440
	03/02/11	200.7/200.8	0.0062	<0.006	<0.006	0.1100	<0.005	0.04	<0.05	0.0100	<0.01
	11/02/10	6010B	<0.1	<0.006	<0.006	0.3200	<0.005	**1.40**	<0.05	NA	NA
	09/15/10	6010B	<0.02	<0.006	<0.006	0.5600	<0.005	**1.20**	<0.05	0.0010	NA
	06/10/10	6010B	<0.02	<0.006	NA	NA	<0.005	NA	<0.05	NA	NA
	03/08/10	6020A	0.0098	<0.001	0.0043	**1.5500**	<0.001	**1.86**	0.0010	0.0070	0.0382

DEFINITIONS

NE = Not established

NA = Not analyzed

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

8.10 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)
BTEX and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	NE	NE	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
SAMPLE ID	**DATE SAMPLED**	**METHOD**								
East LDU [3]	12/04/17	8260	**1.7**	0.06	0.18	0.18	<0.005	**4.4**	**7.6**	<5.0
	09/05/17	8260B/8015D	**0.53**	0.23	0.19	**0.9**	<0.01	**6.9**	**5.5**	<5.0
	06/02/17	8260B/8015D	**0.17**	0.0066	0.063	0.075	0.0025	**7.1**	**2**	<5.0
	02/21/17	8260B/8015D	**0.23**	0.14	0.14	0.3	0.013	**27**	**4.4**	<5.0
	11/17/16	8260	**0.11**	0.0082	0.1	0.0098	0.0063	**16**	**1.6**	<5.0
	06/07/16	8260B/8015D	**0.36**	0.032	0.025	0.097	0.013	**16**	**4.9**	<5.0
	03/01/16	8260B/8015D	**0.41**	0.03	0.27	0.14	0.011	**21**	**5.6**	<5.0
	10/29/15	8260B/8015D	**0.56**	0.044	0.25	**1.1**	0.022	**24**	**5.5**	<5.0
	08/11/15	8260B/8015D	**1.2**	**1.1**	0.34	**1.7**	<0.02	**19**	**15**	<5.0
	06/03/15	8260B/8015D	**1.2**	**1**	0.43	**2**	<0.02	**17**	**0.54**	<5.0
	03/10/15	8021B/8015D	**1.3**	0.46	0.47	**1.9**	<0.05	**26**	**9.4**	<5.0
	11/11/14	8021B/8015B	**1.7**	**4.8**	**0.72**	**8.2**	<0.5	**17**	**38**	NL
	06/03/14	8021B/8015B	**8.9**	**21**	**2.3**	**19**	<0.5	**29**	**130**	<5.0
	03/10/14	8021B/8015B	**9.8**	**27**	**3.8**	**25**	<0.5	**310**	**200**	<50
	11/12/13	8021B/8015B	**0.19**	0.17	0.13	**5.6**	<0.5	**410**	**32**	NA
	06/12/13	8021B/8015B	**9.4**	**2.2**	0.51	**6.1**	<0.5	**18**	**38**	<5.0
	03/18/13	8021B/8015B	**12**	**4.6**	0.61	**7**	<0.5	**28**	**50**	<5.0
	11/28/12	8021B/8015B	**1.1**	**0.89**	0.51	**6.7**	<0.25	**19**	**27**	<5.0
	08/21/12	8021B/8015B	**1.2**	0.33	0.46	**5.7**	<0.25	**10**	**17**	<5.0
	06/12/12	8021B/8015B	**1.3**	**1.1**	0.46	**6.3**	<0.25	**27**	**24**	<5.0
	03/20/12	8021B/8015B	**1.4**	**3.1**	0.56	**8**	<0.5	**30**	**31**	<5.0
	12/14/11	8021B/8015B	**1.8**	**4.2**	0.56	**6.7**	<0.25	**33**	**33**	<5.0
	09/26/11	8021B/8015B	**2.8**	**7.2**	0.68	**7**	<0.13	**34**	**43**	<50
	06/15/11	8260B/8015B	**1.8**	0.28	0.32	**3.8**	<0.02	**27**	**13**	<5.0
	03/03/11	8021B/8015B	**2.6**	**7.2**	0.45	**3.9**	<0.5	**35**	**83**	<5.0
	11/11/10	8021B/8015B	**10**	**28**	**1.3**	**9**	<0.05	**63**	**100**	
	09/20/10	8021B/8015B	**10**	**20**	**1.1**	**8.1**	<0.13	**120**	**100**	
	03/18/10	8021B/8015B	**9.1**	**17**	**1.4**	**9.9**	NL	**16000**	**120**	

8.10 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)
BTEX and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	NE	NE	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
SAMPLE ID	**DATE SAMPLED**	**METHOD**								
West LDU [2]	12/04/17	8260B/8015D	**0.063**	0.0018	0.033	0.0026	0.0018	**7.7**	**1.2**	<5.0
	09/05/17	8260B/8015D	**0.088**	0.0012	0.015	0.0051	0.0033	**9.8**	**0.76**	<5.0
	06/02/17	8260B/8015D	**0.093**	0.0041	0.015	0.016	0.0025	**8.5**	**1.1**	<5.0
	02/21/17	8260B/8015D	**0.29**	0.024	0.032	0.06	0.0098	**14**	**2.6**	<5.0
	11/17/16	8260B/8015D	**0.14**	0.015	0.038	0.024	<0.01	**8.6**	**2.2**	<5.0
	06/07/16	8260B/8015D	**0.41**	0.049	0.05	0.14	0.0032	**7.3**	**3.6**	<5.0
	03/01/16	8260B/8015D	**0.26**	0.053	0.027	0.047	<0.02	**7.2**	**1.9**	<5.0
	10/29/15	8260B/8015D	**0.5**	0.19	0.03	0.29	<0.01	**12**	**3**	<5.0
	08/11/15	8260B/8015D	**2.7**	0.74	0.083	0.44	<0.02	**9.9**	**11**	<5.0
	06/03/15	8260B/8015D	Insufficient water volume - Did not sample							
	03/10/15	8021B/8015D	**0.45**	0.086	0.085	0.2	<0.012	**12**	**2.7**	<5.0
	09/11/14	8021B/8015B	**0.87**	0.3	0.11	**0.94**	<0.12	**6.6**	**6.7**	<5.0
	06/03/14	8021B/8015B	**0.52**	0.035	0.18	**2.8**	<0.05	**8**	**12**	<5.0
	03/10/14	8021B/8015B	**0.7**	0.14	0.17	**3.3**	<0.25	**14**	**13**	<5.0
	11/12/13	8021B/8015B	**2.8**	**3.7**	0.31	**6**	<0.25	**17**	**30**	NA
	09/05/13	8021B/8015B	**1.5**	**3.1**	0.28	**7.8**	<0.25	**110**	**47**	<50
	06/12/13	8021B/8015B	**6**	**3**	0.49	**5.2**	<0.25	**4.7**	**31**	<5.0
	03/18/13	8021B/8015B	**3.9**	0.42	0.38	**4**	<0.25	**2.6**	**20**	<5.0
	11/28/12	8021B/8015B	**2**	**1.9**	0.57	**5.1**	<0.25	**5.7**	**25**	<5.0
	08/21/12	8021B/8015B	**1.8**	**3.2**	0.66	**3.1**	<0.25	**4**	**18**	<5.0
	06/12/12	8021B/8015B	**1.4**	**3.5**	0.41	**5.7**	<0.25	**9**	**27**	<5.0
	03/20/12	8021B/8015B	**1.6**	**6**	0.69	**7.6**	<0.012	**6.9**	**42**	<5.0
	12/14/11	8021B/8015B	**2.3**	**8.3**	**0.83**	**7.2**	<0.25	**22**	**45**	<5.0
	09/26/11	8021B/8015B	**3.6**	**9.3**	0.59	**5.5**	<0.025	**14**	**45**	<5.0
	06/15/11	8260B/8015B	**0.094**	0.33	0.029	0.26	<0.01	**13**	**2.2**	<5.0
	03/03/11	8021B/8015B	**6.1**	**17**	**0.92**	**7.9**	<0.5	**15**	**40**	<5.0
	11/11/10	8021B/8015B	**7**	**18**	**0.9**	**6.1**	<0.001	**16**	**67**	
	09/20/10	8021B/8015B	**3.1**	**5.8**	0.36	**2.9**	<0.0025	**9**	**26**	
	03/18/10	8021B/8015B	**2.7**	**4.2**	0.19	**1.4**	NL	**16**	**24**	

8.10 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)
BTEX and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	NE	NE	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
SAMPLE ID	**DATE SAMPLED**	**METHOD**								
Oil Sump LDU [1]	06/12/13	8021B/8015B	**4.5**	**9.5**	**0.72**	**6.3**	<0.5	**17**	**42**	<5.0
	03/18/13	8021B/8015B	**5.1**	**8.8**	**0.71**	**5.5**	<0.5	**20**	**40**	<5.0
	11/28/12	8021B/8015B	**2.7**	**6.6**	**0.57**	**5.4**	<0.5	**13**	**37**	<5.0
	08/21/12	8021B/8015B	**1.8**	**6**	**0.59**	**5.5**	<0.5	**8.8**	**28**	<5.0
	06/12/12	8021B/8015B	**2.1**	**6.2**	**0.59**	**5.1**	<0.5	**18**	**36**	<5.0
	03/20/12	8021B/8015B	**2**	**8.1**	**0.89**	**6.9**	<0.5	**42**	**45**	<5.0
	12/14/11	8021B/8015B	**3.4**	**7.5**	**0.76**	**7.4**	<0.5	**14**	**52**	<5.0
	09/26/11	8021B/8015B	**3.5**	**10**	**0.76**	**6.4**	<0.5	**18**	**49**	<50
	06/15/11	8260B/8015B	**3**	**7.1**	0.48	**3.9**	<0.2	**20**	**38**	<5.0
	03/03/11	8021B/8015B	**5.6**	**13**	**1.2**	**7.9**	<0.5	**680**	**120**	<15
	11/11/10	8021B/8015B	**8.8**	**19**	**1.6**	**10**	<0.2	**390**	**110**	
	09/20/10	8021B/8015B	**9.4**	**29**	**6.1**	**40**	<0.5	**1400**	**650**	
	03/18/10	8021B/8015B	**5.6**	**33**	**6.4**	**38**	<0.95	**35**	**69**	

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) Oil Sump LDU - Dry - 2013 Third and fourth Quarters. 2014, 2015, 2016 and 2017 - dry.

2) West LDU - 2014 - fourth quarter - not enough water to collect samples (West bay out of service). 2015 - Second Quarter - not enough water to collect samples.

3) East LDU - No samples collected third quarter 2014.

8.10.1 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.01**	**0.05**	**1.0**	1.0	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.00559	0.79	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.06	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
East LDU [3]	12/04/17	200.7/200.8	0.00099	0.43	<0.002	**0.069**	<0.006	1.3	0.00048	0.25	<0.001	<0.0002	<0.0005	0.041
	09/05/17	200.7/200.8	0.00036	0.32	<0.002	**0.054**	0.0018	0.23	0.00021	0.058	<0.005	<0.0002	<0.0005	0.015
	06/02/17	200.7/200.8	0.00036	0.23	<0.002	0.05	0.0024	0.32	0.00027	0.13	<0.001	<0.0002	<0.0005	0.013
	02/21/17	200.7/200.8	0.0049	0.13	<0.002	**1.2**	0.039	**84**	0.0018	**14**	0.0025	0.00022	NA	0.063
	11/17/16	200.7/200.8	0.0033	0.097	<0.002	**0.53**	0.0097	**55**	0.0027	**16**	0.0023	0.00028	<0.0025	0.74
	06/07/16	200.7/200.8	0.0053	0.16	<0.002	**0.57**	0.015	3.8	0.0011	**3.6**	0.0017	0.00016	0.00062	0.088
	03/01/16	200.7/200.8	0.0046	0.13	<0.002	**0.47**	<0.006	1.5	0.00026	**8.0**	0.0013	0.000065	0.00048	0.056
	10/29/15	200.7/200.8	0.0052	0.21	<0.002	**0.74**	<0.006	0.051	<0.005	**3.3**	0.0029	<0.0002	<0.005	<0.01
	08/11/15	200.7/200.8	<0.05	0.31	<0.002	**0.95**	<0.006	0.29	<0.025	**2.7**	<0.05	<0.0002	<0.025	0.016
	06/03/15	200.7/200.8	0.0089	0.34	<0.002	**0.94**	<0.006	0.84	<0.025	**3.0**	<0.005	<0.0002	<0.0025	<0.01
	03/10/15	200.7/200.8	0.0047	0.16	<0.002	**0.85**	<0.006	3.0	<0.001	**6.5**	0.0024	<0.0002	0.0013	0.054
	11/11/14	200.7/200.8	0.0015	0.12	<0.002	**0.22**	<0.006	**19**	<0.001	**5.4**	<0.001	<0.0002	<0.001	0.18
	06/03/14	200.7/200.8	**0.019**	0.33	<0.002	**0.54**	<0.006	1.1	<0.005	1.5	<0.005	<0.0002	<0.005	0.027
	03/10/14	200.7/200.8	0.0093	0.2	<0.002	**0.71**	<0.006	4.4	<0.005	**3.1**	<0.005	0.00022	<0.005	0.12
	11/12/13	200.7/200.8	**0.012**	0.35	<0.01	**0.44**	<0.03	0.32	<0.005	0.26	0.0063	<0.0002	<0.005	<0.05
	06/12/13	200.7/200.8	0.007	0.56	<0.002	**0.72**	<0.006	0.091	<0.005	0.56	0.0081	<0.0002	<0.005	<0.01
	03/18/13	200.7/200.8	0.0059	0.48	<0.002	**0.76**	<0.006	0.09	<0.005	0.62	0.0027	<0.0002	<0.0025	<0.01
	11/28/12	200.7/200.8	0.0095	0.53	<0.002	**0.71**	<0.006	0.23	<0.005	1.1	0.0036	<0.0002	<0.0025	<0.01
	08/21/12	200.7/200.8	0.0094	0.67	<0.002	**0.51**	<0.006	0.099	<0.005	1.2	<0.05	<0.0002	<0.0025	<0.01
	06/12/12	200.7/200.8	0.0099	0.6	<0.002	**0.31**	<0.006	0.17	<0.005	1.2	0.0065	<0.001	<0.005	<0.01
	03/20/12	200.7/200.8	0.0032	0.44	<0.002	**0.11**	<0.006	2.3	<0.005	0.58	0.0026	<0.0002	<0.0025	0.064
	12/14/11	200.7/200.8	0.0082	0.34	<0.002	**0.14**	<0.006	0.54	<0.005	0.42	<0.0025	<0.0002	<0.0025	0.018
	09/26/11	200.7/200.8	0.0039	0.59	<0.002	**0.12**	<0.006	0.58	<0.005	0.56	<0.0025	<0.0002	<0.0025	0.036
	06/15/11	200.7/200.8	**0.027**	0.94	<0.002	**0.14**	0.13	**31**	**0.047**	1.3	0.037	<0.0002	<0.0025	3.3
	03/03/11	200.7/200.8	0.0058	0.48	<0.002	0.035	<0.006	0.57	<0.005	0.39	<0.05	<0.0002	<0.0025	0.014
	11/11/10	6010B	<0.1	0.94	<0.01	**0.12**	<0.03	1.1	<0.025	1.6	<0.25	<0.0002	<0.001	<0.1
	09/20/10	6010B	<0.02	0.54	<0.002	0.039	<0.006	7.6	<0.005	0.8	<0.05	<0.0008	<0.005	0.21
	03/18/10	6010B	<0.1	1.3	<0.01	**0.25**	0.073	**24**	<0.025	2.0	<0.25	<0.0008	<0.001	1.3

8.10.1 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.01**	**0.05**	**1.0**	1.0	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.00559	0.79	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.06	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
West LDU [2]	12/04/17	200.7/200.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/05/17	200.7/200.8	0.0038	0.11	<0.002	**1.3**	<0.006	**26**	0.00048	**9.3**	<0.005	<0.0002	<0.0025	0.056
	06/02/17	200.7/200.8	0.0028	0.11	<0.002	**0.35**	<0.006	**44**	0.00055	**16**	<0.005	0.000071	0.0021	0.33
	02/21/17	200.7/200.8	0.0072	0.22	<0.002	**2.1**	<0.006	1.4	<0.0025	**2.6**	0.005	0.000064	NA	0.014
	11/17/16	200.7/200.8	0.004	0.26	<0.002	**0.77**	<0.006	3.3	0.00083	0.6	0.0029	0.00026	<0.0025	0.079
	06/07/16	200.7/200.8	0.0051	0.41	<0.002	**1.2**	<0.006	0.49	0.00043	0.5	0.003	0.00010	0.00034	0.016
	03/01/16	200.7/200.8	0.0051	0.31	<0.002	**1.5**	<0.006	0.6	0.00022	1.1	0.0034	0.00007	0.00066	0.018
	10/29/15	200.7/200.8	0.005	0.57	<0.002	**1.2**	<0.006	0.64	0.00055	0.7	<0.005	<0.0002	0.00058	0.027
	08/11/15	200.7/200.8	<0.02	0.6	<0.002	**1.4**	<0.006	1.9	<0.1	1.2	<0.02	<0.0002	<0.01	0.081
	03/10/15	200.7/200.8	0.0046	0.43	<0.002	**0.76**	<0.006	7.1	0.0016	**3.3**	0.0046	<0.0002	0.0012	0.21
	09/11/14	200.7/200.8	0.0031	0.52	<0002	**0.28**	<0.006	5.1	0.0013	0.7	0.0034	<0.0002	<0.001	0.57
	06/03/14	200.7/200.8	<0.005	0.15	<0.002	**0.058**	<0.006	**16**	<0.005	2.0	<0.005	<0.0002	<0.005	0.5
	03/10/14	200.7/200.8	<0.005	0.069	<0.002	**0.15**	<0.006	9.0	<0.001	**3.8**	<0.005	<0.0002	<0.001	0.68
	11/12/13	200.7/200.8	0.0099	0.18	<0.002	**0.16**	<0.006	0.34	<0.005	1.4	0.014	<0.0002	<0.005	0.032
	09/05/13	200.7/200.8	0.0088	0.23	<0.002	**0.32**	<0.006	**37**	<0.005	2.0	<0.02	<0.0002	<0.005	1.1
	06/12/13	200.7/200.8	0.0053	0.22	<0.002	0.036	<0.006	0.31	<0.005	0.29	0.0097	<0.0002	<0.005	<0.01
	03/18/13	200.7/200.8	0.0036	0.15	<0.002	0.046	<0.006	0.71	<0.005	0.32	<0.0025	<0.0002	<0.0025	0.026
	11/28/12	200.7/200.8	0.0031	0.17	<0.002	**0.079**	<0.006	0.72	<0.005	0.57	<0.0025	<0.0002	<0.0025	0.016
	08/21/12	200.7/200.8	<0.0025	0.4	<0.002	0.036	<0.006	0.26	<0.005	0.22	<0.05	<0.0002	<0.0025	<0.01
	06/12/12	200.7/200.8	0.0038	0.36	<0.002	0.02	<0.006	0.16	<0.005	0.2	0.0049	<0.001	<0.0025	<0.01
	03/20/12	200.7/200.8	0.0028	0.21	<0.002	0.011	<0.006	1.3	<0.005	0.22	0.0035	<0.0002	<0.0025	0.014
	12/14/11	200.7/200.8	**0.011**	1.4	<0.002	**0.082**	0.045	9.1	**0.016**	0.34	<0.005	**0.0036**	<0.0025	0.87
	09/26/11	200.7/200.8	0.0041	0.23	<0.002	**0.072**	<0.006	1.5	<0.005	0.89	0.0048	0.00027	<0.0025	0.064
	06/15/11	200.7/200.8	**0.012**	0.65	<0.002	**0.093**	<0.006	1.3	<0.005	1.1	0.025	<0.0002	<0.0025	0.061
	03/03/11	200.7/200.8	0.0083	0.49	<0.002	**0.08**	<0.006	4.1	<0.005	1.3	<0.05	<0.0002	<0.0025	0.067
	11/11/10	6010B	<0.02	0.5	<0.002	**0.15**	<0.006	0.66	<0.005	0.68	<0.05	<0.0002	<0.001	<0.02
	09/20/10	6010B	<0.02	0.27	<0.002	**0.067**	<0.006	0.31	NL	0.84	<0.05	<0.0002	<0.05	<0.02
	03/18/10	6010B	<0.02	0.2	<0.002	**2.4**	<0.006	5.3	<0.005	**3.1**	<0.05	<0.0008	<0.001	<0.05

8.10.1 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1.0	**0.01**	**0.05**	**1.0**	1.0	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2.0**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.00559	0.79	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.06	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
Oil Sump LDU [1]	06/12/13	200.7/200.8	**0.018**	0.43	<0.002	**0.12**	<0.006	0.42	<0.005	1.1	0.015	<0.0002	<0.005	0.022
	03/18/13	200.7/200.8	**0.018**	0.33	<0.002	**0.11**	<0.006	0.61	<0.005	1.1	0.0049	<0.0002	<0.0025	0.03
	11/28/12	200.7/200.8	**0.011**	0.34	<0.002	**0.085**	<0.006	0.8	<0.005	1.1	0.0046	<0.0002	<0.0025	0.041
	08/21/12	200.7/200.8	**0.011**	0.45	<0.002	**0.069**	<0.006	0.86	<0.005	1.1	<0.05	<0.0002	<0.0025	0.055
	06/12/12	200.7/200.8	**0.017**	0.56	<0.002	**0.052**	0.018	5.8	0.0086	0.84	0.0097	**0.0031**	<0.005	0.43
	03/20/12	200.7/200.8	**0.02**	0.52	<0.002	0.048	0.0093	4.5	0.0065	0.82	0.012	0.0017	<0.0025	0.22
	12/14/11	200.7/200.8	**0.012**	0.24	0.002	0.034	<0.006	0.59	<0.005	0.37	0.004	<0.0002	<0.0025	0.018
	09/26/11	200.7/200.8	**0.031**	1.8	0.0022	**0.16**	0.62	**120**	**0.2**	0.93	0.0	**0.0077**	0.0026	**11**
	06/15/11	200.7/200.8	0.0065	0.5	<0.01	0.039	<0.03	0.38	<0.025	0.35	0.004	<0.0002	<0.0025	<0.05
	03/03/11	200.7/200.8	0.0098	0.62	<0.002	**0.072**	<0.006	9.4	0.0056	0.81	<0.05	**0.0024**	<0.0025	0.47
	11/10/10	6010B	<0.1	**7.2**	<0.01	**0.18**	0.25	**150**	**0.11**	**2.3**	<0.25	**0.017**	<0.004	7.9
	09/20/10	6010B	<0.1	**15**	<0.01	**0.23**	0.59	**130**	**0.24**	1.6	<0.25	**0.011**	0.016	**13**
	03/18/10	6010B	<2.0	<2.0	<0.2	**1.1**	**4.5**	NL	**1.7**	**3.3**	<5.0	<0.004	**0.0461**	**88**

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Oil Sump LDU - Dry - 2013 Third and fourth Quarters. 2014, 2015, 2016 and 2017 - dry.

2) West LDU - 2014 - fourth quarter - not enough water to collect samples (West bay out of service). 2015 - Second Quarter - not enough water to collect samples.

3) East LDU - No samples collected third quarter 2014.

8.10.2 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Dissolved Metals Analytical Result Summary

			PARAMETERS										
STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.06	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
East LDU [3]	12/04/17	200.7/200.8	<0.001	0.41	<0.002	0.019	<0.006	0.039	<0.0005	**0.25**	<0.001	<0.005	<0.0005	0.011
	09/05/17	200.7/200.8	0.00034	0.31	<0.002	0.013	<0.006	0.058	<0.0005	0.055	<0.001	<0.005	<0.0005	0.022
	06/02/17	200.7/200.8	0.00037	0.22	<0.002	0.026	<0.006	0.23	<0.0005	0.13	<0.001	<0.005	<0.0005	0.012
	02/21/17	200.7/200.8	0.0039	0.13	<0.002	**1.2**	<0.006	**91**	0.00069	**15**	0.0032	<0.005	NA	0.057
	11/17/16	200.7/200.8	0.0025	0.085	<0.002	**0.44**	<0.006	**47**	<0.0005	**16**	0.0022	<0.005	0.0001	0.018
	06/07/16	200.7/200.8	0.0038	0.15	<0.002	**0.44**	<0.006	0.36	<0.0025	**3.8**	0.002	<0.005	0.0049	0.011
	03/01/16	200.7/200.8	0.0048	0.12	<0.002	**0.41**	<0.006	0.099	<0.0025	**7.5**	0.0036	<0.005	0.00044	0.017
	10/29/15	200.7/200.8	0.0052	0.21	<0.002	**0.74**	<0.006	0.051	<0.005	**3.3**	0.0029	<0.005	<0.005	<0.01
	08/11/15	200.7/200.8	<0.05	0.29	<0.002	**0.88**	<0.006	0.026	<0.05	**2.8**	<0.05	<0.005	<0.05	<0.01
	06/03/15	200.7/200.8	<0.01	0.28	<0.002	**0.86**	<0.006	0.086	<0.05	**2.6**	0.044	<0.005	<0.01	<0.01
	03/10/15	200.7/200.8	0.0047	0.14	<0.002	**0.8**	<0.006	0.5	<0.001	**6.4**	0.0024	<0.005	0.0013	0.028
	11/11/14	200.7/200.8	0.0013	0.074	<0.002	**0.18**	<0.006	**1.4**	<0.001	**4.9**	<0.001	<0.005	<0.001	<0.01
	06/03/14	200.7/200.8	**0.021**	0.32	<0.002	**0.52**	<0.006	0.025	<0.005	**1.5**	**0.056**	<0.005	<0.005	0.021
	03/10/14	200.7/200.8	<0.01	0.19	<0.002	**0.71**	<0.006	**2.9**	<0.01	**3**	**0.051**	<0.005	<0.01	0.11
	11/12/13	200.7/200.8	0.0097	0.34	<0.002	**0.44**	<0.006	0.08	<0.005	**0.25**	0.0078	<0.005	<0.005	0.019
	06/12/13	200.7/200.8	0.0063	0.56	<0.002	**0.69**	<0.006	0.049	<0.005	**0.56**	0.02	<0.005	<0.005	<0.01
	03/18/13	200.7/200.8	0.0063	0.45	<0.002	**0.77**	<0.006	0.047	0.0052	**0.62**	0.0056	<0.005	<0.001	<0.01
	11/28/12	200.7/200.8	0.01	0.51	<0.002	**0.69**	<0.006	0.055	<0.005	**1**	0.015	<0.005	<0.02	0.025
	08/21/12	200.7/200.8	0.0062	0.62	<0.002	**0.46**	<0.006	0.044	<0.005	**1.2**	<0.05	<0.005	<0.001	<0.01
	06/12/12	200.7/200.8	0.0051	0.59	<0.002	**0.28**	<0.006	0.062	<0.005	**1.1**	0.0092	<0.005	<0.005	0.011
	03/20/12	200.7/200.8	<0.005	0.42	<0.002	**0.11**	<0.006	0.9	<0.005	**0.6**	<0.005	<0.005	<0.005	0.035
	12/14/11	200.7/200.8	0.0035	0.31	<0.002	**0.12**	<0.006	0.21	<0.005	**0.39**	0.0018	<0.005	<0.001	<0.01
	09/26/11	200.7/200.8	0.0036	0.58	<0.002	**0.11**	<0.006	0.057	<0.005	**0.55**	0.0019	<0.005	<0.001	0.026
	06/15/11	200.7/200.8	**0.016**	0.11	<0.01	**0.11**	<0.03	**1.2**	<0.025	**1.2**	0.037	<0.025	<0.01	<0.05
	03/03/11	200.7/200.8	<0.005	0.48	<0.002	0.034	<0.006	0.11	<0.005	**0.38**	<0.05	<0.005	<0.005	<0.01
	11/11/10	6010B	<0.02	0.33	<0.002	0.046	<0.006	0.16	<0.005	**0.59**	<0.05	<0.005	<0.001	<0.05
	09/20/10	6010B	<0.02	0.31	<0.002	0.033	<0.006	0.14	<0.005	**0.73**	<0.05	<0.005	<0.005	<0.05
	03/18/10	6010B	<0.04	0.21	<0.004	**0.22**	<0.012	0.86	<0.01	**2**	<0.1	<0.01	<0.001	<0.1

8.10.2 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Dissolved Metals Analytical Result Summary

			PARAMETERS										
STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.06	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
West LDU [2]	12/04/17	200.7/200.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/05/17	200.7/200.8	0.0044	0.11	<0.002	**1.3**	<0.006	**26**	<0.0005	**9.3**	0.0035	<0.005	0.00074	0.14
	06/02/17	200.7/200.8	0.0022	0.11	<0.002	**0.33**	<0.006	**44**	<0.0005	**17**	0.0017	0.0011	0.0023	0.052
	02/21/17	200.7/200.8	0.0068	0.22	<0.002	**2.2**	<0.006	0.59	<0.0025	**2.6**	0.0054	<0.005	NA	0.019
	11/17/16	200.7/200.8	0.004	0.24	<0.002	**0.67**	<0.006	0.17	<0.0005	**0.51**	0.0045	<0.005	0.00066	0.0045
	06/07/16	200.7/200.8	0.0051	0.43	<0.002	0.0013	<0.006	0.2	0.00043	**0.54**	0.003	<0.005	0.00034	0.01
	03/01/16	200.7/200.8	0.0066	0.29	<0.002	**1.4**	<0.006	0.13	<0.005	**0.99**	0.0073	<0.005	0.00082	0.0073
	10/29/15	200.7/200.8	0.0056	0.6	<0.002	**1.2**	<0.006	0.086	<0.005	**0.79**	0.0082	<0.005	<0.01	<0.01
	08/11/15	200.7/200.8	<0.05	0.41	<0.002	**1.2**	<0.006	0.21	<0.025	**0.55**	<0.05	<0.005	<0.025	<0.01
	03/10/15	200.7/200.8	0.0033	0.27	<0.002	**0.66**	<0.006	0.42	<0.005	**1.3**	0.0052	<0.005	<0.005	0.033
	09/11/14	200.7/200.8	<0.005	0.49	<0.002	**0.27**	<0.006	**1.3**	<0.01	**0.64**	<0.005	<0.005	<0.01	0.26
	06/03/14	200.7/200.8	<0.002	0.082	<0.002	0.043	<0.006	0.92	<0.001	**1.9**	0.0027	<0.005	0.0011	0.022
	03/10/14	200.7/200.8	<0.001	0.061	<0.002	**0.11**	<0.006	**2.6**	<0.001	**3.6**	0.0023	<0.005	<0.001	0.088
	11/12/13	200.7/200.8	0.01	0.17	<0.002	**0.14**	<0.006	0.093	<0.005	**1.3**	0.044	<0.005	<0.005	0.023
	09/05/13	200.7/200.8	0.0086	0.23	<0.002	**0.28**	<0.006	**29**	<0.005	**2**	0.015	<0.025	<0.005	0.35
	06/12/13	200.7/200.8	<0.01	0.22	<0.002	0.036	<0.006	0.19	<0.01	**0.29**	**0.11**	<0.005	<0.01	<0.01
	03/18/13	200.7/200.8	<0.005	0.13	<0.002	0.04	<0.006	0.07	<0.005	**0.31**	0.013	<0.005	<0.005	<0.01
	11/28/12	200.7/200.8	<0.005	0.16	<0.002	**0.071**	<0.006	0.38	<0.005	**0.55**	0.013	<0.005	<0.05	0.04
	08/21/12	200.7/200.8	0.002	0.38	<0.002	0.032	<0.006	0.15	<0.005	**0.21**	<0.05	<0.005	<0.001	0.014
	06/12/12	200.7/200.8	<0.005	0.35	<0.002	0.019	<0.006	0.09	<0.005	0.2	0.0075	<0.005	<0.005	<0.01
	03/20/12	200.7/200.8	0.0018	0.21	<0.002	0.013	<0.006	0.61	<0.005	**0.22**	0.0038	<0.005	<0.001	0.02
	12/14/11	200.7/200.8	0.0071	0.3	<0.002	**0.066**	<0.006	**1.3**	<0.005	**0.31**	<0.005	<0.005	<0.005	0.04
	09/26/11	200.7/200.8	0.0044	0.21	NL	**0.067**	<0.006	0.14	<0.005	**0.86**	0.0075	<0.005	<0.001	0.013
	06/15/11	200.7/200.8	**0.013**	0.61	<0.01	**0.091**	<0.03	0.33	<0.025	**1.1**	0.031	<0.025	<0.005	<0.05
	03/03/11	200.7/200.8	<0.005	0.46	<0.002	**0.077**	<0.006	**2.1**	<0.005	**1.3**	<0.05	<0.005	<0.005	0.012
	11/11/10	6010B	<0.02	0.56	<0.002	**0.18**	<0.006	0.22	<0.005	**0.81**	<0.05	<0.005	<0.001	<0.05
	09/20/10	6010B	<0.02	0.25	<0.002	**0.062**	<0.006	0.12	<0.005	**0.81**	<0.05	<0.005	<0.005	<0.05
	03/18/10	6010B	<01	0.16	<0.01	**2.3**	<0.03	**3.2**	<0.025	**2.9**	<0.25	<0.025	<0.001	<0.25

8.10.2 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Dissolved Metals Analytical Result Summary

			PARAMETERS										
STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.06	6
SAMPLE ID	DATE SAMPLED	METHOD												
Oil Sump LDU [1]	06/12/13	200.7/200.8	<0.02	0.43	<0.002	**0.11**	<0.006	0.13	<0.02	**1.2**	**0.074**	<0.005	<0.02	<0.01
	03/18/13	200.7/200.8	**0.011**	0.29	<0.002	**0.1**	<0.006	0.15	<0.005	**1.1**	0.013	<0.005	<0.05	0.026
	11/28/12	200.7/200.8	**0.014**	0.32	<0.002	**0.08**	<0.006	0.37	<0.005	**1.1**	0.013	<0.005	<0.02	0.06
	08/21/12	200.7/200.8	**0.011**	0.4	<0.002	**0.061**	<0.006	0.19	<0.005	**1.1**	<0.05	<0.005	<0.001	0.015
	06/12/12	200.7/200.8	0.0095	0.35	<0.002	0.046	<0.006	0.51	<0.005	**0.83**	0.012	<0.005	<0.005	0.016
	03/20/12	200.7/200.8	0.007	0.23	<0.002	0.047	<0.006	0.33	<0.005	**0.79**	0.02	<0.005	<0.005	0.024
	12/14/11	200.7/200.8	0.0062	0.23	<0.002	0.03	<0.006	0.28	<0.005	**0.35**	0.011	<0.005	<0.001	0.015
	09/26/11	200.7/200.8	0.0062	0.24	<0.002	**0.058**	<0.006	0.1	<0.005	**0.53**	0.011	<0.005	<0.001	0.015
	06/15/11	200.7/200.8	0.0048	0.46	<0.01	0.033	<0.03	<0.1	<0.025	**0.33**	0.0041	<0.025	<0.002	<0.05
	03/03/11	200.7/200.8	<0.005	0.049	<0.002	**0.054**	<0.006	**2.4**	<0.005	**0.75**	**0.071**	<0.005	<0.005	0.01
	11/10/10	6010B	<0.02	0.19	<0.002	0.037	<0.006	0.15	0.0075	**1.2**	<0.05	<0.005	<0.001	<0.05
	09/20/10	6010B	<0.02	0.32	<0.002	0.03	<0.006	0.12	0.0056	**1.1**	<0.05	<0.005	<0.025	<0.05

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Oil Sump LDU - Dry - 2013 Third and fourth Quarters. 2014, 2015, 2016 and 2017 - dry.

2) West LDU - 2014 - fourth quarter - not enough water to collect samples (West bay out of service). 2015 - Second Quarter - not enough water to collect samples.

3) East LDU - No samples collected third quarter 2014.

8.10.3 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Volatile Organic Compound Analytical Result Summary

			PARAMETERS									
STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Isopropyl benzene (mg/L)	4-Methyl-2-pentanone (mg/L)	n-Propyl benzene (mg/L)	2-Butanone (mg/L)	1-Methyl naphthalene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	**0.00165**	0.035	**14.1**	**0.447**	**1.24**	NE	**5.56**	0.0114
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.060**	0.00017	**0.036**	14	0.45	6.3	**0.66**	5.6	**0.0011**
SAMPLE ID	**DATE SAMPLED**	**METHOD**										
East LDU [3]	12/04/17	8260-Short List	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/05/17	8260-Short List	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/02/17	8260-Short List	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	02/21/17	8260B	**0.11**	**0.1**	**0.092**	**0.058**	2	0.018	0.052	0.028	0.36	**0.055**
	11/17/16	8260-Short List	0.007	0.039	NA	NA	NA	NA	NA	NA	NA	NA
	06/07/16	8260-Short List	**0.13**	**0.25**	NA	NA	NA	NA	NA	NA	NA	NA
	03/01/16	8260-Short List	**0.18**	**0.31**	NA	NA	NA	NA	NA	NA	NA	NA
	10/29/15	8260B	**0.31**	**0.22**	**0.17**	**0.069**	<0.1	0.026	NA	0.036	<0.1	**0.049**
	08/11/15	8260B	**0.74**	**0.24**	**0.16**	**0.097**	<0.2	0.032	<0.2	0.045	0.46	<0.08
	06/03/15	8260-Short List	**0.96**	**0.3**	NA	NA	NA	NA	NA	NA		
	03/10/14	8021B	**5.8**	**1.9**	NA	NA	NA	NA	NA	NA		
	06/12/13	8021B	**0.8**	**0.28**	NA	NA	NA	NA	NA	NA		
	03/18/13	8021B	**0.9**	**0.29**	NA	NA	NA	NA	NA	NA		
	11/28/12	8021B	NA	NA	NA	NA	NA	NA	NA	NA		
	08/21/12	8021B	**0.84**	**0.28**	NA	NA	NA	NA	NA	NA		
	06/12/12	8021B	**0.94**	**0.3**	NA	NA	NA	NA	NAN	NA		
	06/15/11	8260B	**0.54**	**0.16**	**0.11**	**0.095**	<0.2	0.023	0.23	0.044		
	11/11/10	8260B	NA	NA								
	09/20/10	8021B	**0.81**	**0.26**								

8.10.3 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Volatile Organic Compound Analytical Result Summary

			PARAMETERS									
STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Isopropyl benzene (mg/L)	4-Methyl-2-pentanone (mg/L)	n-Propyl benzene (mg/L)	2-Butanone (mg/L)	1-Methyl naphthalene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	**0.00165**	0.035	**14.1**	**0.447**	**1.24**	NE	**5.56**	0.0114
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.060**	0.00017	**0.036**	14	0.45	6.3	**0.66**	5.6	**0.0011**
SAMPLE ID	**DATE SAMPLED**	**METHOD**										
West LDU [2]	12/04/17	8260B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/05/17	8260-Short List	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/02/17	8260-Short List	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	02/21/17	8260B	0.017	0.0076	**0.022**	0.023	<0.1	0.0041	<0.1	0.004	<0.1	**0.026**
	11/17/16	8260B	0.0098	0.0034	NA	NA	NA	NA	NA	NA		
	06/07/16	8260-Short List	**0.062**	0.0082	NA	NA	NA	NA	NA	NA		
	03/01/16	8260-Short List	0.0068	<0.02	NA	NA	NA	NA	NA	NA		
	10/29/15	8260B	0.048	<0.01	**0.036**	**0.047**	0.18	<0.01	<0.1	<0.1		
	08/11/15	8260B	**0.076**	<0.02	**0.056**	<0.08	<0.2	<0.02	<0.2	<0.02		
	03/10/15	8021B	**0.091**	0.037	NA	NA	NA	NA	NA	NA		
	09/11/14	8021B	**0.41**	**0.15**	NA	NA	NA	NA	NA	NA		
	06/03/14	8021B	**0.76**	**0.25**	NA	NA	NA	NA	NA	NA		
	03/10/14	8021B	**0.57**	**0.19**	NA	NA	NA	NA	NA	NA		
	09/05/13	8021B	**1.8**	**0.62**	NA	NA	NA	NA	NA	NA		
	06/12/13	8021B	**0.69**	**0.23**	NA	NA	NA	NA	NA	NA		
	03/18/13	8021B	**0.61**	**0.21**	NA	NA	NA	NA	NA	NA		
	11/28/12	8021B	NA	NA	NA	NA	NA	NA	NA	NA		
	08/21/12	8021B	**0.55**	**0.24**	NA	NA	NA	NA	NA	NA		
	06/12/12	821B	**0.81**	**0.26**	NA	NA	NA	NA	NA	NA		
	06/15/11	8260B	0.041	0.015	<0.02	<0.04	<0.1	<0.01	<0.1	<0.01		
	11/11/10	8260B	NA	NA								
	09/20/10	8021B	**0.34**	0.1								

8.10.3 LEAK DETECTION UNITS (East LDU, West LDU, Oil Sump LDU)

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS									
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Isopropyl benzene (mg/L)	4-Methyl-2-pentanone (mg/L)	n-Propyl benzene (mg/L)	2-Butanone (mg/L)	1-Methyl naphthalene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	**0.00165**	0.035	**14.1**	**0.447**	**1.24**	NE	**5.56**	0.0114
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.060**	0.00017	**0.036**	14	0.45	6.3	**0.66**	5.6	**0.0011**
SAMPLE ID	**DATE SAMPLED**	**METHOD**										
Oil Sump LDU [1]	06/12/13	8021B	**0.8**	**0.25**	NA	NA	NA	NA	NA	NA		
	03/18/13	8021B	**0.74**	**0.23**	NA	NA	NA	NA	NA	NA		
	11/28/12	8021B	NA	NA	NA	NA	NA	NA	NA	NA		
	08/21/12	8021B	**0.85**	**0.27**	NA	NA	NA	NA	NA	NA		
	06/12/12	8021B	**0.9**	**0.28**	NA	NA	NA	NA	NA	NA		
	06/15/11	8260B	**0.5**	<0.2	<0.4	<0.8	5.3	<0.2	<2.0	<0.2		
	11/11/10	8260B	NA	NA								
	09/20/10	8021B	**12**	**4.6**								

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Oil Sump LDU - Dry - 2013 Third and fourth Quarters. 2014, 2015, 2016 and 2017 - dry.

2) West LDU - 2014 - fourth quarter - not enough water to collect samples (West bay out of service). 2015 - Second Quarter - not enough water to collect samples.

3) East LDU - No samples collected third quarter 2014.

8.11 RW-1, RW-2, RW-5, RW-6

BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
SAMPLE ID	**DATE SAMPLED**	**METHOD**					
RW-1 [1]	2017	--	Not Sampled - SPH Detected				
	2016	--	Not Sampled - SPH Detected				
	2015	--	Not Sampled - SPH Detected				
	09/18/14	8260B	**37**	**35**	**1.8**	**10**	**1.2**
	09/16/13	8260B	**54**	**35**	**2.4**	**13**	**2.2**
	08/23/12	8260B	**45**	**82**	**4.9**	**31**	**3.1**
	10/03/11	8260B	**51**	**37**	**3.7**	**23**	**2.9**
RW-2 [1]	12/06/17	8260B	**38**	**2.9**	**1.5**	**3.6**	**1.3**
	09/19/17	8260B	**37**	**6.7**	**1.2**	**4**	**1.3**
	06/20/17	8260B	**47**	**9**	**1.4**	**4.6**	**1.7**
	03/16/17	8260B	**37**	**2.3**	**1.3**	**3.1**	**1.6**
	11/16/16	8260B	**38**	**3.4**	**1.2**	**3.2**	**1.7**
	09/13/16	8260B	**38**	**3.8**	**1.2**	**3.1**	**1.6**
	06/08/16	8260B	**36**	**2.9**	**1.1**	**3.1**	**1.7**
	03/07/16	8260B	**46**	**4.1**	**1.2**	**3.5**	**1.9**
	08/23/15	8260B	**42**	**6.9**	**1.1**	**3.7**	**1.8**
	09/18/14	8260B	**40**	**4.5**	**0.86**	**2.5**	**1.9**
	09/16/13	8260B	**48**	**3.4**	**0.87**	**2.3**	**2.8**
	08/24/12	8260B	**42**	**2.6**	0.59	**1.7**	**3.3**
	10/03/11	8260B	**39**	**5.3**	0.57	**1.5**	**3.7**
RW-5 [1]	4th Quarter 2017	--	Not Sampled - SPH Detected				
	3rd Quarter 2017	--	Not Sampled - SPH Detected				
	2nd Quarter 2017	--	Not Sampled - SPH Detected				
	03/16/17	8260B	**0.64**	0.0028	0.41	0.094	0.0077
	11/16/16	8260B	**0.72**	0.0035	0.34	0.13	0.0012
	09/13/16	8260B	**0.57**	0.0035	0.26	0.12	<0.005
	06/07/16	8260B	**0.54**	0.0038	0.15	0.11	0.0042
	03/07/16	8260B	**0.39**	0.0024	0.15	0.086	0.0026
	10/29/15	8260B	**0.5**	<0.01	0.13	0.095	<0.01
	08/23/15	8260B	**0.43**	<0.005	0.037	0.07	<0.005
	09/18/14	8260B	**0.35**	<0.01	0.11	0.056	<0.01
	09/16/13	8260B	**0.37**	<0.01	0.11	0.089	<0.01
	08/23/12	8260B	**0.19**	<0.01	0.26	0.091	0.032
	10/04/11	8260B	**0.56**	<0.01	0.21	0.26	0.095
RW-6 [1]	4th Quarter 2017	--	Not Sampled - SPH Detected				
	3rd Quarter 2017	--	Not Sampled - SPH Detected				
	2nd Quarter 2017	--	Not Sampled - SPH Detected				
	03/16/17	8260B	**0.28**	0.28	0.63	**1.4**	0.025
	11/16/16	8260B	**0.27**	0.12	0.29	**0.78**	0.014
	09/13/16	8260B	**0.28**	0.11	0.29	**0.81**	0.017
	03/07/16	8260B	**0.39**	0.19	0.51	0.086	0.021
	10/29/15	8260B	**0.34**	0.11	0.28	**0.85**	0.043
	08/23/15	8260B	**0.36**	0.071	0.093	**0.67**	0.05
	09/18/14	8260B	**0.47**	0.23	0.45	**1.3**	0.046
	09/16/13	8260B	**0.68**	<0.05	0.18	**1.1**	<0.05
	08/23/12	8260B	**0.74**	0.052	0.4	**1.6**	0.073
	10/04/11	8260B	**0.87**	0.029	0.33	<0.0015	<0.01

8.11 RW-1, RW-2, RW-5, RW-6
BTEX and MTBE Analytical Result Summary

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES:

1) Recovery wells added to the approved 2010 FWGWMP (8/25/10) annual sampling schedule.

8.11.1 RW-1, RW-2, RW-3, RW-5

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS								
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	NE	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	10	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	**0.0004**	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
SAMPLE ID	**DATE SAMPLED**	**METHOD**									
RW-1 [1]	2017	--	Not Sampled - SPH Detected								
	2016	--	Not Sampled - SPH Detected								
	2015	--	Not Sampled - SPH Detected								
	09/16/13	300.0	<0.5	**370**	<0.5	<0.5	<2.5	<2.5			
	08/23/12	300.0	<0.5	**380**	<1.0	<1.0	<2.5	<2.5			
	10/03/11	300.0	<0.5	**410**	**220**	**220**	<2.5	<2.5			
RW-2 [1]	12/06/17	8015D	NA	NA	NA	NA	NA	NA	**8.7**	**120**	<5.0
	09/19/17	8015D	NA	NA	NA	NA	NA	NA	**9.2**	**120**	<5.0
	06/20/17	8015D	NA	NA	NA	NA	NA	NA	**11**	**130**	<5.0
	03/16/17	8015D	NA	NA	NA	NA	NA	NA	**11**	**92**	<5.0
	11/16/16	8015D	NA	NA	NA	NA	NA	NA	**8.4**	**130**	<5.0
	09/13/16	8015D	NA	NA	NA	NA	NA	NA	**14**	**140**	<5.0
	06/08/16	8015D	NA	NA	NA	NA	NA	NA	**14**	**140**	<5.0
	03/07/16	8015D	NA	NA	NA	NA	NA	NA	**7.2**	**160**	<5.0
	10/29/15	8015D	NA	NA	NA	NA	NA	NA	**9.7**	**130**	<5.0
	08/23/15	8015D	NA	NA	NA	NA	NA	NA	**7.4**	**82**	<5.0
	09/16/13	300.0	0.27	84	<0.1	<0.1	<0.5	1.7			
	08/24/12	300.0	<0.5	90	<1.0	<1.0	<2.5	<2.5			
	10/03/11	300.0	<0.5	130	**67**	**67**	<2.5	<2.5			

8.11.1 RW-1, RW-2, RW-3, RW-5

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS								
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	NE	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	10	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	**0.0004**	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
SAMPLE ID	**DATE SAMPLED**	**METHOD**									
RW-5 [1]	4th Quarter 2017	--	Not Sampled - SPH Detected								
	3rd Quarter 2017	--	Not Sampled - SPH Detected								
	2nd Quarter 2017	--	Not Sampled - SPH Detected								
	03/16/17	8015D	NA	NA	NA	NA	NA	NA	**3.5**	**6.5**	<5.0
	11/16/16	8015D	NA	NA	NA	NA	NA	NA	**4.9**	**7.6**	<5.0
	09/13/16	8015D	NA	NA	NA	NA	NA	NA	**5.4**	**6.4**	<5.0
	06/07/16	8015D	NA	NA	NA	NA	NA	NA	**6.3**	**4.9**	<5.0
	03/07/16	8015D	NA	NA	NA	NA	NA	NA	**3.4**	**5.5**	<5.0
	10/29/15	8015D	NA	NA	NA	NA	NA	NA	**12**	**3.6**	<5.0
	08/23/15	8015D	NA	NA	NA	NA	NA	NA	**4.1**	**2.2**	<5.0
	09/16/13	300.0	0.89	5.6	<0.1	<0.1	<0.5	<0.5			
	08/23/12	300.0	0.8	11	<1.0	<1.0	<2.5	<2.5			
	10/04/11	300.0	0.54	26	**14**	**14**	<2.5	<2.5			
RW-6 [1]	4th Quarter 2017	--	Not Sampled - SPH Detected								
	3rd Quarter 2017	--	Not Sampled - SPH Detected								
	2nd Quarter 2017	--	Not Sampled - SPH Detected								
	03/16/17	8015D	NA	NA	NA	NA	NA	NA	**8.5**	**13**	<50
	11/16/16	8015D	NA	NA	NA	NA	NA	NA	**240**	**7.1**	<50
	09/13/16	8015D	NA	NA	NA	NA	NA	NA	**1200**	**11**	<500
	06/07/16	8015D	NA	NA	NA	NA	NA	NA	**35**	**7**	<5.0
	03/07/16	8015D	NA	NA	NA	NA	NA	NA	**6.1**	**12**	<50
	10/29/15	8015D	NA	NA	NA	NA	NA	NA	**340**	**6.2**	<50
	08/23/15	8015D	NA	NA	NA	NA	NA	NA	**1400**	**4.9**	<500
	09/16/13	300.0	<0.5	45	<0.5	<0.5	<2.5	<2.5			
	08/23/12	300.0	<0.5	45	<1.0	<1.0	<2.5	<2.5			
	10/04/11	300.0	<0.5	80	<1.0	<1.0	<2.5	<2.5			

8.11.1 RW-1, RW-2, RW-3, RW-5

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS								
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Phosphorus (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	NE	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	10	NE	NE
NMED TAP WATER (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	**0.0004**	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
SAMPLE ID	**DATE SAMPLED**	**METHOD**									

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) Recovery wells added to the approved 2010 FWGWMP (8/25/10) annual sampling schedule.

8.11.2 RW-1, RW-2, RW-5, RW-6

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.01**	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.005	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.00559	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.06	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**													
RW-1 [1]	09/18/14	200.7/200.8	<0.01	**3.5**	<0.002	0.0075	0.014	9.6	<0.001	**3.2**	<0.01	<0.005	<0.0002	0.0014	<0.01
	09/16/13	200.7/200.8	0.0096	**4.9**	<0.002	0.0075	0.014	**19**	0.0053	**3.3**	0.01	<0.25	<0.0002	0.0019	0.044
	08/23/12	200.7/200.8	0.01	**3.7**	<0.002	<0.006	<0.006	6.9	<0.005	**3.6**	0.0057	<0.005	<0.0002	0.0041	<0.01
	10/03/11	200.7/200.8	0.01	**4.8**	<0.002	<0.006	0.035	4.6	<0.005	**3.3**	0.0075	<0.005	<0.0002	0.0043	0.06
RW-2 [1]	09/18/14	200.7/200.8	0.0086	**4.1**	<0.002	<0.006	<0.006	**15**	0.0043	**2.6**	0.0057	<0.005	<0.0002	<0.001	0.016
	09/16/13	200.7/200.8	0.0064	**3.9**	<0.002	<0.006	<0.006	13	0.0021	**2.3**	0.0074	<0.1	<0.0002	<0.001	0.026
	08/24/12	200.7/200.8	0.0069	**3.7**	<0.002	<0.006	<0.006	10	<0.005	**2.1**	0.0044	<0.005	<0.0002	<0.0025	<0.01
	10/03/11	200.7/200.8	0.0061	**3.1**	<0.002	<0.006	0.0098	11	<0.005	**2.2**	0.0069	<0.005	<0.0002	<0.0025	0.028
RW-5 [1]	09/18/14	200.7/200.8	0.0019	2	<0.002	<0.006	<0.006	2.8	<0.001	0.5	<0.001	<0.005	<0.0002	<0.001	<0.01
	09/16/13	200.7/200.8	0.0022	**2.3**	<0.002	<0.006	<0.006	4	<0.001	0.59	<0.001	<0.005	<0.0002	<0.001	<0.01
	08/23/12	200.7/200.8	0.0033	**3.1**	<0.002	<0.006	<0.006	5	<0.005	0.76	<0.0025	<0.005	<0.0002	<0.0025	<0.01
	10/04/11	200.7/200.8	0.0063	**3.7**	<0.002	<0.006	<0.006	7.8	<0.005	0.97	<0.0025	<0.005	<0.0002	<0.0025	0.013
RW-6 [1]	09/18/14	200.7/200.8	**0.014**	**3.3**	<0.002	<0.006	<0.006	6.8	0.0067	0.79	0.0015	<0.005	<0.0002	<0.001	<0.01
	09/16/13	200.7/200.8	**0.013**	**3.6**	<0.002	<0.006	<0.006	11	0.0069	0.9	0.0015	<0.005	<0.0002	<0.001	<0.01
	08/23/12	200.7/200.8	**0.015**	**3.7**	<0.002	<0.006	<0.006	7.4	0.0093	0.89	<0.0025	<0.005	<0.0002	<0.0025	<0.01
	10/04/11	200.7/200.8	**0.017**	**4.2**	<0.002	<0.006	<0.006	11	0.0093	1.1	<0.0025	<0.005	<0.0002	<0.0025	<0.01

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Recovery wells added to the approved 2010 FWGWMP (8/25/10) annual sampling schedule.

Metals(Total and Dissolved) no longer required per NMED Comment 7(f), Approval with Modifications...dated July 24, 2015.

8.11.3 RW-1, RW-2, RW-5, RW-6

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.00559	0.79	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.06	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
RW-1 [1]	09/18/14	200.7/200.8	<0.01	**3.6**	<0.002	<0.006	<0.006	**9.6**	<0.001	**3.3**	<0.01	<0.005	0.0014	0.067
	09/16/13	200.7/200.8	0.0082	**5.3**	<0.002	<0.006	<0.006	**11**	<0.001	**3.5**	0.012	<0.05	<0.001	0.017
	08/23/12	200.7/200.8	0.009	**3.6**	<0.002	<0.006	<0.006	**7.6**	<0.005	**3.6**	0.0062	<0.005	0.0041	0.021
	10/03/11	200.7/200.8	0.0071	**5**	<0.002	<0.006	<0.006	**5.2**	<0.005	**3.3**	0.013	<0.005	0.0028	0.067
RW-2 [1]	09/18/14	200.7/200.8	<0.01	**3.8**	<0.002	<0.006	<0.006	**13**	<0.001	**2.4**	<0.01	<0.005	<0.001	0.023
	09/16/13	200.7/200.8	0.0057	**3.9**	<0.002	<0.006	<0.006	**11**	<0.001	**2.2**	0.0076	<0.1	<0.001	<0.01
	08/24/12	200.7/200.8	0.0073	**3.5**	<0.002	<0.006	<0.006	**10**	<0.005	**2.1**	0.0046	<0.005	<0.001	0.023
	10/03/11	200.7/200.8	0.006	**2.8**	<0.002	<0.006	<0.006	**6.1**	<0.005	**2**	0.01	<0.005	<0.001	<0.01
RW-5 [1]	09/18/14	200.7/200.8	0.002	**1.9**	<0.002	<0.006	<0.006	**2.6**	<0.001	**0.5**	<0.001	<0.005	<0.001	0.049
	09/16/13	200.7/200.8	0.002	**2.5**	<0.002	<0.006	<0.006	**3.3**	<0.001	**0.61**	<0.001	<0.005	<0.001	<0.01
	08/23/12	200.7/200.8	0.0022	**2.7**	<0.002	<0.006	<0.006	**3.7**	<0.005	**0.69**	0.001	<0.005	<0.001	0.017
	10/04/11	200.7/200.8	0.0048	**3.1**	<0.002	<0.006	<0.006	**5.4**	<0.005	**0.89**	0.0035	<0.005	<0.001	<0.01
RW-6 [1]	09/18/14	200.7/200.8	**0.014**	**3.2**	<0.002	<0.006	<0.006	**6.5**	0.0049	**0.75**	<0.005	<0.005	<0.001	0.024
	09/16/13	200.7/200.8	0.0096	**3.6**	<0.002	<0.006	<0.006	**7.1**	0.0034	**0.87**	0.0025	<0.005	<0.001	0.032
	08/23/12	200.7/200.8	**0.015**	**3.7**	<0.002	<0.006	<0.006	**8.3**	0.0091	**0.92**	0.0016	<0.005	<0.001	0.021
	10/04/11	200.7/200.8	**0.016**	**4.1**	<0.002	<0.006	<0.006	**10**	0.007	**1.1**	0.0044	<0.005	<0.001	<0.01

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Recovery wells added to the approved 2010 FWGWMP (8/25/10) annual sampling schedule.

Metals(Total and Dissolved) no longer required per NMED Comment 7(f), Approval with Modifications...dated July 24, 2015.

8.11.4 RW-1, RW-2, RW-5, RW-6

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS													
			1,2,4-Trimethyl-benzene (mg/L)	1,3,5-Trimethyl-benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	2-Butanone (mg/L)	Chloro methane (mg/L)	Isopropyl benzene (mg/L)	4-Isopropyl toluene (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Sec-butyl benzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.1**	NE
NMED TAP WATER (MARCH 2017)			NE	NE	**0.00165**	0.114	0.035	**14.1**	**5.56**	**0.0203**	**0.447**	NE	NE	NE	NE	1.21	NE
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.060**	0.00017	**0.0011**	**0.036**	14	5.6	0.19	0.45	NE	**1**	**0.66**	**2**	1.2	**0.69**
SAMPLE ID	**DATE SAMPLED**	**METHOD**															
RW-1 [2]	2017	--	Not Sampled - SPH Detected														
	2016	--	Not Sampled - SPH Detected														
	2015	--	Not Sampled - SPH Detected														
	09/18/14	8260B	<1.0	<1.0	<2.0	<4.0	<4.0			<3.0	<1.0	<1.0		<1.0		<1.0	
	09/16/13	8260B	**1.3**	<1.0	<2.0	<4.0	<4.0			<3.0	<1.0	<1.0		<1.0		<1.0	
	08/23/12	8260B	**2.8**	<1.0	<2.0	<4.0	<4.0			<0.03	<0.01	<0.01		<0.01		<0.01	
	10/03/11	8260B	**5.8**	**0.98**	**0.6**	**0.071**	**0.15**			<0.03	<0.01	<0.01		0.4		0.013	
RW-2 [1]	12/06/17	8260B	**0.28**	0.026	**0.069**	**0.021**	<0.4	<1	<1	<0.3	0.019	<0.1	<0.3	0.042	<0.1	<0.1	<0.1
	09/19/17	8260B	**0.27**	0.046	**0.11**	**0.055**	<0.4	<1	<1	<0.3	0.018	<0.1	<0.3	0.037	<0.1	<0.1	<0.1
	06/20/17	8260B	**0.28**	0.058	**0.11**	**0.063**	**0.042**	0.13	<1	<0.3	0.021	<0.1	<0.3	0.043	<0.1	<0.1	<0.1
	03/16/17	8260B	**0.2**	0.04	**0.15**	**0.13**	0.11	<1	<1	<0.3	0.025	<0.1	<0.3	0.044	<0.1	<0.1	<0.1
	11/16/16	8260B	**0.2**	0.049	**0.15**	**0.13**	<0.8	<2.0	<2.0	<0.6	<0.2	<0.2		0.063		<0.2	
	09/13/16	8260B	**0.21**	0.044	**0.14**	**0.088**	<0.8	<2.0	<2.0	<0.6	0.03	<0.2		0.056		<0.2	
	06/08/16	8260B	**0.23**	**0.12**	**0.18**	**0.17**	<2.0			<1.5	<0.5	<0.07		0.071		<0.5	
	03/07/16	8260B	**0.18**	0.028	**0.1**	**0.069**	0.028			<0.15	0.011	<0.05		0.045		<0.05	
	10/29/15	8260B	**0.18**	0.031	**0.14**	**0.075**	<0.04			<0.03	0.02	<0.01		0.046		<0.01	
	08/23/15	8260B	**0.21**	<0.2	<0.4	<0.8	<0.8			<0.6	<0.2	<0.2		<0.6		<0.2	
	09/18/14	8260B	**0.15**	<0.1	<0.2	<0.4	<0.4			<0.3	<0.1	<0.1		<0.1		<0.1	
	09/16/13	8260B	**0.13**	<0.1	<0.2	<0.4	<0.4			<0.3	<0.1	<0.1		<0.1		<0.1	
	08/24/12	8260B	<0.1	<0.1	<0.2	<0.4	<0.4			<0.3	<0.1	<0.1		<0.1		<0.1	
	10/03/11	8260B	**0.098**	0.024	**0.057**	**0.054**	<0.04			**0.14**	<0.01	<0.01		0.036		<0.01	
RW-5 [1]	4th Quarter 2017	--	Not Sampled - SPH Detected														
	3rd Quarter 2017	--	Not Sampled - SPH Detected														
	2nd Quarter 2017	--	Not Sampled - SPH Detected														
	03/16/17	8260B	0.033	0.011	**0.14**	**0.12**	**0.12**	0.0067	<0.05	<0.015	0.025	0.005	0.013	0.06	0.0083	<0.005	<0.005
	11/16/16	8260B	**0.062**	0.014	**0.14**	**0.12**	**0.12**	<0.05	<0.05	<0.015	0.02	0.0056	0.012	0.043	0.0071	<0.01	0.0067
	09/13/16	8260B	0.049	0.013	**0.13**	**0.097**	**0.12**	<0.05	0.0053	<0.015	0.016	0.0055	0.012	0.037	0.0075	<0.005	
	06/07/16	8260B	0.046	0.017	**0.13**	**0.13**	**0.15**	<0.1	<0.1	<0.03	0.01	0.0071	0.016	0.026	0.0079	<0.01	
	03/07/16	8260B	0.041	0.013	**0.12**	**0.11**	**0.12**			<0.015	0.012	0.0048	0.014	0.032	0.01	<0.005	
	10/29/15	8260B	0.048	0.015	**0.17**	**0.11**	**0.13**			<0.03	<0.01	<0.01		0.027	<0.01	<0.01	
	08/23/15	8260B	0.041	0.012	**0.085**	**0.067**	**0.083**			<0.015	<0.005	<0.005		<0.005	<0.005	<0.005	
	09/16/13	8260B	0.045	0.011	**0.1**	**0.084**	**0.11**			<0.03	0.012	<0.01		0.039	0.01	<0.01	
	09/16/13	8260B	**0.09**	0.022	**0.12**	**0.097**	**0.13**			<0.03	<0.01	<0.01		0.031	<0.01	<0.01	
	08/23/12	8260B	0.054	0.016	**0.11**	**0.11**	**0.17**			<0.03	0.018	<0.01		0.068	0.013	<0.01	
	10/04/11	8260B	**0.13**	0.046	**0.17**	**0.11**	**0.16**			<0.03	0.017	0.01		0.04		<0.01	
RW-6 [2]	4th Quarter 2017	--	Not Sampled - SPH Detected														
	3rd Quarter 2017	--	Not Sampled - SPH Detected														
	2nd Quarter 2017	--	Not Sampled - SPH Detected														
	03/16/17	8260B	**0.061**	**0.13**	**0.59**	**0.27**	**0.29**	<0.1	<0.1	<0.03	0.044	0.01	0.022	0.096	0.012	<0.01	<0.01
	11/16/16	8260B	**0.06**	**0.1**	**0.61**	**0.33**	**0.35**	<0.1	<0.1	<0.03	0.024	0.011	0.015	0.048	0.0088	<0.01	0.0014
	09/13/16	8260B	**0.064**	**0.12**	**0.55**	**0.28**	**0.37**	<0.1	0.0093	<0.03	0.028	0.014	0.02	0.055	0.011	<0.01	
	06/07/16	8260B	**0.074**	**0.12**	**0.54**	**0.31**	**0.38**	<0.1	<0.1	<0.03	0.025	0.012	0.029	0.054	0.01	<0.01	
	03/07/16	8260B	**0.075**	**0.13**	**0.59**	**0.28**	**0.33**	0.035	0.014	<0.03	0.012	0.0048	0.014	0.032	0.01	<0.005	
	10/29/15	8260B	**0.09**	**0.1**	**0.68**	**0.32**	**0.41**			<0.03	0.025	0.01		0.044	<0.01	<0.01	
	08/23/15	8260B	**0.095**	**0.11**	**0.41**	**0.22**	**0.29**			<0.03	<0.01	0.01		0.012	<0.01	<0.01	
	09/18/14	8260B	**0.17**	**0.17**	**0.57**	**0.19**	**0.28**			<0.03	0.045	0.011		0.11	0.011	<0.01	
	09/16/13	8260B	**0.28**	**0.14**	**0.48**	**0.2**	**0.27**			<0.15	<0.05	<0.05		<0.05	<0.05	<0.05	
	08/23/12	8260B	**0.38**	**0.17**	**0.58**	**0.22**	**0.36**			<0.15	<0.05	<0.05		0.074	<0.05	<0.05	
	10/04/11	8260B	**0.42**	**0.16**	**0.52**	**0.21**	**0.31**			<0.03	0.043	0.015		0.078		<0.01	

DEFINITIONS

NE = Not established

NA = Not analyzed

8.11.4 RW-1, RW-2, RW-5, RW-6

Volatile Organic Compound Analytical Result Summary

STANDARDS	PARAMETERS														
	1,2,4-Trimethyl-benzene (mg/L)	1,3,5-Trimethyl-benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	2-Butanone (mg/L)	Chloro methane (mg/L)	Isopropyl benzene (mg/L)	4-Isopropyl toluene (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Sec-butyl benzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)
WQCC 20NMAC 6.2.3103	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.1**	NE
NMED TAP WATER (MARCH 2017)	NE	NE	**0.00165**	0.114	0.035	**14.1**	**5.56**	**0.0203**	**0.447**	NE	NE	NE	NE	1.21	NE
EPA RSL for Tap Water (MAY 2018)	**0.056**	**0.060**	0.00017	**0.0011**	**0.036**	14	5.6	0.19	0.45	NE	**1**	**0.66**	**2**	1.2	**0.69**
SAMPLE ID / **DATE SAMPLED** / **METHOD**															

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

2) Recovery wells added to the approved 2010 FWGWMP (8/25/10) annual sampling schedule.

8.11.5 RW-1, RW-2, RW-5, RW-6

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS										
			Aniline (mg/L)	Benzoic Acid (mg/L)	Benzyl Alcohol (mg/L)	2,4-Dimethyl phenol (mg/L)	2-Methyl naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	NE	**0.354**	0.0114	0.035	NE	NE	**0.00165**	**0.17**	5.76	NE
EPA RSL for Tap Water (MAY 2018)			**0.013**	**75**	**2**	0.36	**0.0036**	**0.0011**	**0.93**	**0.93**	0.00017	NE	5.8	**0.02**
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
RW-1 [2]	2017	8270C	Samples were not collected for 8270C analysis.											
	9/18/2014	8270C	**0.021**	<0.02	<0.01	0.037	**0.061**	**0.071**	0.05	0.062	**0.13**	<0.01	**0.044**	<0.01
	9/16/2013	8270C	**0.089**	<0.04	<0.01	0.087	**0.21**	**0.19**	0.14	0.15	**0.43**	0.011	**0.1**	<0.01
	8/23/2012	8270C	**0.16**	<0.2	<0.1	0.21	**0.61**	**0.3**	0.24	0.16	**0.89**	0.02	**0.11**	**0.031**
	10/3/2011	8270C	<0.1	<0.2	<0.1	<0.1	**1.1**	**0.5**	<0.1	<0.1	**1.3**	<0.1	<0.1	
RW-2 [1]	12/6/2017	8270C	Samples were not collected for 8270C analysis.											
	9/19/2017	8270C	Samples were not collected for 8270C analysis.											
	6/20/2017	8270C	Samples were not collected for 8270C analysis.											
	3/16/2017	8270C	Samples were not collected for 8270C analysis.											
	9/18/2014	8270C	**0.14**	<0.02	<0.01	0.084	<0.01	**0.068**	0.032	0.22	**0.065**	<0.01	**0.061**	
	9/16/2013	8270C	**0.22**	<0.04	<0.01	0.15	<0.01	**0.061**	0.048	0.22	**0.065**	<0.01	**0.095**	
	8/24/2012	8270C	**0.21**	<0.02	<0.01	0.22	<0.01	**0.043**	0.028	0.025	**0.043**	<0.01	**0.091**	
	10/3/2011	8270C	**0.15**	0.021	<0.01	0.16	<0.01	**0.023**	0.09	0.032	**0.026**	<0.01	**0.038**	
RW-5 [1]	3/16/2017	8270C	Samples were not collected for 8270C analysis.											
	9/18/2014	8270C	<0.01	<0.02	<0.01	<0.01	**0.044**	**0.039**	<0.02	<0.01	**0.039**	<0.01	<0.01	
	9/16/2013	8270C	<0.01	<0.04	<0.01	<0.01	**0.062**	**0.056**	<0.01	<0.01	**0.066**	<0.01	**0.018**	
	8/23/2012	8270C	<0.01	<0.02	<0.01	<0.01	**0.11**	**0.088**	<0.01	<0.01	**0.079**	<0.01	<0.01	
	10/4/2011	8270C	<0.01	<0.02	<0.01	<0.01	**0.13**	**0.1**	<0.01	<0.01	**0.11**	<0.01	<0.01	
RW-6 [2]	3/16/2017	8270C	Samples were not collected for 8270C analysis.											
	9/18/2014	8270C	<0.01	<0.02	<0.01	<0.01	**0.19**	**0.17**	<0.02	<0.01	**0.35**	<0.01	<0.01	
	9/16/2013	8270C	<0.01	<0.04	<0.01	<0.01	**0.51**	**0.44**	<0.01	<0.01	**0.66**	<0.01	<0.01	
	8/23/2012	8270C	<0.01	<0.02	<0.01	<0.01	**0.65**	**0.49**	<0.01	<0.01	**0.55**	<0.01	<0.01	
	10/4/2011	8270C	<0.1	<0.2	<0.1	<0.1	**0.59**	**0.42**	<0.1	<0.1	**0.46**	<0.1	<0.1	

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

2) Recovery wells added to the approved 2010 FWGWMP (8/25/10) annual sampling schedule.

8.12 OW-1, OW-10

BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-1	12/08/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0014
	09/07/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.002
	05/31/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0016
	02/27/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0014
	11/15/16	8260B	0.0016	<0.001	0.00039	<0.0015	0.00088
	09/06/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00088
	06/06/16	8290B	0.00013	<0.001	<0.001	<0.0015	0.001
	03/03/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00074
	10/28/15	8260B	0.0014	0.0024	<0.001	0.0022	0.0016
	08/12/15	8260B	<0.002	<0.002	<0.002	<0.003	<0.002
	06/03/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/10/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/11/14	8260B	<0.002	<0.002	<0.002	<0.003	<0.002
	06/03/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/07/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/11/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/04/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/13/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/19/13	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/27/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/13/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	12/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/27/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/20/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/01/11	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/10/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/21/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/15/10	8021B	<0.001	<0.001	<0.001	<0.0015	<0.001

8.12 OW-1, OW-10

BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-10	12/07/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.027
	09/07/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.020
	05/31/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.022
	02/27/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.019
	11/15/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.028
	09/06/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.035
	06/06/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.033
	3/3/169	8260B	<0.001	<0.001	<0.001	<0.0015	0.039
	10/28/15	8260B	<0.001	0.0023	0.0011	0.0042	0.051
	08/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.058
	06/03/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.055
	03/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.061
	11/10/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.098
	09/12/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.11
	06/03/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.092
	03/07/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.079
	11/11/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.062
	09/04/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.065
	06/13/13	8260B	<0.001	<0.001	<0.001	<0.0015	**0.22**
	03/19/13	8260B	<0.001	<0.001	<0.001	<0.0015	**0.17**
	11/27/12	8260B	<0.001	<0.001	<0.001	<0.0015	**0.23**
	08/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.044
	06/13/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.13
	03/22/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.031
	12/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.058
	10/26/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.038
	06/20/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.046
	02/28/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.036
	11/10/10	8260B	<0.001	<0.001	<0.001	<0.0015	0.036
	09/21/10	8260B	<0.001	<0.001	<0.001	<0.0015	0.037
	03/15/10	8260B	<0.001	<0.001	<0.001	<0.0015	0.033

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.12.1 OW-1, OW-10

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**								
OW-1	12/08/17	300.0/8015D	0.23	96	0.28	0.28	170	<1.0	0.012	<5.0
	09/07/17	300.0/8015D	<0.50	110	0.34	0.34	170	<1.0	<0.05	<5.0
	05/31/17	300.0/8015D	0.18	91	0.28	0.28	160	<1.0	<0.05	<5.0
	02/27/17	300.0/8015D	0.21	86	<0.10	0.28	160	<1.0	<0.05	<5.0
	11/15/16	300.0/8015D	0.25	81	<1.0	0.29	160	<1.0	<0.05	<5.0
	09/06/16	300.0/8015D	<0.5	83	0.72	0.72	180	<1.0	<0.05	<5.0
	06/06/16	300.0/8015D	0.24	74	0.49	0.49	170	<1.0	<0.05	<5.0
	03/03/16	300.0/8015D	0.27	70	<0.1	0.25	160	<1.0	<0.05	<5.0
	10/08/15	300.0/8015B	0.25	71	<1.0	<1.0	160	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	0.29	68	<1.0	<1.0	160	<1.0	<0.1	<5.0
	06/03/15	300.0/8015D	<0.5	77	<1.0	<1.0	190	<1.0	<0.05	<5.0
	03/09/15	300.0/8015D	0.23	67	<1.0	<1.0	170	<1.0	<0.05	<5.0
	11/10/14	300.0/8015B	0.3	72	<0.1	0.3	170	<1.0	<0.05	<5.0
	09/11/14	300.0/8015B	<0.5	60	<1.0	<1.0	150	<1.0	<0.05	<5.0
	06/03/14	300.0/8015B	0.26	66	<1.0	<1.0	160	<1.0	<0.05	<5.0
	03/07/14	300.0/8015B	0.3	65	<1.0	<1.0	170	<1.0	<0.05	<5.0
	11/11/13	300.0/8015B	0.28	65	**4.7**	4.7	170	<1.0	<0.05	NA
	09/04/13	300.0/8015B	0.3	66	**29**	**29**	180	<1.0	<0.05	<5.0
	06/13/13	300.0/8015B	<1.0	61	<1.0	<1.0	180	<1.0	<0.05	<5.0
	03/19/13	300.0/8015B	<0.5	70	<1.0	<1.0	200	<1.0	<0.05	<5.0
	11/27/12	300.0/8015B	<0.5	72	<1.0	<1.0	180	<1.0	<0.05	<5.0
	08/22/12	300.0/8015B	0.24	62	<1.0	<1.0	170	<1.0	<0.05	<5.0
	06/13/12	300.0/8015B	0.34	61	<1.0	<1.0	180	<1.0	<0.05	<5.0
	03/22/12	300.0/8015B	0.34	62	<0.1	0.33	170	<1.0	<0.05	<5.0
	12/15/11	300.0/8015B	0.31	63	<1.0	<1.0	180	<1.0	<0.05	NL
	10/27/11	300.0/8015B	0.3	65	<1.0	<1.0	180	NL	<0.05	<5.0
	06/20/11	300.0/8015B	0.33	64	<0.1	0.5	180	<1.0	<0.05	<1.0
	03/01/11	300.0/8015B	0.29	68	**1.1**	1.1	180	<1.0	<0.05	
	11/10/10	300.0/8015B	0.31	64	<1.0	<1.0	180	<1.0	<0.05	
	09/10/10	300.0/8015B	0.32	60	<1.0	<1.0	190	<1.0	<0.05	
	03/15/10	300.0/8015B	0.33	58	**4.1**	4.1	190	<1.0	<0.05	

8.12.1 OW-1, OW-10

General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS							
			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			**1.6**	**250**	NE	**10**	**600**	NE	NE	NE
40 CFR 141.62 MCL			4.0	NE	**1**	10	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.8	NE	2	32	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**								
OW-10	12/07/17	300.0/8015D	<0.5	**650**	0.76	0.76	230	<1.0	0.022	<5.0
	09/07/17	300.0/8015D	<0.5	**740**	0.59	0.59	210	<1.0	0.036	<5.0
	05/31/17	300.0/8015D	0.063	**870**	0.47	0.47	180	<1.0	0.027	<5.0
	02/27/17	300.0/8015D	0.14	**440**	<2.0	0.55	180	<1.0	<0.05	<5.0
	11/15/16	300.0/8015D	0.2	**550**	<1.0	<0.5	190	<1.0	0.04	<5.0
	09/06/16	300.0/8015D	<0.5	**1100**	<1.0	<1.0	230	<1.0	<0.05	<5.0
	06/06/16	300.0/8015D	0.22	**960**	0.49	0.49	200	<1.0	0.047	<5.0
	03/03/16	300.0/8015D	0.2	**1100**	<2.0	0.4	200	<1.0	0.046	<5.0
	10/28/15	300.0/8015B	<0.1	**1500**	<1.0	<1.0	220	<1.0	<0.05	<5.0
	08/12/15	300.0/8015D	<0.1	**1900**	<1.0	<1.0	240	<1.0	**0.064**	<5.0
	06/03/15	300.0/8015D	<0.5	**1500**	<1.0	<1.0	240	<1.0	**0.067**	<5.0
	03/09/15	300.0/8015D	0.22	**840**	<1.0	<1.0	200	<1.0	<0.05	<5.0
	11/10/14	300.0/8015B	0.2	**1600**	<2.0	0.22	200	<1.0	**0.087**	<5.0
	09/12/14	300.0/8015B	0.12	**1500**	<1.0	<1.0	200	<1.0	**0.064**	<5.0
	06/03/14	300.0/8015B	<0.1	**1500**	<4.0	<4.0	200	<1.0	**0.069**	<5.0
	03/07/14	300.0/8015B	0.2	**1200**	<1.0	<1.0	190	<1.0	<0.05	<5.0
	11/11/13	300.0/8015B	0.17	**850**	**1.3**	1.3	150	<1.0	0.055	NA
	09/04/13	300.0/8015B	0.19	**1200**	**11**	**11**	180	<1.0	0.051	<5.0
	06/13/13	300.0/8015B	<1.0	**2400**	<1.0	<1.0	250	<1.0	**0.15**	<5.0
	03/19/13	300.0/8015B	<0.5	**1700**	<1.0	<1.0	230	<1.0	**0.11**	<5.0
	11/27/12	300.0/8015B	<0.5	**2100**	<4.0	<4.0	240	<1.0	**0.13**	<5.0
	08/22/12	300.0/8015B	0.34	**280**	<1.0	<1.0	130	<1.0	<0.05	<5.0
	06/13/12	300.0/8015B	0.31	**980**	<1.0	<1.0	160	<1.0	**0.14**	<5.0
	03/22/12	300.0/8015B	0.41	**260**	<0.1	0.59	140	<1.0	**0.062**	<5.0
	12/15/11	300.0/8015B	0.31	**420**	<1.0	<1.0	150	<1.0	**0.084**	<5.0
	10/26/11	300.0/8015B	0.34	**500**	<2.0	0.38	140	NL	<0.05	NL
	06/20/11	300.0/8015B	<0.50	**300**	<2.0	0.52	140	<1.0	0.053	<5.0
	02/28/11	300.0/8015B	0.34	**490**	**1.1**	1.1	140	<1.0	**0.062**	<5.0
	11/10/10	300.0/8015B	0.38	**450**	<1.0	<1.0	150	<0.001	<0.05	
	09/21/10	300.0/8015B	0.35	**790**	<1.0	<1.0	160	<0.001	<0.05	
	03/15/10	300.0/8015B	0.4	**390**	**2.2**	2.2	150	<0.001	**0.064**	

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

8.12.2 OW-1, OW-10

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Mercury (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.01**	**0.05**	1	0.05	0.2	**0.05**	**0.05**	**0.03**	**0.002**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.005	0.1	NE	**0.015**	NE	0.05	NE	0.03	0.002	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.00559	**13.8**	NE	**2.02**	0.0987	0.0812	0.0592	0.000626	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	14	0.015	0.43	0.1	0.094	0.06	0.00063	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-1	12/08/17	200.7/200.8	0.00089	0.033	<0.002	<0.006	0.034	<0.0025	0.0051	<0.005	<0.005	**0.035**	<0.0002	0.0044
	09/07/17	200.7/200.8	0.00085	0.041	<0.002	0.0037	0.42	0.00041	0.012	0.0031	<0.005	**0.037**	<0.0002	0.0033
	05/31/17	200.7/200.8	0.00098	0.036	<0.002	<0.006	0.061	<0.0005	0.004	0.0033	<0.005	NA	<0.0002	0.0028
	02/27/17	200.7/200.8	0.0029	0.20	<0.002	**0.099**	9.8	**0.017**	0.38	0.0033	<0.005	NA	<0.0002	0.073
	11/15/16	200.7/200.8	<0.005	0.036	<0.002	<0.006	0.24	0.00013	0.0088	0.0042	0.0016	**0.039**	<0.0002	0.025
	09/06/16	200.7/200.8	0.0031	0.17	<0.002	0.043	9.2	0.015	0.35	0.0041	<0.005	**0.045**	0.000087	0.069
	06/06/16	200.7/200.8	0.0022	0.13	<0.002	0.014	<0.006	0.011	0.22	0.0047	<0.005	**0.041**	0.000083	0.042
	03/03/16	200.7/200.8	0.0016	0.044	<0.002	0.0055	0.71	0.0012	0.034	0.0041	<0.005	**0.042**	0.000057	0.021
	10/28/15	200.7/200.8	0.0038	0.18	<0.002	**0.056**	11	0.015	0.42	<0.005	<0.005	**0.042**	<0.0002	0.06
	08/12/15	200.7/200.8	**0.036**	**2.1**	<0.01	**0.51**	**140**	**0.25**	**6.7**	<0.01	<0.005	**0.098**	<0.0002	0.65
	06/03/15	200.7/200.8	<0.01	0.047	<0.002	<0.006	1	<0.005	0.05	<0.01	<0.005	**0.042**	<0.0002	<0.01
	03/09/15	200.7/200.8	<0.005	0.04	<0.002	<0.006	0.54	<0.001	0.024	<0.005	<0.005	**0.042**	<0.0002	<0.01
	11/10/14	200.7/200.8	<0.001	0.036	<0.002	<0.006	0.27	<0.001	0.0067	0.0029	<0.005	**0.043**	<0.0002	<0.01
	09/11/14	200.7/200.8	**0.013**	0.56	<0.002	**0.12**	0.025	**0.078**	**1.7**	<0.01	<0.005	**0.066**	<0.0002	0.19
	06/03/14	200.7/200.8	<0.005	0.034	<0.002	<0.006	1.7	0.003	0.073	<0.005	<0.005	**0.042**	<0.0002	0.031
	03/07/14	200.7/200.8	<0.001	0.041	<0.002	<0.006	0.28	<0.001	0.02	0.0034	<0.005	**0.042**	<0.0002	0.01
	11/11/13	200.7/200.8	0.0012	0.048	<0.002	<0.006	1.2	0.0019	0.053	0.0036	<0.005	**0.039**	<0.0002	<0.01
	09/04/13	200.7/200.8	0.0011	0.037	<0.002	<0.006	0.37	<0.001	0.02	0.0035	<0.005	**0.043**	<0.0002	<0.01
	06/13/13	200.7/200.8	0.0061	0.26	<0.002	0.028	0.19	NA	0.82	0.0042	<0.005	**0.052**	<0.0002	0.07
	03/19/13	200.7/200.8	<0.0025	0.035	<0.002	<0.006	0.088	<0.005	0.0074	0.0032	<0.005	**0.044**	<0.0002	<0.01
	11/27/12	200.7/200.8	<0.0025	0.035	<0.002	<0.006	<0.006	<0.005	0.013	0.0026	<0.005	**0.045**	<0.0002	<0.01
	08/22/12	200.7/200.8	<0.0025	0.039	<0.002	<0.006	0.008	<0.005	0.027	0.0041	<0.005	**0.04**	<0.0002	<0.01
	06/13/12	200.7/200.8	<0.0025	0.035	<0.002	<0.006	<0.006	<0.005	0.012	0.0042	<0.005	**0.039**	<0.0002	<0.01
	03/22/12	200.7/200.8	<0.0025	0.045	<0.002	<0.006	<0.006	<0.005	0.058	0.0035	<0.005	**0.041**	<0.0002	0.01
	12/15/11	200.7/200.8	<0.0025	0.066	<0.002	0.0072	2.7	<0.005	0.13	0.0037	<0.005	**0.046**	<0.0002	0.25
	10/27/11	200.7/200.8	<0.0025	0.036	<0.002	<0.006	0.042	<0.005	0.013	0.0035	<0.005	**0.04**	<0.0002	<0.01
	06/20/11	200.7/200.8	<0.0025	0.039	<0.002	<0.006	0.053	<0.005	0.016	0.0056	<0.005	**0.047**	<0.0002	<0.01
	03/01/11	200.7/200.8	<0.0025	0.038	<0.002	<0.006	0.058	<0.005	0.013	<0.05	<0.005	**0.053**	NA	<0.01
	11/10/10	6010B	<0.02	<0.02	<0.002	<0.006	<0.05	<0.005	0.0066	<0.05	<0.005	**0.039**	<0.0002	<0.02
	09/21/10	6010B	<0.02	0.038	<0.002	<0.006	0.081	<0.005	0.023	<0.05	<0.005	**0.038**	<0.0002	<0.02
	03/15/10	6010B	<0.02	0.031	<0.002	<0.006	0.16	<0.005	0.012	<0.05	<0.005	**0.0394**	<0.0002	<0.02

8.12.2 OW-1, OW-10

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Mercury (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.01**	**0.05**	1	0.05	0.2	**0.05**	**0.05**	**0.03**	**0.002**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.005	0.1	NE	**0.015**	NE	0.05	NE	0.03	0.002	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.00559	**13.8**	NE	**2.02**	0.0987	0.0812	0.0592	0.000626	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	14	0.015	0.43	0.1	0.094	0.06	0.00063	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-10	12/07/17	200.7/200.8	0.0023	0.049	<0.002	<0.006	<0.02	<0.0025	0.069	0.014	<0.005	**0.052**	<0.0002	<0.01
	09/07/17	200.7/200.8	0.0022	0.059	<0.002	<0.006	0.018	0.00026	0.063	0.016	<0.005	**0.057**	<0.0002	<0.01
	05/31/17	200.7/200.8	0.0018	0.057	<0.002	<0.006	<0.02	0.00023	0.075	0.0096	<0.005	NA	<0.0002	<0.01
	02/27/17	200.7/200.8	0.002	0.042	<0.002	<0.006	<0.02	0.0002	0.040	0.011	<0.005	NA	<0.0002	<0.01
	11/15/16	200.7/200.8	0.0021	0.047	<0.002	<0.006	<0.02	<0.0025	0.047	0.016	0.0027	**0.055**	0.000062	<0.01
	09/06/16	200.7/200.8	0.0035	0.061	<0.002	<0.006	<0.02	0.00019	0.11	0.013	<0.005	**0.056**	0.000058	<0.01
	06/06/16	200.7/200.8	0.0023	0.064	<0.002	<0.006	0.01	0.00024	0.11	0.015	<0.005	**0.057**	0.000066	<0.01
	03/03/16	200.7/200.8	0.0015	0.068	<0.002	<0.006	<0.02	0.00026	0.11	0.013	0.0038	**0.06**	<0.0002	<0.01
	10/28/15	200.7/200.8	<0.005	0.095	<0.002	<0.006	<0.02	<0.0025	0.22	0.013	<0.005	**0.061**	<0.0002	<0.01
	08/12/15	200.7/200.8	<0.005	0.11	<0.002	<0.006	0.038	<0.0005	0.33	0.011	<0.005	**0.064**	<0.0002	0.011
	06/03/15	200.7/200.8	<0.01	0.095	<0.002	<0.006	<0.02	<0.005	0.15	<0.02	<0.005	**0.063**	<0.0002	<0.01
	03/09/15	200.7/200.8	<0.005	0.067	<0.002	<0.006	<0.02	<0.001	0.087	0.012	<0.005	**0.061**	<0.0002	<0.01
	11/10/14	200.7/200.8	<0.005	0.082	<0.002	<0.006	<0.02	<0.001	0.18	<0.02	<0.005	**0.066**	<0.0002	<0.01
	09/12/14	200.7/200.8	<0.01	0.086	<0.002	<0.006	<0.02	<0.001	0.18	0.017	<0.005	**0.065**	<0.0002	<0.01
	06/03/14	200.7/200.8	<0.005	0.094	<0.002	<0.006	<0.02	<0.001	0.14	0.015	<0.005	**0.064**	<0.0002	<0.01
	03/07/14	200.7/200.8	<0.005	0.071	<0.002	<0.006	<0.02	<0.001	0.086	0.012	<0.005	**0.06**	<0.0002	<0.01
	11/11/13	200.7/200.8	0.0018	0.058	<0.002	<0.006	<0.02	<0.001	0.07	0.011	<0.005	**0.057**	<0.0002	<0.01
	09/04/13	200.7/200.8	<0.005	0.084	<0.002	<0.006	<0.02	<0.001	0.12	0.011	<0.025	**0.061**	<0.0002	<0.01
	06/13/13	200.7/200.8	<0.005	0.12	<0.002	<0.006	<0.02	NA	0.14	0.017	0.015	**0.076**	<0.0002	<0.01
	03/19/13	200.7/200.8	<0.0025	0.11	<0.002	<0.006	<0.02	<0.005	0.16	0.0098	<0.005	**0.077**	<0.0002	<0.01
	11/27/12	200.7/200.8	<0.0025	0.11	<0.002	<0.006	<0.006	<0.005	0.13	0.013	<0.005	**0.087**	<0.0002	<0.01
	08/22/12	200.7/200.8	<0.0025	0.037	<0.002	<0.006	<0.006	<0.005	0.0034	0.0084	<0.005	**0.049**	<0.0002	<0.01
	06/13/12	200.7/200.8	<0.0025	0.079	<0.002	<0.006	<0.006	<0.005	0.054	0.013	<0.005	**0.062**	<0.0002	<0.01
	03/22/12	200.7/200.8	<0.0025	0.033	<0.002	<0.006	<0.006	<0.005	<0.002	0.0076	<0.005	**0.051**	<0.0002	<0.01
	12/15/11	200.7/200.8	<0.0025	0.037	<0.002	<0.006	<0.02	<0.005	0.022	0.0089	<0.005	**0.058**	<0.0002	<0.01
	10/26/11	200.7/200.8	<0.0025	0.045	<0.002	<0.006	<0.02	<0.005	0.043	0.0071	<0.005	**0.051**	<0.0002	<0.01
	06/20/11	200.7/200.8	<0.0025	0.038	<0.002	<0.006	<0.02	<0.005	0.0086	0.013	<0.005	**0.057**	<0.0002	<0.01
	02/28/11	200.7/200.8	<0.0025	0.045	<0.002	<0.006	<0.02	<0.005	0.03	<0.05	<0.005	**0.054**	NA	<0.01
	11/10/10	6010B	<0.02	0.062	<0.002	<0.006	<0.02	<0.005	0.04	<0.05	<0.005	**0.052**	<0.0002	<0.02
	09/21/10	6010B	<0.02	0.071	<0.002	<0.006	<0.02	<0.005	0.068	<0.05	<0.005	**0.057**	<0.0002	<0.02
	03/15/10	6010B	<0.02	0.046	<0.002	<0.006	<0.02	<0.005	0.013	<0.05	<0.005	**0.0525**	<0.0002	<0.02

8.12.2 OW-1, OW-10

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Mercury (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.01**	**0.05**	1	0.05	0.2	**0.05**	**0.05**	**0.03**	**0.002**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.005	0.1	NE	**0.015**	NE	0.05	NE	0.03	0.002	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.00559	**13.8**	NE	**2.02**	0.0987	0.0812	0.0592	0.000626	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	14	0.015	0.43	0.1	0.094	0.06	0.00063	6
Well ID	**DATE SAMPLED**	**METHOD**												

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.12.3 OW-1, OW-10

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.06	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-1	12/08/17	200.7/200.8	0.0026	0.034	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0031	0.004	<0.005	**0.037**	0.0076
	09/07/17	200.7/200.8	0.00099	0.037	<0.002	<0.006	<0.006	0.035	**0.035**	0.006	0.004	<0.005	**0.035**	0.026
	05/31/17	200.7/200.8	0.0018	0.056	<0.002	<0.006	<0.006	<0.02	0.00025	0.074	0.012	<0.005	NA	0.023
	02/27/17	200.7/200.8	0.0012	0.030	<0.002	0.0071	<0.006	0.16	0.00059	0.014	0.0037	<0.005	NA	0.015
	11/15/16	200.7/200.8	0.0012	0.034	<0.002	0.021	<0.006	<0.02	<0.0005	0.0029	0.0047	<0.005	**0.039**	<0.01
	09/06/16	200.7/200.8	0.0015	0.039	<0.002	0.0023	<0.006	0.31	0.0014	0.026	0.0041	<0.005	**0.04**	0.096
	06/06/16	200.7/200.8	0.0024	0.072	<0.002	0.0019	<0.006	0.82	0.0048	0.092	0.0046	<0.005	**0.041**	0.022
	03/03/16	200.7/200.8	0.0012	0.031	<0.002	<0.006	<0.006	0.026	0.00015	0.0074	0.0038	<0.005	**0.039**	0.062
	10/28/15	200.7/200.8	<0.005	0.083	<0.002	0.021	<0.006	**1.1**	0.0081	0.11	0.005	<0.005	**0.043**	0.02
	08/12/15	200.7/200.8	<0.005	0.1	<0.002	0.042	<0.006	**11**	0.0072	0.13	<0.005	<0.005	**0.042**	0.028
	06/03/15	200.7/200.8	<0.01	0.033	<0.002	<0.006	<0.006	<0.02	<0.01	0.006	<0.01	<0.005	**0.041**	0.034
	03/09/15	200.7/200.8	<0.001	0.034	<0.002	<0.006	<0.006	<0.02	<0.001	0.0055	0.0047	<0.005	**0.039**	<0.01
	11/10/14	200.7/200.8	0.0013	0.033	<0.002	<0.006	<0.006	0.048	<0.02	<0.002	0.0037	<0.005	**0.038**	0.031
	09/11/14	200.7/200.8	0.0025	0.12	<0.002	0.0082	<0.006	**7.1**	**0.017**	**0.23**	0.0044	<0.005	**0.048**	0.078
	06/03/14	200.7/200.8	0.0016	0.039	<0.002	<0.006	<0.006	0.64	<0.005	0.025	0.0066	<0.005	**0.044**	0.013
	03/07/14	200.7/200.8	<0.001	0.035	<0.002	<0.006	<0.006	<0.02	<0.001	0.0063	0.0039	<0.005	**0.043**	0.012
	11/11/13	200.7/200.8	0.0012	0.038	<0.002	<0.006	<0.006	<0.02	<0.001	0.0075	0.0046	<0.005	**0.041**	0.029
	09/04/13	200.7/200.8	<0.005	0.033	<0.002	<0.006	<0.006	0.037	<0.005	0.0062	<0.005	<0.005	**0.045**	<0.01
	06/13/13	200.7/200.8	0.0014	0.035	<0.002	<0.006	<0.006	0.35	<0.001	0.013	0.0049	<0.005	**0.043**	0.25
	03/19/13	200.7/200.8	0.0013	0.03	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	0.0036	<0.005	**0.044**	0.037
	11/27/12	200.7/200.8	0.0012	0.033	<0.01	<0.03	<0.03	<0.1	<0.025	<0.01	0.004	<0.025	**0.043**	<0.05
	08/22/12	200.7/200.8	<0.001	0.029	<0.002	<0.006	<0.006	<0.02	<0.005	0.0086	0.0036	<0.005	**0.041**	0.011
	06/13/12	200.7/200.8	<0.001	0.036	<0.002	<0.006	<0.006	<0.02	<0.005	0.0067	0.0037	<0.005	**0.043**	0.015
	03/22/12	200.7/200.8	<0.001	0.034	<0.002	<0.006	<0.006	<0.02	<0.005	0.005	0.0037	<0.005	**0.039**	0.027
	12/15/11	200.7/200.8	<0.001	0.018	<0.002	<0.006	<0.006	0.19	<0.005	0.013	0.0031	<0.005	**0.043**	0.018
	10/27/11	200.7/200.8	<0.001	0.035	<0.002	<0.006	<0.006	<0.02	<0.005	0.0059	0.0036	<0.005	**0.04**	<0.01
	06/20/11	200.7/200.8	0.0014	0.034	<0.002	<0.006	<0.006	<0.02	<0.005	0.0045	0.0062	<0.005	**0.043**	0.048
	03/01/11	200.7/200.8	<0.001	0.037	<0.002	<0.006	<0.006	<0.02	<0.005	0.0041	<0.05	<0.005	**0.032**	<0.01
	11/10/10	6010B	<0.02	0.037	<0.002	<0.006	<0.006	<0.02	<0.005	0.0046	<0.05	<0.005	**0.04**	<0.05
	09/21/10	6010B	<0.02	0.029	<0.002	<0.006	<0.006	<0.02	<0.005	0.0041	<0.05	<0.005	**0.038**	<0.05
	03/15/10	6010B	<0.02	0.028	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	<0.05	<0.005	**0.0379**	<0.05

8.12.3 OW-1, OW-10

Dissolved Metals Analytical Result Summary

			PARAMETERS										
STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.06	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-10	12/07/17	200.7/200.8	0.0046	0.053	<0.002	<0.006	<0.006	<0.02	0.0003	0.069	0.014	0.0022	**0.051**	0.012
	09/07/17	200.7/200.8	0.0028	0.06	<0.002	<0.006	<0.006	<0.02	0.00024	0.066	0.018	<0.005	**0.055**	0.069
	05/31/17	200.7/200.8	0.0018	0.056	<0.002	<0.006	<0.006	<0.02	0.00025	0.074	0.012	<0.005	NA	0.023
	02/27/17	200.7/200.8	0.0019	0.045	<0.002	<0.006	<0.006	<0.02	0.00018	0.042	0.013	<0.005	NA	0.030
	11/15/16	200.7/200.8	0.0024	0.051	<0.002	<0.006	<0.006	<0.02	0.00017	0.076	0.016	<0.005	**0.056**	0.014
	09/06/16	200.7/200.8	0.0027	0.064	<0.002	<0.006	<0.006	<0.02	0.0002	0.12	0.015	<0.005	**0.056**	0.062
	06/06/16	200.7/200.8	0.0036	0.065	<0.002	<0.006	<0.006	<0.02	0.00022	0.11	0.016	<0.005	**0.058**	0.13
	03/03/16	200.7/200.8	0.0018	0.067	<0.002	<0.006	<0.006	<0.02	0.0002	0.12	0.013	<0.005	**0.057**	0.014
	10/28/15	200.7/200.8	<0.005	0.099	<0.002	<0.006	<0.006	<0.02	<0.0025	**0.22**	0.019	<0.005	**0.061**	<0.01
	08/12/15	200.7/200.8	<0.005	0.066	<0.002	<0.006	<0.006	<0.02	<0.0025	0.1	0.013	<0.005	**0.056**	<0.01
	06/03/15	200.7/200.8	<0.01	0.074	<0.002	<0.006	<0.006	<0.02	<0.01	0.075	0.014	<0.005	**0.059**	0.01
	03/09/15	200.7/200.8	<0.005	0.076	<0.002	<0.006	<0.006	<0.02	<0.001	0.11	<0.05	<0.005	**0.057**	<0.01
	11/10/14	200.7/200.8	<0.01	0.039	<0.002	<0.006	<0.006	<0.02	<0.01	0.0099	0.013	<0.005	**0.057**	0.038
	09/12/14	200.7/200.8	<0.005	0.099	<0.002	<0.006	<0.006	<0.02	<0.01	0.2	0.017	<0.005	**0.064**	<0.01
	06/03/14	200.7/200.8	<0.005	0.094	<0.002	<0.006	<0.006	<0.02	<0.005	0.13	0.017	<0.005	**0.062**	<0.01
	03/07/14	200.7/200.8	<0.005	0.071	<0.002	<0.006	<0.006	<0.02	<0.001	0.098	0.0095	<0.005	**0.057**	<0.01
	11/11/13	200.7/200.8	0.0021	0.063	<0.002	<0.006	<0.006	<0.02	<0.001	0.066	0.013	<0.005	**0.054**	<0.01
	09/04/13	200.7/200.8	<0.005	0.082	<0.002	<0.006	<0.006	<0.02	<0.005	0.12	0.011	<0.025	**0.066**	<0.01
	06/13/13	200.7/200.8	0.0025	0.12	<0.002	<0.006	<0.006	<0.02	<0.001	0.14	0.019	0.012	**0.076**	0.018
	03/19/13	200.7/200.8	<0.005	0.1	<0.002	<0.006	<0.006	<0.02	<0.005	0.15	0.015	<0.005	**0.073**	<0.01
	11/27/12	200.7/200.8	0.0017	0.11	<0.01	<0.03	<0.03	<0.1	<0.025	0.13	0.015	<0.025	**0.078**	0.05
	08/22/12	200.7/200.8	0.001	0.034	<0.002	<0.006	<0.006	<0.02	<0.005	<0.002	0.0076	<0.005	**0.05**	<0.01
	06/13/12	200.7/200.8	<0.002	0.08	<0.002	<0.006	<0.006	<0.02	<0.005	0.053	0.014	<0.005	**0.067**	0.026
	03/22/12	200.7/200.8	<0.001	0.033	<0.002	<0.006	<0.006	<0.02	<0.005	0.0023	0.0076	<0.005	**0.048**	0.024
	12/15/11	200.7/200.8	<0.001	0.038	<0.002	<0.006	<0.006	<0.02	<0.005	0.023	0.0089	<0.005	**0.056**	<0.01
	10/26/11	200.7/200.8	0.001	0.043	<0.002	<0.006	<0.006	<0.02	<0.005	0.04	0.0079	<0.005	**0.05**	<0.01
	06/20/11	200.7/200.8	0.002	0.034	<0.002	<0.006	<0.006	<0.02	<0.005	0.0055	0.015	<0.005	**0.052**	0.16
	02/28/11	200.7/200.8	<0.001	0.044	<0.002	<0.006	<0.006	<0.02	<0.005	0.029	<0.05	<0.005	**0.055**	<0.01
	11/10/10	6010B	<0.02	0.047	<0.002	<0.006	<0.006	<0.02	<0.005	0.03	<0.05	<0.005	**0.052**	<0.05
	09/21/10	6010B	<0.02	0.064	<0.002	<0.006	<0.006	<0.02	<0.005	0.055	<0.05	<0.005	**0.051**	0.088
	03/15/10	6010B	<0.02	0.044	<0.002	<0.006	<0.006	<0.02	<0.005	0.012	<0.05	<0.005	**0.0497**	<0.05

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.12.4 OW-1, OW-10

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS					
			1,2,4-Trimethyl benzene (mg/L)	1,1-Dichloroethane (mg/L)	1,1-Dichloroethene (mg/L)	1,2-Dichloroethane (EDC) (mg/L)	1,2-Dibromo ethane (EDB) [1] (mg/L)	cis-1,2-DCE (mg/L)
WQCC 20NMAC 6.2.3103			NE	**0.025**	**0.005**	0.01	0.0001	**0.005**
40 CFR 141.62 MCL			NE	NE	0.007	**0.005**	**0.00005**	0.07
NMED Tap Water (MARCH 2017)			NE	0.0275	0.284	0.0276	0.0000747	0.0365
EPA RSL for Tap Water (MAY 2018)			**0.056**	0.0028	0.28	0.00017	0.0000075	NE
Well ID	**DATE SAMPLED**	**METHOD**						
OW-1	12/08/17	8260B/8011/504.1EDB	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	09/07/17	8260B/8011/504.1EDB	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	05/31/17	8260B/8011/504.1EDB	<0.001	<0.001	<0.001	0.00045	<0.001	<0.001
	02/27/17	8260B/8011/504.1EDB	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OW-10	12/07/17	8260B/8011/504.1EDB	<0.001	0.001	0.00086	0.00055	<0.001	0.00032
	09/07/17	8260B/8011/504.1EDB	<0.001	0.0012	0.0009	0.00045	<0.001	<0.001
	05/31/17	8260B/8011/504.1EDB	<0.001	0.0011	0.0009	0.00045	<0.001	0.00025
	02/27/17	8260B/8011/504.1EDB	<0.001	0.00087	0.00063	0.0005	<0.001	0.00029
	11/15/16	8260B/8011/504.1EDB	<0.001	0.00085	0.00067	0.00052	<0.00001	0.00028
	09/06/16	8260B/8011/504.1EDB	<0.0.01	0.00093	0.00076	0.00073	<0.01	0.00029
	06/06/16	8260B	<0.001	0.0011	0.0009	0.00051	<0.001	0.00031
	03/03/16	8260B	<0.001	0.00096	0.00091	0.00055	<0.001	0.00026
	10/28/15	8260B	0.0016	<0.001	<0.001	<0.001		
	08/12/15	8260B		0.0011	<0.001	<0.001		
	06/03/15	8260B		<0.001	<0.001	<0.001		
	03/09/15	8260B		<0.001	<0.001	<0.001		
	11/10/14	8260B		0.0013	0.0017	<0.001		
	09/12/14	8260B		0.0016	0.0018	0.0011		
	06/03/14	8260B		0.0012	0.0012	<0.001		
	03/07/14	8260B		<0.001	<0.001	<0.001		
	11/11/13	8260B		<0.001	<0.001	<0.001		
	09/04/13	8260B		<0.001	<0.001	<0.001		
	06/13/13	8260B		0.0016	0.0019	0.001		
	03/19/13	8260B		0.0015	0.0019	0.0013		
	11/27/12	8260B		0.0016	0.0021	0.0011		

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) New requirement per NMED directive "Approval with Modifications" dated May 18, 2016.

8.13 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58
BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-13	12/11/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.056
	09/06/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.056
	05/31/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.058
	02/27/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.053
	11/15/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.044
	08/31/16	8260B	0.00013	<0.001	<0.001	<0.0015	0.038
	06/06/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.036
	03/04/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.035
	10/27/15	8260B	<0.001	0.0013	<0.001	0.0016	0.035
	08/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.031
	06/01/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.025
	03/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.026
	11/10/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.027
	09/15/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.023
	06/03/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.02
	03/07/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.023
	11/11/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.017
	09/04/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.014
	06/13/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.015
	03/19/13	8260B	<0.001	<0.001	<0.001	<0.0015	0.012
	11/27/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.011
	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.0092
	06/14/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.0079
	03/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	0.0082
	12/13/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.0065
	10/25/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.0062
	06/20/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.0048
	02/24/11	8260B	<0.001	<0.001	<0.001	<0.0015	0.004
	11/08/10	8260B	<0.001	<0.001	<0.001	<0.0015	0.0038
	09/22/10	8260B	<0.001	<0.001	<0.001	<0.0015	0.0031
	06/07/10	8021B	<0.001	<0.001	<0.001	<0.0015	0.0027
	03/25/10	8021B	<0.001	<0.001	<0.001	<0.0015	0.0023

8.13 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58
BTEX and MTBE Analytical Result Summary

			PARAMETERS				
STANDARDS			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-14	12/11/17	8260B	**13**	0.013	0.64	0.052	**0.63**
	09/06/17	8260B	**12**	0.0091	0.54	0.033	**0.66**
	05/30/17	8260B	**13**	0.004	0.47	0.02	**0.7**
	02/27/17	8260B	**12**	0.0062	0.39	<0.075	**0.81**
	11/15/16	8260B	**8.7**	0.0057	0.3	0.013	**0.5**
	08/31/16	8260B	**8.1**	0.0029	0.25	0.008	**0.58**
	06/06/16	8260B	**7.8**	0.0026	0.23	0.012	**0.62**
	03/04/16	8260B	**6.5**	<0.05	0.23	<0.075	**0.68**
	10/27/15	8260B	**6.2**	<0.02	0.15	<0.03	**0.57**
	08/10/15	8260B	**5.4**	<0.01	0.16	<0.015	**0.78**
	06/01/15	8260B	**4.6**	<0.02	0.16	<0.03	**0.74**
	03/09/15	8260B	**3.9**	<0.02	0.16	<0.03	**0.76**
	11/10/14	8260B	**3.6**	0.015	0.17	<0.015	**0.81**
	09/15/14	8260B	**3.8**	<0.02	0.16	<0.03	**0.82**
	06/03/14	8260B	**3.7**	<0.02	0.12	<0.03	**0.93**
	03/07/14	8260B	**4**	0.026	0.14	0.032	**1.1**
	11/11/13	8260B	**3.3**	0.046	0.13	0.019	**1.1**
	09/04/13	8260B	**2.6**	<0.005	0.063	<0.0075	**0.94**
	06/13/13	8260B	**3.4**	<0.01	0.073	<0.015	**1.3**
	03/19/13	8260B	**2.8**	<0.01	0.065	<0.015	**1.3**
	11/27/12	8260B	**2.7**	<0.01	0.056	<0.015	**1.4**
	08/23/12	8260B	**2.1**	<0.01	0.037	<0.015	**1.6**
	06/14/12	8260B	**2.6**	<0.01	0.053	<0.015	**1.2**
	03/21/12	8260B	**2.3**	<0.01	0.051	<0.015	**1.4**
	12/13/11	8260B	**1.5**	<0.005	0.036	<0.0075	**1.3**
	10/24/11	8260B	**1.4**	<0.005	0.045	<0.0075	**1.4**
	06/20/11	8260B	**1.8**	0.0015	0.061	<0.0015	**1.6**
	02/24/11	8260B	**1.3**	0.0019	0.042	<0.0015	**1.4**
	11/08/10	8260B	**0.63**	<0.001	0.018	<0.0015	**1.3**
	09/22/10	8260B	**0.47**	<0.001	0.0083	<0.0015	**1.4**
	06/07/10	8260B	**0.33**	0.0018	0.0085	<0.0015	**1.4**
	03/24/10	8260B	**0.25**	<0.005	0.01	<0.0075	**1.5**

8.13 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58
BTEX and MTBE Analytical Result Summary

			PARAMETERS				
STANDARDS			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-29	12/11/17	8260B	<0.005	<0.005	<0.005	<0.0075	**3.8**
	09/06/17	8260B	<0.001	<0.001	<0.001	<0.0015	**3.8**
	05/30/17	8260B	<0.01	<0.01	<0.01	<0.015	**4**
	02/27/17	8260B	<0.01	<0.01	<0.01	<0.015	**4.3**
	11/15/16	8260B	**0.0079**	<0.005	0.0011	<0.0075	**3.4**
	08/31/16	8260B	0.00054	<0.001	<0.001	<0.0015	**3**
	06/06/16	8260B	<0.005	<0.005	<0.005	<0.0075	**3.1**
	03/04/16	8260B	<0.005	<0.005	<0.005	<0.0075	**3.2**
	10/27/15	8260B	<0.005	<0.005	<0.005	<0.0075	**3.1**
	08/11/15	8260B	<0.005	<0.005	<0.005	<0.0075	**3.1**
	06/01/15	8260B	<0.005	<0.005	<0.005	<0.0075	**2.6**
	03/09/15	8260B	<0.001	<0.001	<0.001	<0.015	**3.2**
	11/11/14	8260B	<0.005	<0.005	<0.005	<0.015	**3**
	09/15/14	8260B	<0.005	<0.005	<0.005	<0.0075	**2.5**
	06/03/14	8260B	<0.001	<0.001	<0.001	<0.0015	**2**
	03/07/14	8260B	<0.001	<0.001	<0.001	<0.0015	**2.1**
	11/11/13	8260B	<0.002	<0.002	<0.002	<0.003	**1.7**
	09/04/13	8260B	<0.001	<0.001	<0.001	<0.0015	**1.3**
	06/13/13	8260B	<0.001	<0.001	<0.001	<0.0015	**1.4**
	03/19/13	8260B	<0.001	<0.001	<0.001	<0.0015	**1.1**
	11/27/12	8260B	<0.001	<0.001	<0.001	<0.0015	**0.9**
	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	**1**
	06/14/12	8260B	<0.001	<0.001	<0.001	<0.0015	**0.47**
	03/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	**0.62**
	12/13/11	8260B	<0.001	<0.001	<0.001	<0.0015	**0.49**
	10/24/11	8260B	<0.001	<0.001	<0.001	<0.0015	**0.47**
	06/20/11	8260B	<0.001	<0.001	<0.001	<0.0015	**0.47**
	02/24/11	8260B	<0.001	<0.001	<0.001	<0.0015	**0.3**
	11/09/10	8260B	<0.001	<0.001	<0.001	<0.0015	**0.22**
	09/22/10	8260B	<0.001	<0.001	<0.001	<0.0015	**0.19**
	06/07/10	8260B	<0.001	<0.001	<0.001	<0.0015	**0.15**
	03/25/10	8260B	<0.001	<0.001	<0.001	<0.0015	0.12

8.13 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58
BTEX and MTBE Analytical Result Summary

			PARAMETERS				
STANDARDS			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-30	12/12/17	8260B	**0.012**	<0.005	<0.005	<0.0075	**3.1**
	09/06/17	8260B	<0.001	<0.001	<0.001	<0.0015	**3.2**
	05/31/17	8260B	<0.010	<0.010	<0.010	<0.015	**3.3**
	02/27/17	8260B	0.00097	<0.01	<0.01	<0.015	**4**
	11/14/16	8260B	<0.005	<0.005	<0.005	<0.0075	**3.5**
	08/31/16	8260B	<0.001	<0.001	<0.001	<0.0015	**3**
	06/06/16	8260B	0.0012	<0.005	<0.005	<0.0075	**3.1**
	03/08/16	8260B	0.0031	<0.002	<0.002	<0.003	**3.5**
	10/27/15	8260B	<0.005	<0.005	<0.005	<0.0075	**3.5**
	08/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	**3.8**
	06/02/15	8260B	<0.005	<0.005	<0.005	<0.0075	**3.1**
	03/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	**4**
	11/11/14	8260B	<0.005	<0.005	<0.005	<0.0015	**3.6**
	09/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	**2.8**
	06/03/14	8260B	<0.001	<0.001	<0.001	<0.0015	**2.7**
	03/07/14	8260B	<0.001	<0.001	<0.001	<0.0015	**2.9**
	11/11/13	8260B	<0.001	<0.001	<0.001	<0.0015	**2.6**
	09/04/13	8260B	<0.001	<0.001	<0.001	<0.0015	**2.1**
	06/17/13	8260B	<0.001	<0.001	<0.001	<0.0015	**2.5**
	03/19/13	8260B	<0.005	<0.005	<0.005	<0.0075	**2**
	11/27/12	8260B	<0.001	<0.001	<0.001	<0.0015	**2.2**
	08/23/12	8260B	<0.001	<0.001	<0.001	<0.0015	**2.3**
	06/14/12	8260B	<0.001	<0.001	<0.001	<0.0015	**1.5**
	03/21/12	8260B	<0.001	<0.001	<0.001	<0.0015	**1.6**
	12/15/11	8260B	<0.001	<0.001	<0.001	<0.0015	**1.3**
	10/24/11	8260B	<0.001	<0.001	<0.001	<0.0015	**1.3**
	06/20/11	8260B	<0.001	<0.001	<0.001	<0.0015	**1.3**
	02/24/11	8260B	<0.001	<0.001	<0.001	<0.0015	**1.1**
	11/08/10	8260B	<0.001	<0.001	<0.001	<0.0015	**1.1**
	09/27/10	8260B	<0.001	<0.001	<0.001	<0.0015	**1.1**
	06/04/10	8260B	<0.001	<0.001	<0.001	<0.0015	**1**
	03/24/10	8260B	<0.005	<0.005	<0.005	<0.0075	**1.1**

8.13 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58
BTEX and MTBE Analytical Result Summary

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1.0	**0.7**	10	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
OW-54	12/06/17	8260B	**0.055**	0.00093	0.016	<0.0075	**1.9**
	09/11/17	8260B	**0.14**	0.0031	0.037	<0.0075	**1.9**
	06/21/17	8260B	**0.17**	0.0047	0.046	0.0038	**2.3**
	03/29/17	8260B	**0.15**	0.0047	0.042	0.0039	**2.2**
OW-55	12/06/17	8260B	**7.1**	0.36	0.56	0.29	**1.7**
	09/11/17	8260B	**12**	**0.9**	0.69	**0.66**	**2**
	06/21/17	8260B	**13**	**0.9**	**0.72**	**0.76**	**2.4**
	03/29/17	8260B	**14**	**1.1**	**0.74**	**1.1**	**2**
OW-56	12/06/17	8260B	0.0021	<0.001	<0.001	<0.0015	0.11
	09/11/17	8260B	0.0011	<0.001	<0.001	<0.0015	0.11
	06/21/17	8260B	0.00038	<0.001	<0.001	<0.0015	0.14
	03/29/17	8260B	0.00024	<0.001	<0.001	<0.0015	0.12
OW-57	12/06/17	8260B	**11**	0.024	0.52	0.083	0.098
	09/19/17	8260B	**9.4**	0.025	0.46	0.096	0.12
	06/21/17	8260B	**14**	0.03	0.54	0.11	**0.15**
	03/30/17	8260B	**8.6**	0.024	0.38	0.1	0.1
OW-58	12/06/17	8260B	**32**	0.04	**1.2**	0.12	**2.9**
	09/19/17	8260B	**29**	0.22	**1.1**	0.37	**3.1**
	06/21/17	8260B	**38**	0.16	**1.2**	0.36	**3.7**
	03/29/17	8260B	**31**	**0.83**	**1.1**	**0.97**	**3**

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.13.1 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58
DRO/GRO/MRO CATIONS/ANIONS Analytical Result Summary

STANDARDS			PARAMETERS						
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate + Nitrite as N (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	**600**	NE
40 CFR 141.62 MCL			NE	NE	NE	4.0	NE	NE	**10**
NMED TAP WATER (MARCH 2017)			NE	NE	NE	1.18	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	NE	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**							
OW-13	12/11/17	8015D	<1.0	**0.064**	<5.0				
	09/06/17	8015D	<1.0	**0.074**	<5.0				
	05/31/17	8015D	<1.0	**0.059**	<5.0				
	02/27/17	8015D	<1.0	**0.057**	<5.0				
	11/15/16	8015D	<1.0	<0.05	<5.0				
	08/31/16	8015D	<1.0	**0.068**	<5.0				
	06/06/16	8015D	<1.0	0.052	<5.0				
	03/04/16	8015D	<1.0	0.045	<5.0				
	10/27/15	8015D	<1.0	<0.05	<5.0				
	08/10/15	8015D/300.0	<1.0	<0.05	<5.0	0.27	30	150	4.9
	09/15/14	8015D/300.0	<1.0	<0.05	<5.0	0.22	28	150	<1.0
	09/04/13	8015D/300.0	<1.0	<0.05	<5.0	0.28	28	160	2.6
OW-14	12/11/17	8015D	**4.3**	**31**	<5.0				
	09/06/17	8015D	**4.5**	**33**	<5.0				
	05/30/17	8015D	**4.6**	**35**	<5.0				
	02/27/17	8015D	**4.3**	**33**	<5.0				
	11/15/16	8015D	**3.4**	**29**	<5.0				
	08/31/16	8015D	**4.1**	**31**	<5.0				
	06/06/16	8015D	**4.5**	**27**	<5.0				
	03/04/16	8015D	**2.9**	**27**	<5.0				
	10/27/15	805D	**4.1**	**16**	<5.0				
	08/10/15	8015D/300.0	**2.7**	**8.7**	<5.0	<0.5	**320**	<2.5	<1.0
	09/15/14	8015D/300.0	**4.5**	**8.2**	<5.0	0.21	**330**	2.6	<1.0
	09/04/13	8015D/300.0	**7.8**	**7.6**	<5.0	0.21	**350**	3.2	5.9
OW-29	12/11/17	8015D	<1.0	**3.6**	<5.0				
	09/06/17	8015D	<1.0	**3.8**	<5.0				
	05/30/17	8015D	**0.51**	**3.8**	<5.0				
	02/27/17	8015D	<1.0	**4.5**	<5.0				
	11/15/16	8015D	<1.0	**6**	<5.0				
	08/31/16	8015D	<1.0	**6.7**	<5.0				
	06/06/16	8015D	<1.0	**4**	<5.0				
	03/04/16	8015D	<1.0	**4.2**	<5.0				
	10/27/15	8015D	<1.0	**2.6**	<5.0				
	08/11/15	8015D/300.0	<1.0	**2.4**	<5.0	0.31	170	70	<1.0
	09/15/14	8015D/300.0	<1.0	**0.52**	<5.0	0.3	160	73	<1.0
	09/04/13	8015D/300.0	<1.0	**0.88**	<5.0	0.43	160	84	3.9
OW-30	12/12/17	8015D	**1.1**	**3.7**	<5.0				
	09/06/17	8015D	**0.48**	**3.5**	<5.0				
	05/31/17	8015D	**0.81**	**3.5**	<5.0				
	02/27/17	8015D	**0.47**	**4.2**	<5.0				
	11/14/16	8015D	<1.0	**5.2**	<5.0				
	08/31/16	8015D	<1.0	**6.9**	<5.0				
	06/06/16	8015D	<1.0	**4**	<5.0				
	03/08/16	8015D	<1.0	**4.4**	<5.0				
	10/27/15	8015D	<1.0	**3.7**	<5.0				
	08/10/15	8015D/300.0	**3.6**	**2.1**	<5.0	0.23	180	42	<1.0
	09/07/14	8015D/300.0	<1.0	**1.3**	<5.0	0.2	180	45	<1.0
	09/04/13	8015D/300.0	<1.0	**1.4**	<5.0	0.26	170	55	4.6

8.13.1 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58
DRO/GRO/MRO CATIONS/ANIONS Analytical Result Summary

STANDARDS			PARAMETERS						
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate + Nitrite as N (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	**600**	NE
40 CFR 141.62 MCL			NE	NE	NE	4.0	NE	NE	**10**
NMED TAP WATER (MARCH 2017)			NE	NE	NE	1.18	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	NE	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**							
OW-54	12/06/17	8015D/300.0	**2.4**	**2.6**	<5	0.3	**270**	34	0.17
	09/11/17	8015D/300.0	**1.7**	**3.1**	<5	0.25	**290**	31	<1
	06/21/17	8015D/300.0	**1.9**	**2.9**	<5	0.38	**300**	40	<1
	03/29/17	8015D/300.0	**1.7**	**2.6**	<5	0.12	**330**	42	<1
OW-55	12/06/17	8015D/300.0	**3.1**	**26**	<5	0.54	**380**	1.3	<1
	09/11/17	8015D/300.0	**5.1**	**46**	<5	<0.5	**350**	1.5	<1
	06/21/17	8015D/300.0	**6.3**	**42**	<5	<0.5	**380**	1.7	<1
	03/29/17	8015D/300.0	**5.4**	**39**	<5	<0.1	**410**	1.2	0.73
OW-56	12/06/17	8015D/300.0	**0.83**	**1**	<5	0.27	**590**	18	0.22
	09/11/17	8015D/300.0	**0.51**	**0.36**	<5	<0.5	**580**	20	<1
	06/21/17	8015D/300.0	**0.84**	**0.15**	<5	<0.5	**650**	23	0.13
	03/29/17	8015D/300.0	**0.52**	**0.15**	<5	0.1	**630**	24	<1
OW-57	12/06/17	8015D/300.0	**8.5**	**30**	<5	<0.5	150	1.7	0.17
	09/19/17	8015D/300.0	**9.6**	**28**	<5	<0.5	150	1.8	<0.5
	06/21/17	8015D/300.0	**8.3**	**30**	<5	<0.5	170	2.3	<1
	03/30/17	8015D/300.0	**5.8**	**26**	<5	0.27	160	4.1	0.064
OW-58	12/06/17	8015D/300.0	**6.2**	**83**	<5	<0.5	140	<2.5	0.27
	09/19/17	8015D/300.0	**8.3**	**85**	<5	<0.5	130	0.78	<0.5
	06/21/17	8015D/300.0	**7.9**	**80**	<5	<0.5	150	0.96	<1
	03/29/17	8015D/300.0	**9.2**	**64**	<5	<0.5	150	<2.5	<1

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1
NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

8.13.2 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Total Metals Analytical Result Summary

			PARAMETERS											
		STANDARDS	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
		WQCC 20NMAC 6.2.3103	0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
		40 CFR 141.62 MCL	**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
		NMED TAP WATER (MARCH 2017)	0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
		EPA RSL for Tap Water (MAY 2018)	0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
OW-13	12/11/17	200.7/200.8	0.00084	0.019	0.00064	<0.006	<0.006	<0.02	<0.0005	0.022	<0.001	<0.005	0.000097	0.016	<0.01
	09/06/17	200.7/200.8	<0.005	0.019	<0.002	<0.006	<0.006	<0.02	<0.0005	0.019	<0.005	<0.005	<0.0002	0.018	<0.01
	05/31/17	200.7/200.8	0.00073	0.019	<0.002	<0.006	<0.006	<0.02	<0.0005	0.019	<0.001	<0.005	<0.0002	NA	<0.01
	02/27/17	200.7/200.8	0.0012	0.019	<0.002	<0.006	<0.006	<0.02	<0.0005	0.019	0.0014	<0.005	<0.0002	NA	<0.01
	11/15/16	200.7/200.8	0.0016	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.021	0.0033	<0.005	0.000062	0.017	<0.01
	08/31/16	200.7/200.8	0.0015	0.019	<0.002	<0.006	<0.006	<0.02	<0.0005	0.02	0.0021	<0.005	NA	0.018	<0.01
	06/06/16	200.7/200.8	0.0019	0.021	<0.002	<0.006	<0.006	<0.02	<0.0005	0.02	0.0025	<0.005	0.00006	0.019	<0.01
	03/04/16	200.7/200.8	0.001	0.018	<0.002	<0.006	<0.006	<0.02	<0.0025	0.02	0.0025	<0.005	<0.0002	0.016	<0.01
	10/27/15	200.7/200.8	0.0012	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.021	<0.005	<0.005	<0.0002	0.017	<0.01
	08/11/15	200.7/200.8	<0.001	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.019	<0.001	<0.005	<0.0002	0.018	<0.01
	06/01/15	200.7/200.8	<0.01	0.02	<0.002	<0.006	<0.006	<0.02	<0.005	0.02	<0.01	<0.005	<0.0002	0.017	<0.01
	03/09/15	200.7/200.8	<0.005	0.02	<0.002	<0.006	<0.006	<0.02	<0.001	0.021	<0.005	<0.005	<0.0002	0.017	<0.01
	11/10/14	200.7/200.8	0.001	0.024	<0.002	<0.006	0.021	0.058	<0.001	0.038	0.0011	<0.005	<0.0002	0.018	0.01
	09/15/14	200.7/200.8	0.0011	0.018	<0.002	<0.006	<0.006	<0.02	<0.001	0.017	0.0018	<0.005	<0.0002	0.018	<0.01
	06/03/14	200.7/200.8	<0.005	0.02	<0.002	<0.006	<0.006	<0.02	<0.001	0.02	<0.005	<0.005	<0.0002	0.016	<0.01
	03/07/14	200.7/200.8	0.0011	0.02	<0.002	<0.006	<0.006	<0.02	<0.001	0.023	<0.001	<0.005	<0.0002	0.018	<0.01
	11/11/13	200.7/200.8	<0.001	0.019	<0.002	<0.006	<0.006	<0.02	<0.001	0.021	0.0012	<0.005	<0.0002	0.016	<0.01
	09/04/13	200.7/200.8	<0.001	0.019	<0.002	<0.006	<0.006	<0.02	<0.001	0.025	<0.001	<0.005	<0.0002	0.017	<0.01
	06/13/13	200.7/200.8	<0.001	0.019	<0.002	<0.006	<0.006	<0.02	NA	0.02	<0.001	<0.005	<0.0002	0.017	<0.01
	03/19/13 [1]	200.7/200.8	<0.0025	0.018	<0.002	<0.006	<0.006	<0.02	<0.005	0.021	<0.0025	<0.005	<0.0002	0.018	<0.01
	08/23/12	200.7/200.8	<0.0025	0.024	<0.002	<0.006	<0.006	<0.02	<0.005	0.01	<0.0025	<0.005	<0.0002	0.017	<0.01

8.13.2 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Total Metals Analytical Result Summary

			PARAMETERS											
		STANDARDS	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
		WQCC 20NMAC 6.2.3103	0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
		40 CFR 141.62 MCL	**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
		NMED TAP WATER (MARCH 2017)	0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
		EPA RSL for Tap Water (MAY 2018)	0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
OW-14	12/11/17	200.7/200.8	0.0057	**2.3**	<0.002	<0.006	<0.006	4.9	<0.0005	**2.2**	<0.01	<0.005	0.00011	0.0031	<0.01
	09/06/17	200.7/200.8	0.0097	**2.3**	<0.002	<0.006	0.0022	5.1	0.00011	**2.2**	0.013	<0.005	<0.0002	0.0043	<0.01
	05/30/17	200.7/200.8	0.0074	**2.2**	<0.002	<0.006	<0.006	4.6	0.00014	**2.1**	0.0061	<0.005	<0.0002	NA	<0.01
	02/27/17	200.7/200.8	0.0096	**2.3**	<0.002	<0.006	<0.006	4.9	0.00017	**2.2**	0.01	<0.005	<0.0002	NA	<0.01
	11/15/16	200.7/200.8	**0.011**	**2.3**	<0.002	<0.006	<0.006	5.1	<0.0025	**2.3**	0.018	<0.005	<0.0002	0.0041	<0.01
	08/31/16	200.7/200.8	0.0076	**2.1**	<0.002	<0.006	<0.006	4.9	0.00014	**2.2**	0.014	<0.005	NA	0.0059	0.015
	06/06/16	200.7/200.8	**0.016**	**2.2**	<0.002	<0.006	<0.006	5.1	0.0002	**2.4**	0.017	<0.005	0.000068	0.0074	<0.01
	03/04/16	200.7/200.8	0.0078	1.9	<0.002	<0.006	<0.006	4.6	<0.0025	2	0.0062	<0.005	0.000054	0.006	<0.01
	10/27/15	200.7/200.8	0.0094	1.9	<0.002	<0.006	<0.006	4.6	<0.0005	**2.1**	<0.02	<0.005	<0.0002	0.0067	<0.01
	08/10/15	200.7/200.8	0.0088	1.9	<0.002	<0.006	<0.006	4.6	<0.0005	**2.2**	<0.01	<0.005	<0.0002	0.0068	<0.01
	06/01/15	200.7/200.8	<0.01	1.9	<0.002	<0.006	<0.006	4.8	<0.005	**2.2**	<0.01	<0.005	<0.0002	0.0067	<0.01
	03/09/15	200.7/200.8	<0.02	1.8	<0.002	<0.006	<0.006	4.5	<0.001	**2.1**	<0.02	<0.005	<0.0002	0.0065	<0.01
	11/10/14	200.7/200.8	0.0091	1.8	<0.002	<0.006	<0.006	4.6	<0.001	**2.2**	<0.01	<0.005	<0.0002	0.0077	<0.01
	09/15/14	200.7/200.8	**0.014**	1.9	<0.002	<0.006	<0.006	4.7	<0.001	**2.3**	0.018	<0.005	<0.0002	0.0079	<0.01
	06/03/14	200.7/200.8	**0.011**	1.7	<0.002	<0.006	<0.006	4.8	<0.001	**2.3**	0.017	<0.005	<0.0002	0.0076	<0.01
	03/07/14	200.7/200.8	0.01	1.7	<0.002	<0.006	<0.006	4.7	<0.001	**2.4**	0.01	<0.005	<0.0002	0.0097	<0.01
	11/11/13	200.7/200.8	**0.011**	1.5	<0.002	<0.006	<0.006	4.4	<0.001	**2.2**	0.015	<0.005	<0.0002	0.0094	<0.01
	09/04/13	200.8	0.01	1.5	<0.002	<0.006	<0.006	4.5	<0.001	**2.1**	0.011	<0.025	<0.0002	0.0093	<0.01
	06/13/13	200.7/200.8	**0.011**	1.5	<0.002	<0.006	<0.006	4.5	0.007	**2.4**	0.014	<0.005	<0.0002	0.011	<0.01
	03/19/13 [1]	200.7/200.8	0.01	1.3	<0.002	<0.006	<0.006	4.4	<0.005	**2.1**	0.0038	<0.005	<0.0002	0.009	<0.01
	08/23/12	200.7/200.8	**0.012**	1.2	<0.002	<0.006	<0.006	4.2	<0.005	**2.3**	0.0066	<0.005	<0.0002	0.0095	<0.01

8.13.2 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
OW-29	12/11/17	200.7/200.8	<0.01	0.059	<0.002	<0.006	<0.006	0.3	<0.0005	0.33	<0.01	<0.005	0.0001	**0.054**	<0.01
	09/06/17	200.7/200.8	0.0031	0.066	<0.002	<0.006	<0.006	0.27	<0.0005	0.29	<0.01	<0.005	<0.0002	**0.053**	<0.01
	05/30/17	200.7/200.8	0.0017	0.07	<0.002	<0.006	<0.006	0.38	<0.0005	0.32	<0.005	<0.005	<0.0002	NA	<0.01
	02/27/17	200.7/200.8	0.0026	0.07	<0.002	<0.006	<0.006	0.36	0.000098	0.31	0.006	<0.005	<0.0002	NA	<0.01
	11/15/16	200.7/200.8	0.0023	0.071	<0.002	<0.006	<0.006	0.34	<0.0025	0.34	0.0088	<0.005	0.00006	**0.055**	<0.01
	08/31/16	200.7/200.8	<0.01	0.065	<0.002	<0.006	<0.006	0.33	<0.0005	0.28	0.0062	<0.005	NA	**0.053**	<0.01
	06/06/16	200.7/200.8	0.0039	0.072	<0.002	<0.006	<0.006	0.36	<0.0005	0.33	0.0068	<0.005	0.000061	**0.053**	<0.01
	03/04/16	200.7/200.8	0.0015	0.064	<0.002	<0.006	<0.006	0.38	<0.0025	0.32	0.0029	<0.005	<0.0002	**0.053**	<0.01
	10/27/15	200.7/200.8	<0.005	0.066	<0.002	<0.006	<0.006	0.33	<0.0005	0.3	<0.005	<0.005	<0.0002	**0.051**	<0.01
	08/11/15	200.7/200.8	<0.005	0.063	<0.002	<0.006	<0.006	0.25	<0.0005	0.28	<0.005	<0.005	<0.0002	**0.054**	<0.01
	06/01/15	200.7/200.8	<0.01	0.06	<0.002	<0.006	<0.006	0.35	<0.005	0.25	<0.01	<0.005	<0.0002	**0.054**	<0.01
	03/09/15	200.7/200.8	<0.005	0.063	<0.002	<0.006	<0.006	0.41	<0.001	0.3	<0.005	<0.005	<0.0002	**0.061**	<0.01
	11/11/14	200.7/200.8	<0.005	0.063	<0.002	<0.006	<0.006	0.33	<0.001	0.29	<0.005	<0.005	<0.0002	**0.055**	<0.01
	09/15/14	200.7/200.8	<0.01	0.058	<0.002	<0.006	<0.006	0.2	<0.001	0.26	<0.01	<0.005	<0.0002	**0.053**	<0.01
	06/02/14	200.7/200.8	<0.005	0.063	<0.002	<0.006	<0.006	0.37	<0.001	0.29	0.0055	<0.005	<0.0002	**0.052**	<0.01
	03/07/14	200.7/200.8	0.0014	0.063	<0.002	<0.006	<0.006	0.4	<0.001	0.3	<0.005	<0.005	<0.0002	**0.056**	<0.01
	11/11/13	200.7/200.8	0.0018	0.061	<0.002	<0.006	<0.006	0.38	<0.001	0.28	0.0042	<0.005	<0.0002	**0.053**	<0.01
	09/04/13	200.7/200.8	<0.001	0.061	<0.002	<0.006	<0.006	0.34	<0.001	0.028	0.0027	<0.005	<0.0002	**0.056**	0.018
	06/13/13	200.7/200.8	0.0013	0.065	<0.002	<0.006	<0.006	0.52	NA	0.32	0.0033	<0.005	<0.0002	**0.056**	<0.01
	03/19/13 [1]	200.7/200.8	<0.0025	0.059	<0.002	<0.006	<0.006	0.47	<0.005	0.29	<0.0025	<0.005	<0.0002	**0.057**	<0.01
	08/23/12	200.7/200.8	<0.0025	0.058	<0.002	<0.006	<0.006	0.16	<0.005	0.25	<0.0025	<0.005	<0.0002	**0.055**	<0.01

8.13.2 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Total Metals Analytical Result Summary

			PARAMETERS											
		STANDARDS	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
		WQCC 20NMAC 6.2.3103	0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
		40 CFR 141.62 MCL	**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
		NMED TAP WATER (MARCH 2017)	0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
		EPA RSL for Tap Water (MAY 2018)	0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
OW-30	12/12/17	200.7/200.8	<0.01	0.11	<0.002	<0.006	<0.006	0.063	0.00042	0.036	<0.01	0.0013	0.000056	**0.041**	<0.01
	09/06/17	200.7/200.8	0.0036	0.11	<0.002	<0.006	0.004	0.072	0.00036	0.045	0.0089	<0.005	<0.0002	**0.043**	<0.01
	05/31/17	200.7/200.8	<0.005	0.11	<0.002	<0.006	<0.006	0.088	0.00031	0.047	<0.005	<0.005	<0.0002	NA	<0.01
	02/27/17	200.7/200.8	0.0025	0.11	<0.002	<0.006	<0.006	0.098	0.00082	0.045	0.007	<0.005	<0.0002	NA	<0.01
	11/14/16	200.7/200.8	0.0038	0.11	<0.002	<0.006	<0.006	0.095	0.00028	0.038	0.0061	<0.005	0.000088	**0.046**	<0.01
	08/31/16	200.7/200.8	<0.01	0.096	<0.002	<0.006	<0.006	0.071	0.00025	0.035	0.0067	<0.005	NA	**0.048**	<0.01
	06/06/16	200.7/200.8	0.0042	0.11	<0.002	<0.006	<0.006	0.11	0.0003	0.045	0.009	<0.005	0.000062	**0.046**	<0.01
	03/08/16	200.7/200.8	<0.005	0.092	<0.002	<0.006	<0.006	0.052	<0.0025	0.034	0.0026	<0.005	<0.0002	**0.047**	<0.01
	10/27/15	200.7/200.8	<0.005	0.097	<0.002	<0.006	<0.006	0.12	<0.0005	0.041	<0.005	<0.005	<0.0002	**0.047**	<0.01
	08/10/15	200.7/200.8	<0.005	0.091	<0.005	<0.006	<0.006	0.073	<0.0005	0.037	<0.005	<0.005	<0.0002	**0.048**	<0.01
	06/02/15	200.7/200.8	<0.01	0.088	<0.002	<0.006	<0.006	0.065	<0.005	0.036	<0.01	<0.005	<0.0002	**0.05**	<0.01
	03/09/15	200.7/200.8	<0.01	0.09	<0.002	<0.006	<0.006	0.089	<0.001	0.037	<0.01	<0.005	<0.0003	**0.056**	<0.01
	11/11/14	200.7/200.8	<0.005	0.093	<0.002	<0.006	<0.006	0.18	<0.001	0.036	<0.005	<0.005	<0.0002	**0.05**	<0.01
	09/17/14	200.7/200.8	0.0015	0.087	<0.002	<0.006	<0.006	0.076	<0.001	0.031	0.0034	<0.005	<0.0002	**0.051**	<0.01
	06/02/14	200.7/200.8	<0.005	0.56	<0.002	0.014	<0.006	5.8	0.0064	0.35	0.0055	<0.005	<0.0002	**0.048**	0.015
	03/07/14	200.7/200.8	0.0033	1.3	<0.002	0.031	0.0072	13	0.013	0.71	<0.005	<0.005	<0.0002	**0.054**	0.029
	11/11/13	200.7/200.8	0.0018	0.11	<0.002	<0.006	<0.006	0.47	<0.001	0.047	0.0041	<0.005	<0.0002	**0.053**	<0.01
	09/04/13	200.7/200.8	0.0012	0.081	<0.002	<0.006	<0.006	0.051	<0.001	0.025	0.0029	<0.005	<0.0002	**0.055**	<0.01
	06/17/13	200.7/200.8	0.0013	0.079	<0.002	<0.006	<0.006	0.055	<0.005	0.026	0.0027	<0.005	<0.0002	**0.054**	<0.01
	03/19/13 [1]	200.7/200.8	<0.0025	0.078	<0.002	<0.006	<0.006	0.052	<0.005	0.02	<0.0025	<0.005	<0.0002	**0.057**	<0.01
	08/23/12	200.7/200.8	<0.0025	0.078	<0.002	<0.006	<0.006	0.058	<0.005	0.018	<0.0025	<0.005	<0.0002	**0.056**	<0.01

8.13.2 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
OW-54	12/06/17	200.7/200.8	<0.01	0.17	<0.002	<0.006	0.014	0.63	0.0092	1.4	<0.01	<0.005	0.000072	**0.057**	<0.01
	09/11/17	200.7/200.8	0.008	1.2	<0.002	0.02	0.047	**19**	**0.033**	**2.1**	0.013	<0.005	0.000037	**0.06**	0.04
	06/21/17	200.7/200.8	0.0083	0.62	<0.002	0.012	0.063	9.5	**0.025**	1.7	0.014	<0.005	<0.0002	**0.063**	0.019
	03/29/17	200.7/200.8	0.0092	1.7	<0.002	0.021	0.12	**21**	**0.043**	**2.4**	0.014	<0.005	0.00011	**0.06**	0.039
OW-55	12/06/17	200.7/200.8	0.0053	0.51	<0.002	<0.006	<0.006	4.1	<0.0025	**3.9**	<0.005	0.0017	<0.0002	0.0043	<0.01
	09/11/17	200.7/200.8	0.0082	1.1	<0.002	0.019	0.017	**23**	**0.024**	**4.8**	0.007	<0.005	<0.0002	0.0061	0.042
	06/21/17	200.7/200.8	0.0071	0.69	<0.002	<0.006	<0.006	**14**	0.014	**4.3**	0.0041	<0.005	<0.0002	0.0063	0.023
	03/29/17	200.7/200.8	0.0079	0.81	<0.002	0.012	0.01	**15**	**0.018**	**4.6**	0.0075	<0.005	0.000037	0.0056	0.026
OW-56	12/06/17	200.7/200.8	0.0049	0.41	<0.002	<0.006	0.0094	1.1	0.0012	0.1	<0.010	0.0014	0.00004	0.021	0.0062
	09/11/17	200.7/200.8	0.0074	0.62	<0.002	0.0096	0.011	7.4	0.0055	0.35	0.01	<0.005	<0.0002	0.024	0.026
	06/21/17	200.7/200.8	0.0073	0.39	<0.002	0.0072	0.016	5.2	0.005	0.31	0.011	<0.005	<0.0002	0.023	0.019
	03/29/17	200.7/200.8	0.0035	0.46	<0.002	0.01	0.01	6.4	0.00041	0.33	<0.020	<0.005	0.000041	0.022	0.025
OW-57	12/06/17	200.7/200.8	0.006	**3.7**	<0.002	<0.006	<0.006	4.2	0.0012	**2.3**	<0.01	0.0021	<0.0002	0.00089	0.0042
	09/19/17	200.7/200.8	**0.011**	**3.9**	<0.002	0.0038	0.0032	8.6	0.0046	**2.9**	0.019	<0.005	<0.0002	NA	0.016
	06/21/17	200.7/200.8	0.0083	**3.3**	<0.002	0.0017	0.0053	4.5	0.0039	**2.4**	0.014	<0.005	<0.0002	0.0026	0.0082
	03/30/17	200.7/200.8	0.01	**2.4**	<0.002	0.0061	0.0069	6.3	0.0092	**2.5**	<0.02	<0.005	0.000062	0.0042	0.014
OW-58	12/06/17	200.7/200.8	0.0059	**4.7**	<0.002	0.0061	0.0047	**15**	0.0095	**2.4**	0.0058	<0.005	<0.0002	0.001	0.017
	09/19/17	200.7/200.8	0.0096	**5**	<0.002	0.013	0.0092	**19**	0.015	**2.8**	0.014	<0.005	<0.0002	NA	0.035
	06/21/17	200.7/200.8	0.01	**5.9**	<0.002	0.02	0.019	**29**	**0.034**	**3.8**	0.012	<0.005	<0.0002	0.0035	0.049
	03/29/17	200.7/200.8	0.0087	**5.7**	<0.002	0.015	0.0066	**24**	**0.024**	**3.4**	0.012	<0.005	0.000042	0.0027	0.037

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Additon of WQCC Metals per NMED's Comment 12 from "Approval with Modifications Annual Ground Water Monitoring Report, Rev 1, dated 12/12/12", to monitor upgradient wells.

8.13.3 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Dissolved Metals Analytical Result Summary

			PARAMETERS										
STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-13	12/11/17	200.7/200.8	<0.005	0.019	<0.002	<0.006	<0.006	<0.02	<0.0005	0.023	<0.005	<0.005	0.015	0.0095
	09/06/17	200.7/200.8	0.0012	0.019	<0.002	0.0057	<0.006	0.023	<0.0005	0.02	0.0023	<0.005	0.017	0.046
	05/31/17	200.7/200.8	0.00099	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.019	<0.005	<0.005	NA	0.014
	02/27/17	200.7/200.8	0.0011	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.02	0.0036	<0.005	NA	0.029
	11/15/16	200.7/200.8	0.0013	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.021	0.0026	<0.005	0.017	<0.01
	08/31/16	200.7/200.8	0.0015	0.02	<0.002	<0.006	<0.006	<0.02	<0.0025	0.021	0.002	<0.005	0.017	0.042
	06/06/16	200.7/200.8	0.0019	0.02	<0.002	<0.006	<0.006	<0.02	<0.0005	0.02	0.0035	<0.005	0.018	0.014
	03/04/16	200.7/200.8	0.0012	0.018	<0.002	<0.006	0.0053	<0.02	<0.0005	0.019	0.0011	<0.005	0.017	0.0093
	10/27/15	200.7/200.8	<0.005	0.021	<0.002	<0.006	<0.006	<0.02	<0.0005	0.023	<0.005	<0.005	0.016	<0.01
	08/11/15	200.7/200.8	<0.005	0.018	<0.002	<0.006	<0.006	<0.02	<0.0025	0.018	<0.005	<0.005	0.017	<0.01
	06/01/15	200.7/200.8	<0.01	0.02	<0.002	<0.006	<0.006	<0.02	<0.1	0.021	<0.01	<0.005	0.016	<0.01
	03/09/15	200.7/200.8	<0.005	0.02	<0.002	<0.006	<0.006	<0.02	<0.001	0.022	<0.005	<0.005	0.017	<0.01
	11/10/14	200.7/200.8	0.0011	0.019	<0.002	<0.006	<0.006	<0.02	<0.01	0.022	<0.001	<0.005	0.016	0.063
	09/15/14	200.7/200.8	0.0015	0.018	<0.002	<0.006	<0.006	<0.02	<0.001	0.018	0.0026	<0.005	0.017	<0.01
	06/03/14	200.7/200.8	0.0012	0.017	<0.002	<0.006	<0.006	<0.02	<0.005	0.017	0.0022	<0.005	0.015	<0.01
	03/07/14	200.7/200.8	<0.001	0.019	<0.002	<0.006	<0.006	<0.02	<0.001	0.02	<0.001	<0.005	0.018	0.017
	11/11/13	200.7/200.8	0.0012	0.02	<0.002	<0.006	<0.006	<0.02	<0.001	0.021	0.002	<0.005	0.016	0.014
	09/04/13	200.7/200.8	<0.005	0.019	<0.002	<0.006	<0.006	<0.02	<0.005	0.024	<0.005	<0.005	0.017	<0.01
	06/13/13	200.7/200.8	0.0011	0.019	<0.002	<0.006	<0.006	<0.02	<0.001	0.021	0.0024	<0.005	0.017	0.048
	03/19/13 [1]	200.7/200.8	<0.001	0.018	<0.002	<0.006	<0.006	<0.02	<0.005	0.019	<0.001	<0.005	0.017	<0.01
	08/23/12	200.7/200.8	<0.001	0.022	<0.002	<0.006	<0.006	<0.02	<0.005	0.011	<0.001	<0.005	0.016	0.016

8.13.3 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-14	12/11/17	200.7/200.8	0.0083	**2.1**	<0.002	<0.006	<0.006	**4.4**	<0.0005	**2.1**	0.011	<0.005	0.0033	0.0085
	09/06/17	200.7/200.8	0.009	**2.2**	<0.002	<0.006	<0.006	**4.6**	<0.0005	**2.1**	0.013	<0.005	0.0042	0.029
	05/30/17	200.7/200.8	0.0076	**2.2**	<0.002	<0.006	<0.006	**4.5**	<0.0005	**2.1**	0.0069	<0.005	NA	0.026
	02/27/17	200.7/200.8	0.0083	**2.3**	<0.002	<0.006	<0.006	**5.1**	<0.0005	**2.2**	0.013	<0.005	NA	0.015
	11/15/16	200.7/200.8	0.0099	**2.2**	<0.002	<0.006	<0.006	**4.7**	<0.0005	**2.1**	0.015	<0.005	0.0048	<0.01
	08/31/16	200.7/200.8	0.0086	**2.2**	<0.002	<0.006	<0.006	**4.9**	<0.0005	**2.2**	0.012	<0.005	0.0054	0.028
	06/06/16	200.7/200.8	**0.012**	**2.2**	<0.002	<0.006	<0.006	**4.9**	<0.0005	**2.3**	0.022	<0.005	0.0068	<0.01
	03/04/16	200.7/200.8	0.0082	**1.9**	<0.002	<0.006	<0.006	**4.3**	0.00012	**2.1**	0.0048	<0.005	0.0065	0.01
	10/27/15	200.7/200.8	**0.011**	**2.1**	<0.002	<0.006	<0.006	**4.7**	<0.0005	**2.3**	0.016	<0.005	0.0065	<0.01
	08/10/15	200.7/200.8	0.0091	**1.9**	<0.002	0.0063	<0.006	**4.5**	<0.0025	**2**	<0.01	<0.005	0.006	<0.01
	06/01/15	200.7/200.8	<0.01	**1.9**	<0.002	<0.006	<0.006	**5**	<0.01	**2.3**	<0.01	<0.005	<0.01	0.12
	03/09/15	200.7/200.8	<0.02	**1.9**	<0.002	<0.006	<0.006	**4.7**	<0.001	**2.2**	<0.02	<0.005	0.0067	<0.01
	11/10/14	200.7/200.8	<0.01	**1.8**	<0.002	<0.006	<0.006	**4.5**	<0.01	**2.2**	<0.01	<0.005	<0.01	0.036
	09/15/14	200.7/200.8	**0.013**	**1.8**	<0.002	<0.006	<0.006	**4.5**	<0.001	**2.2**	0.017	<0.005	0.0071	<0.01
	06/03/14	200.7/200.8	**0.011**	**1.7**	<0.002	<0.006	<0.006	**4.6**	<0.005	**2.3**	0.018	<0.005	0.0083	0.017
	03/07/14	200.7/200.8	0.0084	**1.6**	<0.002	<0.006	<0.006	**4.2**	<0.001	**2.1**	<0.005	<0.005	0.0097	<0.01
	11/11/13	200.7/200.8	**0.012**	**1.6**	<0.002	<0.006	<0.006	**4.6**	<0.001	**2.3**	0.015	<0.005	0.0093	0.021
	09/04/13	200.7/200.8	0.01	**1.5**	<0.002	<0.006	<0.006	**4.5**	<0.001	**2.1**	0.011	<0.025	0.0093	<0.01
	06/13/13	200.7/200.8	**0.012**	**1.4**	<0.002	<0.006	<0.006	**4.6**	<0.001	**2.3**	0.017	<0.005	0.011	<0.01
	03/19/13 [1]	200.7/200.8	0.0093	**1.3**	<0.002	<0.006	<0.006	**4.1**	<0.005	**2.1**	0.0045	<0.005	0.0087	<0.01
	08/23/12	200.7/200.8	0.01	**1.1**	<0.002	<0.006	<0.006	**4.4**	<0.005	**2.3**	0.0067	<0.005	0.0091	0.039

8.13.3 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-29	12/11/17	200.7/200.8	0.0028	0.019	<0.002	<0.006	<0.006	<0.02	<0.0025	0.022	0.006	<0.005	**0.048**	0.0099
	09/06/17	200.7/200.8	0.0026	0.067	<0.002	<0.006	<0.006	0.26	<0.0005	**0.29**	<0.02	<0.005	**0.052**	0.023
	05/30/17	200.7/200.8	0.0018	0.069	<0.002	<0.006	<0.006	0.28	<0.0005	**0.31**	0.0038	<0.005	NA	0.024
	02/27/17	200.7/200.8	0.002	0.07	<0.002	<0.006	<0.006	0.31	<0.0005	**0.32**	0.0064	<0.005	NA	0.028
	11/15/16	200.7/200.8	0.0027	0.07	<0.002	<0.006	<0.006	0.32	<0.0005	**0.34**	0.0076	<0.005	**0.053**	<0.01
	08/31/16	200.7/200.8	0.0026	0.068	<0.002	<0.006	<0.006	0.27	<0.0025	**0.3**	0.0065	<0.005	**0.054**	0.028
	06/06/16	200.7/200.8	0.0032	0.07	<0.002	<0.006	<0.006	0.31	<0.0005	**0.33**	0.008	<0.005	**0.054**	<0.01
	03/04/16	200.7/200.8	0.0015	0.063	<0.002	<0.006	<0.006	0.34	<0.0005	**0.31**	0.0031	<0.005	**0.049**	0.015
	10/27/15	200.7/200.8	<0.005	0.069	<0.002	<0.006	<0.006	0.27	<0.0005	**0.32**	<0.01	<0.005	**0.054**	<0.01
	08/11/15	200.7/200.8	<0.005	0.059	<0.002	<0.006	<0.006	0.24	<0.0025	**0.27**	<0.005	<0.005	**0.053**	0.012
	06/01/15	200.7/200.8	<0.01	0.064	<0.002	<0.006	<0.006	0.34	<0.01	**0.29**	<0.01	<0.005	**0.053**	<0.01
	03/09/15	200.7/200.8	<0.001	0.063	<0.002	<0.006	<0.006	0.31	<0.001	**0.31**	<0.01	<0.005	**0.053**	<0.01
	11/11/14	200.7/200.8	<0.01	0.061	<0.002	<0.006	<0.006	0.23	<0.01	**0.28**	<0.01	<0.005	**0.054**	0.029
	09/15/14	200.7/200.8	<0.01	0.061	<0.002	<0.006	<0.006	0.18	<0.001	**0.26**	<0.01	<0.005	**0.054**	<0.01
	06/02/14	200.7/200.8	<0.005	0.057	<0.002	<0.006	<0.006	0.2	<0.005	**0.28**	0.0064	<0.005	**0.054**	<0.01
	03/07/14	200.7/200.8	<0.005	0.059	<0.002	<0.006	<0.006	0.28	<0.001	**0.29**	<0.005	<0.005	**0.053**	<0.01
	11/11/13	200.7/200.8	0.0019	0.063	<0.002	<0.006	<0.006	0.33	<0.001	**0.3**	0.0052	<0.005	**0.053**	0.028
	09/04/13	200.7/200.8	<0.005	0.062	<0.002	<0.006	<0.006	0.31	<0.005	**0.28**	<0.005	<0.005	**0.06**	<0.01
	06/13/13	200.7/200.8	0.0018	0.06	<0.002	<0.006	<0.006	0.45	<0.001	**0.31**	0.0055	<0.005	**0.055**	0.017
	03/19/13 [1]	200.7/200.8	0.001	0.054	<0.002	<0.006	<0.006	0.34	<0.005	**0.27**	0.0011	<0.005	**0.054**	<0.01
	08/23/12	200.7/200.8	0.001	0.056	<0.002	<0.006	<0.006	0.046	<0.005	**0.24**	0.0019	<0.005	**0.053**	<0.01

8.13.3 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-30	12/12/17	200.7/200.8	0.005	0.11	<0.002	<0.006	0.0037	0.058	<0.0025	0.035	<0.02	<0.005	**0.04**	0.0083
	09/06/17	200.7/200.8	0.003	0.11	<0.002	<0.006	<0.006	0.067	0.00035	0.044	<0.02	<0.005	**0.042**	0.023
	05/31/17	200.7/200.8	0.0019	0.11	<0.002	<0.006	<0.006	0.068	0.00029	0.045	0.0041	<0.005	NA	0.023
	02/27/17	200.7/200.8	0.0018	0.11	<0.002	<0.006	<0.006	0.061	0.0003	0.044	0.0072	<0.005	NA	0.023
	11/14/16	200.7/200.8	0.0032	0.1	<0.002	<0.006	<0.006	0.087	0.00028	0.041	0.0094	<0.005	**0.044**	<0.01
	08/31/16	200.7/200.8	0.0031	0.1	<0.002	<0.006	<0.006	0.071	0.00019	0.038	0.0075	<0.005	**0.046**	0.044
	06/06/16	200.7/200.8	0.0036	0.1	<0.002	<0.006	<0.006	0.062	0.0002	0.043	0.0095	<0.005	**0.047**	<0.01
	03/08/16	200.7/200.8	0.0019	0.091	<0.002	<0.006	<0.006	0.061	0.00022	0.037	0.0043	<0.005	**0.049**	<0.01
	10/27/15	200.7/200.8	<0.005	0.1	<0.002	<0.006	0.0088	0.064	<0.01	0.041	0.0077	<0.005	**0.045**	<0.01
	08/10/15	200.7/200.8	<0.005	0.088	<0.002	<0.006	<0.006	0.071	<0.0025	0.037	<0.005	<0.005	**0.048**	0.011
	06/02/15	200.7/200.8	<0.01	0.082	<0.002	<0.006	<0.006	0.067	<0.01	0.031	<0.01	<0.005	**0.049**	0.017
	03/09/15	200.7/200.8	<0.01	0.09	<0.002	<0.006	<0.006	0.064	<0.001	0.037	<0.01	<0.005	**0.048**	0.015
	11/11/14	200.7/200.8	<0.01	0.086	<0.002	<0.006	<0.006	0.051	<0.01	0.034	<0.01	<0.005	**0.05**	0.029
	09/17/14	200.7/200.8	<0.005	0.086	<0.002	<0.006	<0.006	0.067	<0.005	0.033	<0.005	<0.005	**0.049**	0.012
	06/02/14	200.7/200.8	<0.005	0.17	<0.002	<0.006	<0.006	**2.3**	<0.005	0.082	<0.01	<0.005	**0.051**	<0.01
	03/07/14	200.7/200.8	<0.005	0.29	<0.002	0.014	<0.006	**7.2**	0.0023	0.18	<0.005	<0.005	**0.05**	0.012
	11/11/13	200.7/200.8	0.0017	0.084	<0.002	<0.006	<0.006	0.06	<0.001	0.031	0.0046	<0.005	**0.05**	0.022
	09/04/13	200.7/200.8	<0.005	0.08	<0.002	<0.006	<0.006	0.04	<0.005	0.028	<0.005	<0.005	**0.059**	<0.01
	06/17/13	200.7/200.8	0.0019	0.078	<0.002	<0.006	<0.006	0.048	<0.005	0.025	0.0055	<0.005	**0.054**	0.01
	03/19/13 [1]	200.7/200.8	0.0011	0.073	<0.002	<0.006	<0.006	0.051	<0.005	0.023	0.0023	<0.005	**0.054**	<0.01
	08/23/12	200.7/200.8	0.001	0.074	<0.002	<0.006	<0.006	<0.02	<0.005	0.015	0.0017	<0.005	**0.052**	0.036

8.13.3 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
OW-54	12/06/17	200.7/200.8	0.0057	0.15	<0.002	<0.006	0.0077	0.31	0.0083	**1.4**	<0.05	<0.005	**0.061**	0.011
	09/11/17	200.7/200.8	0.0074	0.2	<0.002	<0.006	<0.006	0.75	0.0068	**1.5**	0.015	<0.005	**0.055**	0.025
	06/21/17	200.7/200.8	0.0078	0.14	<0.002	<0.006	0.0055	0.63	0.0049	**1.2**	0.014	<0.005	**0.055**	0.0062
	03/29/17	200.7/200.8	0.0041	0.22	<0.002	<0.006	0.012	0.72	0.0081	**1.5**	<0.02	<0.005	**0.059**	0.016
OW-55	12/06/17	200.7/200.8	0.0051	0.48	<0.002	<0.006	<0.006	**3.7**	<0.0005	**3.9**	0.0047	0.0019	0.0041	0.013
	09/11/17	200.7/200.8	0.0075	0.67	<0.002	<0.006	<0.006	**5.3**	0.0014	**3.9**	0.0086	<0.005	0.0042	0.022
	06/21/17	200.7/200.8	0.006	0.56	<0.002	<0.006	<0.006	**4.2**	0.00029	**3.7**	0.0056	<0.005	0.004	0.0082
	03/29/17	200.7/200.8	0.0058	0.63	<0.002	<0.006	<0.006	**5**	0.00091	**4.2**	0.0047	<0.005	0.0047	0.0083
OW-56	12/06/17	200.7/200.8	0.0046	0.34	<0.002	<0.006	0.009	<0.02	0.00038	0.048	0.012	<0.005	0.021	0.012
	09/11/17	200.7/200.8	0.0066	0.36	<0.002	0.0017	0.0057	0.048	0.00023	0.09	0.013	<0.005	0.018	0.04
	06/21/17	200.7/200.8	0.0054	0.26	<0.002	0.0014	0.011	0.026	<0.0005	0.073	0.014	<0.005	0.021	0.063
	03/29/17	200.7/200.8	0.0035	0.3	<0.002	<0.006	0.0066	0.085	0.00041	0.1	<0.02	<0.005	0.022	0.039
OW-57	12/06/17	200.7/200.8	0.0062	**3.2**	<0.002	<0.006	<0.006	**2**	<0.0005	**2.1**	0.0077	0.0019	0.00089	0.0091
	09/19/17	200.7/200.8	0.0077	**3.4**	<0.002	<0.006	<0.006	**6.4**	<0.0005	**2.2**	0.015	<0.005	NA	0.031
	06/21/17	200.7/200.8	0.0067	**2.9**	<0.002	<0.006	<0.006	**1.3**	0.00032	**1.9**	0.013	<0.005	0.0025	0.014
	03/30/17	200.7/200.8	0.0084	**1.4**	<0.002	<0.006	<0.006	0.5	0.00053	**0.69**	<0.020	<0.005	0.0028	0.03
OW-58	12/06/17	200.7/200.8	0.0045	**3.8**	<0.002	<0.006	<0.006	**7.1**	<0.0005	**1.9**	0.0069	0.002	0.00022	0.0076
	09/19/17	200.7/200.8	0.007	**4**	<0.002	<0.006	<0.006	**7.5**	0.00017	**1.9**	0.015	<0.005	NA	0.018
	06/21/17	200.7/200.8	0.0059	**3.5**	<0.002	<0.006	<0.006	**6.9**	0.00033	**1.7**	0.01	<0.005	0.0004	0.013
	03/29/17	200.7/200.8	0.0035	**4.1**	<0.002	<0.006	<0.006	**7.7**	0.00043	**1.9**	<0.02	<0.005	0.00082	0.034

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Additon of WQCC Metals per NMED's Comment 12 from "Approval with Modifications Annual Ground Water Monitoring Report, Rev 1, dated 12/12/12", to monitor upgradient wells.

8.13.4 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS													
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloroethane (EDC) (mg/L)	1,2-Dibromethane (EDB) [1] (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	Acetone (mg/L)	Chloroethane (mg/L)	1,1-Dichloroethane (mg/L)	Isopropyl benzene (mg/L)	Methylene Chloride (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Sec-butyl benzene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	**0.025**	NE	0.1	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	0.00171	0.0000746	**0.00165**	0.0114	**14.1**	**20.9**	0.0275	**0.447**	0.106	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	14	21	0.0028	0.45	0.011	**1**	**0.66**	**2**
Well ID	**DATE SAMPLED**	**METHOD**														
OW-13	12/11/17	8260B/8011(504.1EDB)	<0.001	<0.001	0.00087	<0.001	<0.002	<0.004	0.0036	<0.003	<0.001	<0.001	<0.003	<0.003	<0.001	<0.001
	09/06/17	8260B	<0.001	<0.001	0.00077	<0.001	<0.002	<0.004	<0.01	<0.003	<0.001	<0.001	<0.003	<0.003	<0.001	<0.001
	05/31/17	8260B	<0.001	<0.001	0.00084	<0.001	<0.002	<0.004	0.0036	<0.003	<0.001	<0.001	<0.003	<0.003	<0.001	<0.001
	02/27/17	8260B	<0.001	<0.001	0.00085	<0.001	<0.002	<0.004	<0.01	<0.003	<0.001	<0.001	<0.003	<0.003	<0.001	<0.001
	11/15/16	8260B/8011(504.1EDB)	<0.001		0.00076	<0.01	<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	08/31/16	8260B	<0.001		0.00079	<0.001	<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/06/16	8260B	<0.001		**0.75**	<0.001	<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	03/04/16	8260B	<0.001		0.0008	<0.001	<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	10/27/15	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	08/11/15	8260B	<0.001		<0.001		<0.002	<0.004			<0.004	<0.001		<0.003	<0.001	<0.001
	06/01/15	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	03/09/15	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	11/10/14	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	09/15/14	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/03/14	8260B	<0.001		<0.001		<0.002	<0.004			<0.004	<0.001		<0.003	<0.001	<0.001
	03/07/14	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	11/11/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	09/04/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/13/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	03/19/13	8260B	<0.005		<0.005		<0.01	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	11/27/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	08/23/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/14/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	03/21/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	12/13/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	10/25/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	06/20/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	02/24/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	11/08/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	09/22/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	06/07/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	03/25/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001

8.13.4 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS													
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro methane (EDB) [1] (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	Acetone (mg/L)	Chloro ethane (mg/L)	1,1-Dichloro ethane (mg/L)	Isopropyl benzene (mg/L)	Methylene Chloride (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Sec-butyl benzene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	**0.025**	NE	0.1	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	0.00171	0.0000746	**0.00165**	0.0114	**14.1**	**20.9**	0.0275	**0.447**	0.106	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	14	21	0.0028	0.45	0.011	**1**	**0.66**	**2**
Well ID	**DATE SAMPLED**	**METHOD**														
OW-14	12/11/17	8260B/8011(504.1EDB)	0.013	0.0021	<0.01	<0.01	**0.037**	**0.033**	<0.1	<0.03	<0.01	0.016	<0.03	0.003	0.028	0.0032
	09/06/17	8260B	0.012	0.0016	<0.005	<0.005	**0.038**	**0.038**	0.013	<0.015	<0.005	0.014	<0.015	0.0021	0.025	0.0027
	05/30/17	8260B	0.011	<0.05	<0.05	<0.05	**0.028**	**0.037**	<0.5	<0.15	<0.05	0.014	**0.0073**	<0.15	0.021	<0.05
	02/27/17	8260B	0.0074	<0.05	<0.05	<0.05	**0.024**	**0.035**	<0.5	<0.15	<0.05	0.0083	<0.15	<0.15	0.014	<0.05
	11/15/16	8260B/8011(504.1EDB)	0.0084	0.0015	0.0034		**0.02**	**0.03**			<0.01	0.01	<0.03	0.0034	0.013	0.0041
	09/01/16	8260B	0.0071	0.00082	<0.005		**0.018**	**0.034**			<0.005	0.0085	<0.015	0.0013	0.011	0.0022
	06/06/16	8260B	0.008	0.0017	<0.01		**0.019**	**0.033**			0.0033	0.0096	<0.003	<0.03	0.011	0.0031
	03/04/16	8260B	<0.05		<0.05		**0.017**	**0.03**			<0.05	<0.05	**0.011**	<0.15	<0.05	<0.05
	10/27/15	8260B	<0.02		<0.02		<0.04	<0.08			<0.02	<0.02		<0.06	<0.02	<0.02
	08/10/15	8260B	<0.01		<0.01		<0.02	<0.04			<0.04	<0.01		<0.03	<0.01	<0.01
	06/01/15	8260B	<0.02		<0.02		<0.04	<0.08			<0.02	<0.02		<0.06	<0.02	<0.02
	03/09/15	8260B	<0.02		<0.02		<0.04	<0.08			<0.02	<0.02		<0.06	<0.02	<0.02
	11/10/14	8260B	<0.01		<0.01		<0.02	**0.044**			<0.01	<0.01		<0.03	<0.01	<0.01
	09/15/14	8260B/8270C	<0.02		<0.02		<0.04	**0.016**			<0.02	<0.02		<0.06	<0.02	<0.02
	06/03/14	8260B	<0.02		<0.02		<0.04	<0.08			<0.08	<0.02		<0.06	<0.02	<0.02
	03/07/14	8260B	<0.01		<0.01		<0.02	<0.04			<0.04	<0.01		<0.03	<0.01	<0.01
	11/11/13	8260B	<0.005		<0.005		<0.01	**0.027**			<0.005	0.0066		<0.015	<0.005	<0.005
	09/04/13	8260B	<0.005		<0.005		<0.01	**0.024**			<0.005	0.006		<0.015	<0.005	<0.005
	06/13/13	8260B	<0.01		<0.01		<0.02	<0.04			<0.01	<0.01		<0.03	<0.01	<0.01
	03/19/13	8260B	<0.01		<0.01		<0.02	<0.04			<0.01	<0.01		<0.03	<0.01	<0.01
	11/27/12	8260B	<0.01		<0.01		<0.02	<0.04			<0.01	<0.01		<0.03	<0.01	<0.01
	08/23/12	8260B	<0.01		<0.01		<0.02	<0.04			<0.01	<0.01		<0.03	<0.01	<0.01
	06/14/12	8260B	<0.01		<0.01		<0.02	<0.04			<0.01	<0.01		<0.01	<0.01	<0.01
	03/21/12	8260B	<0.01		<0.01		<0.02	<0.04			<0.01	<0.01		<0.01	<0.01	<0.01
	12/13/11	8260B	<0.005		<0.005		<0.01	**0.021**			<0.005	0.0071		<0.005	<0.005	<0.005
	10/24/11	8260B	<0.005		<0.005		<0.01	**0.022**			<0.005	0.0082		<0.005	<0.005	<0.005
	06/20/11	8260B	0.0011		0.0017		**0.0021**	**0.02**			0.0012	0.0068		<0.001	0.0021	0.0024
	02/24/11	8260B	0.0013		0.0016		<0.002	**0.019**			<0.001	0.0048		<0.001	0.0013	0.0027
	11/08/10	8260B	0.0012		0.0015		<0.002	**0.022**			<0.001	0.0037		<0.001	<0.001	0.0027
	09/22/10	8260B	<0.001		0.0022		<0.002	**0.022**			<0.001	0.0029		<0.001	<0.001	0.0028
	06/07/10	8260B	0.0011		0.0015		<0.002	**0.02**			<0.001	0.0026		<0.001	<0.001	0.0024
	03/24/10	8260B	<0.005		<0.005		<0.01	<0.02			<0.005	<0.005		<0.005	<0.005	<0.005

8.13.4 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS													
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloroethane (EDC) (mg/L)	1,2-Dibromethane (EDB) [1] (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	Acetone (mg/L)	Chloroethane (mg/L)	1,1-Dichloroethane (mg/L)	Isopropyl benzene (mg/L)	Methylene Chloride (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Sec-butyl benzene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	**0.025**	NE	0.1	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	0.00171	0.0000746	**0.00165**	0.0114	**14.1**	**20.9**	0.0275	**0.447**	0.106	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	14	21	0.0028	0.45	0.011	**1**	**0.66**	**2**
Well ID	**DATE SAMPLED**	**METHOD**														
OW-29	12/11/17	8260B/8011(504.1EDB)	<0.005	<0.005	<0.005	<0.005	<0.01	<0.02	0.014	<0.015	<0.005	<0.005	<0.015	<0.015	<0.005	<0.005
	09/06/17	8260B	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.1	<0.03	<0.01	<0.01	<0.03	<0.03	<0.01	<0.01
	05/30/17	8260B	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	0.014	<0.03	<0.01	<0.01	0.0016	<0.03	<0.01	<0.01
	02/27/17	8260B	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.1	<0.03	<0.01	<0.01	<0.03	<0.03	<0.01	<0.01
	11/15/16	8260B/8011(504.1EDB)	<0.005		0.0018		<0.01	<0.02			<0.005	<0.005	<0.015	<0.015	<0.005	<0.005
	08/31/16	8260B	<0.001		0.00065		<0.002	0.00026			<0.001	<0.001	<0.003	<0.003	<0.001	<0.001
	06/06/16	8260B	<0.005		<0.005		<0.01	<0.001			<0.005	<0.005	<0.015	<0.015	<0.005	<0.005
	03/04/16	8260B	<0.005		0.00016		<0.01	<0.02			<0.005	<0.005	0.0011	<0.015	<0.005	<0.005
	10/27/15	8260B	<0.005		<0.005		<0.01	<0.02			<0.005	<0.005		<0.015	<0.005	<0.005
	08/11/15	8260B	<0.005		<0.005		<0.01	<0.02			<0.005	<0.005		<0.015	<0.005	<0.005
	06/01/15	8260B	<0.005		<0.005		<0.01	<0.02			<0.005	<0.005		<0.015	<0.005	<0.005
	03/09/15	8260B	<0.001		<0.001		<0.002	<0.004			<0.004	<0.001		<0.003	<0.001	<0.001
	11/11/14	8260B	<0.005		<0.005		<0.01	<0.02			<0.005	<0.005		<0.015	<0.005	<0.005
	09/15/14	8260B	<0.005		<0.005		<0.01	<0.02			<0.005	<0.005		<0.015	<0.005	<0.005
	06/02/14	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	03/07/14	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	11/11/13	8260B	<0.002		<0.002		<0.004	<0.008			<0.002	<0.002		<0.006	<0.002	<0.002
	09/04/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/13/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.004	<0.001		<0.003	<0.001	<0.001
	03/19/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	11/27/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	08/23/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/13/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	03/21/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	12/14/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	10/24/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	06/20/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	02/24/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	11/09/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	09/22/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	06/07/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	03/25/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001

8.13.4 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Volatile Organic Compound Analytical Result Summary

			PARAMETERS												
STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloroethane (EDC) (mg/L)	1,2-Dibromethane (EDB) [1] (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	Acetone (mg/L)	Chloroethane (mg/L)	1,1-Dichloroethane (mg/L)	Isopropyl benzene (mg/L)	Methylene Chloride (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Sec-butyl benzene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	**0.025**	NE	0.1	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	0.00171	0.0000746	**0.00165**	0.0114	**14.1**	**20.9**	0.0275	**0.447**	0.106	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	14	21	0.0028	0.45	0.011	**1**	**0.66**	**2**
Well ID	**DATE SAMPLED**	**METHOD**														
OW-30	12/12/17	8260B	<0.005	<0.005	<0.005	<0.005	<0.01	<0.02	0.011	<0.015	<0.005	<0.005	<0.015	<0.015	<0.005	0.0011
	09/06/17	8260B	0.00034	<0.001	<0.001	<0.001	<0.002	<0.004	0.0015	<0.003	<0.001	0.00009	<0.003	<0.003	<0.001	0.00068
	05/31/17	8260B	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.1	<0.03	<0.01	<0.01	<0.03	<0.03	<0.01	<0.01
	02/27/17	8260B	<0.01	<0.01	<0.01	<0.01	<0.02	<0.04	<0.1	<0.03	<0.01	<0.01	<0.03	<0.03	<0.01	<0.01
	11/14/16	8260B	<0.005		0.0016		<0.01	<0.02	<0.05	<0.01	<0.005	<0.005	<0.015	<0.015	<0.005	<0.005
	08/31/16	8260B	0.00018		0.00032		<0.002	<0.004	<0.01	<0.002	<0.001	<0.001	<0.003	<0.003	<0.001	0.00037
	06/06/16	8260B	<0.005		<0.005		<0.01	<0.02	<0.01	<0.01	<0.005	<0.005	<0.005	<0.015	<0.005	0.00064
	03/08/16	8260B	<0.002		0.005		<0.004	<0.008	0.003	<0.004	<0.002	<0.002	0.00063	<0.006	<0.002	<0.002
	10/27/15	8260B	<0.005		<0.005		<0.01	<0.02		<0.01	<0.005	<0.005		<0.015	<0.005	<0.005
	08/10/15	8260B	<0.001		<0.001		<0.002	<0.004		<0.002	<0.004	<0.001		<0.003	<0.001	<0.001
	06/02/15	8260B	<0.005		<0.005		<0.01	<0.02		<0.01	<0.005	<0.005		<0.015	<0.005	<0.005
	03/09/15	8260B	<0.001		<0.001		<0.002	<0.004		<0.002	<0.004	<0.001		<0.003	<0.001	<0.001
	11/11/14	8260B	<0.005		<0.005		<0.01	<0.02		<0.01	<0.005	<0.005		<0.015	<0.005	<0.005
	09/17/14	8260B	<0.001		<0.001		<0.002	<0.004		<0.002	<0.004	<0.001		<0.003	<0.001	<0.001
	06/02/14	8260B	<0.001		<0.001		<0.002	<0.004		<0.002	<0.001	<0.001		<0.003	<0.001	<0.001
	03/07/14	8260B	<0.001		<0.001		<0.002	<0.004		<0.002	<0.001	<0.001		<0.003	<0.001	<0.001
	11/11/13	8260B	<0.001		<0.001		<0.002	<0.004		0.0047	<0.001	<0.001		<0.003	<0.001	<0.001
	09/04/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/17/13	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	03/19/13	8260B	<0.005		<0.005		<0.01	<0.02			<0.02	<0.005		<0.015	<0.005	<0.005
	11/27/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	08/23/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.003	<0.001	<0.001
	06/14/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	03/21/12	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	12/15/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	10/24/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	06/20/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	02/24/11	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	11/08/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	09/27/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	06/04/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001
	03/24/10	8260B	<0.001		<0.001		<0.002	<0.004			<0.001	<0.001		<0.001	<0.001	<0.001

8.13.4 OW-13, OW-14, OW-29, OW-30, OW-54, OW-55, OW-56, OW-57, OW-58

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS												
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro methane (EDB) [1] (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	Acetone (mg/L)	Chloro ethane (mg/L)	1,1-Dichloro ethane (mg/L)	Isopropyl benzene (mg/L)	Methylene Chloride (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Sec-butyl benzene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	**0.025**	NE	0.1	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE
NMED TAP WATER (MARCH 2017)			NE	NE	0.00171	0.0000746	**0.00165**	0.0114	**14.1**	**20.9**	0.0275	**0.447**	0.106	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	14	21	0.0028	0.45	0.011	**1**	**0.66**	**2**
Well ID	**DATE SAMPLED**	**METHOD**														
OW-54	12/06/17	8260B	0.0094	0.00052	<0.005	<0.005	<0.01	<0.02	<0.05	<0.015	<0.005	0.00041	<0.015	<0.015	0.0014	<0.005
	09/11/17	8260B	0.018	0.0011	<0.005	<0.005	<0.01	<0.02	<0.05	<0.015	<0.005	0.00082	<0.015	<0.015	0.004	0.00068
	06/21/17	8260B	0.021	0.0022	<0.001	<0.001	**0.0017**	0.00098	0.018	<0.003	<0.001	0.0014	<0.003	0.00054	0.005	0.00094
	03/29/17	8260B	0.02	0.0021	0.00064	<0.001	0.0015	0.00063	<0.01	<0.003	<0.001	0.0013	<0.003	0.00049	0.0053	0.0011
OW-55	12/06/17	8260B	**0.13**	0.027	<0.1	<0.1	<0.2	<0.4	<1	<0.3	<0.1	0.018	<0.3	<0.3	0.041	<0.1
	09/11/17	8260B	**0.23**	0.05	<0.1	<0.1	**0.042**	<0.4	<1	<0.3	<0.1	0.016	<0.3	<0.3	0.058	<0.1
	06/21/17	8260B	**0.33**	**0.093**	<0.05	<0.05	**0.052**	**0.029**	<0.5	<0.15	<0.05	0.024	<0.15	0.013	0.07	0.0061
	03/29/17	8260B	**0.39**	**0.1**	<0.05	<0.05	**0.07**	**0.027**	<0.5	<0.15	<0.05	0.02	<0.15	<0.15	0.083	0.017
OW-56	12/06/17	8260B	<0.001	<0.001	**0.019**	<0.001	<0.002	<0.004	0.0059	<0.003	0.00067	0.0016	<0.003	<0.003	<0.001	0.00027
	09/11/17	8260B	<0.001	<0.001	**0.0089**	<0.001	<0.002	<0.004	0.0076	<0.003	0.00057	0.00091	<0.003	0.00015	<0.001	0.00014
	06/21/17	8260B	0.00012	<0.001	0.0039	<0.001	<0.002	<0.004	0.016	<0.003	<0.001	0.00028	<0.003	<0.003	<0.001	<0.001
	03/29/17	8260B	<0.001	<0.001	0.0047	<0.001	<0.002	<0.004	<0.01	<0.003	0.00064	0.00052	<0.003	<0.003	<0.001	0.00034
OW-57	12/06/17	8260B	<0.1	<0.1	<0.1	<0.1	**0.045**	**0.045**	<1	<0.3	<0.1	0.012	<0.3	<0.3	0.029	<0.1
	09/19/17	8260B	<0.05	<0.05	<0.05	<0.05	**0.096**	**0.09**	<0.5	<0.15	<0.05	0.014	<0.15	<0.15	0.033	<0.05
	06/21/17	8260B	<0.05	<0.05	<0.05	<0.05	**0.11**	**0.076**	<0.5	<0.15	<0.05	0.015	<0.15	<0.15	0.034	<0.05
	03/30/17	8260B	<0.05	<0.05	<0.05	<0.05	**0.13**	**0.088**	<0.5	<0.15	<0.05	0.02	<0.15	<0.15	0.045	<0.05
OW-58	12/06/17	8260B	0.024	<0.1	<0.1	<0.1	**0.11**	**0.038**	<1	<0.3	<0.1	0.033	<0.3	<0.3	0.089	<0.1
	09/19/17	8260B	**0.11**	0.039	<0.1	<0.1	**0.15**	**0.082**	<1	<0.3	<0.1	0.036	<0.3	<0.3	0.092	<0.1
	06/21/17	8260B	**0.1**	0.038	<0.1	<0.1	**0.15**	**0.085**	<1	<0.3	<0.1	0.038	<0.3	0.016	0.098	<0.1
	03/29/17	8260B	**0.17**	0.044	<0.1	<0.1	**0.18**	**0.07**	<1	<0.3	<0.1	0.026	<0.3	<0.3	0.09	<0.1

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) New requirement per directive from NMED "Approval with Modifications", dated May 18, 2016.

8.14 STP1-NW, OW-59, OW-60

BTEX, MTBE, General Chemistry and DRO/GRO/MRO Analytical Result Summary

STANDARDS			PARAMETERS												
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	NE	NE	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4.0	NE	**1**	10	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	0.11	0.0015	0.19	0.014	0.8	NE	2	3.2	NE	NE	NE	NE
NMED SSG (MARCH 2017)			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**
Well ID	**DATE SAMPLED**	**METHOD**													
STP1-NW	12/04/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	<0.5	**2200**	**26**	**26**	150	<1.0	0.025	<5.0
	09/05/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00057	<0.5	**2300**	**25**	**25**	160	<1.0	<0.05	<5.0
	06/02/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00043	<0.1	**2100**	**24**	**24**	140	<1.0	<0.05	<5.0
	02/21/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00063	<0.5	**2000**	**24**	**24**	140	<1.0	<0.05	<5.0
	11/14/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00036	<0.5	**2000**	<2.0	**24**	140	<1.0	<0.05	<5.0
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0003	<0.5	**1800**	**26**	**26**	150	<1.0	<0.05	<5.0
	06/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0006	0.058	**2400**	**20**	**20**	150	<1.0	<0.05	<5.0
	03/02/16	8260B	<0.001	<0.001	<0.001	<0.0015	**0.47**	NA	NA	NA	NA	NA	<1.0	<0.05	<5.0
	10/29/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	0.26	**2100**	**21**	**21**	130	<1.0	<0.05	<5.0
	08/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	NA	NA	NA	NA	NA	<1.0	<0.05	<5.0
	06/02/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	<0.5	**2100**	**25**	**25**	130	<1.0	<0.05	<5.0
	03/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	<0.1	**2400**	**22**	**22**	150	<1.0	<0.05	<5.0
	11/18/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	0.29	**1800**	<2.0	**18**	120	<1.0	<0.05	<5.0
	09/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	0.26	**1800**	<2.0	**18**	120	<1.0	<0.05	<5.0
	06/16/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	0.85	**1000**	**15**	**15**	160	<1.0	<0.05	<5.0
OW-59	12/06/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0094	<0.5	**1700**	<2	<2	**2600**	**0.55**	**3.1**	<5
OW-60	12/06/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00028	1.1	**1700**	**14**	**14**	**780**	<1	0.031	<5

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

8.14.1 STP1-NW, OW-59, OW-60
Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.00092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.0004	6
Well ID	**DATE SAMPLED**	**METHOD**													
STP1-NW	12/04/17	200.7/200.8	<0.05	0.11	<0.002	<0.006	<0.006	0.39	<0.0025	0.011	<0.05	0.014	<0.0002	0.028	0.0078
	09/05/17	200.7/200.8	0.007	0.14	<0.002	0.0038	<0.006	1.9	0.0021	0.036	0.028	<0.005	<0.0002	0.029	0.032
	06/02/17	200.7/200.8	0.0045	0.16	<0.002	0.0027	<0.006	3.1	0.0029	0.062	0.014	<0.005	<0.0002	0.027	0.054
	02/21/17	200.7/200.8	0.0094	0.29	<0.002	0.0042	<0.006	3.1	0.0043	0.14	0.019	<0.005	<0.0002	NA	0.031
	11/14/16	200.7/200.8	**0.011**	0.24	<0.002	0.0096	0.0049	11	**0.016**	0.31	0.021	0.0079	0.00014	0.027	0.29
	09/09/16	200.7/200.8	0.007	0.18	<0.002	<0.006	<0.006	1.4	0.0013	0.029	0.025	<0.005	0.0001	0.023	0.026
	06/07/16	200.7/200.8	<0.05	0.2	<0.002	<0.006	<0.006	3	0.0031	0.056	0.021	<0.005	0.000075	0.026	0.053
	03/02/16	200.7/200.8	<0.02	0.19	<0.002	0.0028	<0.006	3.6	0.0044	0.11	0.011	<0.05	<0.0002	0.025	0.087
	10/29/15	200.7/200.8	0.0075	0.13	<0.002	<0.006	<0.006	0.15	0.0055	0.032	0.019	<0.005	<0.0002	0.023	0.091
	08/11/15	200.7/200.8	<0.01	0.22	<0.002	<0.006	<0.006	6.1	0.0068	0.11	0.018	<0.005	<0.0002	0.025	0.12
	06/02/15	200.7/200.8	<0.01	0.24	<0.002	0.0066	<0.006	3.2	<0.005	0.095	<0.02	<0.005	<0.0002	0.022	0.061
	03/10/15	200.7/200.8	<0.01	0.23	<0.002	<0.006	<0.006	4.3	<0.01	0.075	0.026	<0.005	<0.0002	0.02	0.089
	11/18/14	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	0.15	<0.001	0.032	0.024	<0.005	<0.0002	0.03	0.032
	09/17/14	200.7/200.8	<0.01	0.21	<0.002	0.0092	<0.006	6.5	0.0098	0.15	0.022	<0.005	<0.0002	0.029	0.23
	06/16/14	200.7/200.8	<0.01	0.11	<0.002	<0.006	<0.006	0.42	<0.01	0.055	0.028	<0.005	<0.0002	**0.065**	0.26
OW-59	12/06/17	200.7/200.8	0.0095	0.064	<0.002	<0.006	0.0042	2.1	0.0014	0.17	<0.02	0.0037	<0.0002	**0.17**	0.0041
OW-60	12/06/17	200.7/200.8	<0.02	0.12	<0.002	0.0033	<0.006	3.1	0.002	0.13	0.021	0.0024	<0.0002	**0.048**	0.0097

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.14.2 STP1-NW, OW-59, OW-60
Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
STP1-NW	12/04/17	200.7/200.8	0.009	0.11	<0.002	<0.006	<0.006	0.039	<0.0005	0.00078	0.019	<0.005	0.027	0.011
	09/05/17	200.7/200.8	<0.05	0.11	<0.002	0.0029	<0.006	0.04	<0.0025	0.0016	0.029	<0.005	0.027	0.15
	06/02/17	200.7/200.8	0.0055	0.13	<0.002	<0.006	<0.006	0.037	<0.0005	0.00046	0.017	<0.005	0.025	0.014
	02/21/17	200.7/200.8	0.0063	0.12	<0.002	<0.006	<0.006	0.031	<0.0025	0.00045	0.002	<0.005	NA	0.02
	11/14/16	200.7/200.8	0.0089	0.13	<0.002	<0.006	<0.006	0.2	0.00039	0.0086	0.033	<0.005	0.026	0.01
	09/09/16	200.7/200.8	0.0084	0.17	<0.002	<0.006	<0.006	0.037	<0.0005	0.00053	0.026	<0.005	0.023	0.039
	06/07/16	200.7/200.8	0.0082	0.17	<0.002	<0.006	<0.006	0.067	<0.0025	0.0024	0.025	<0.005	0.026	0.007
	03/02/16	200.7/200.8	0.005	0.14	<0.002	<0.006	<0.006	0.13	0.0003	0.0038	0.015	<0.005	0.023	0.02
	10/29/15	200.7/200.8	<0.01	0.14	<0.002	<0.006	<0.006	0.066	<0.0025	0.0032	0.031	<0.005	0.022	<0.01
	08/11/15	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	0.12	<0.0025	0.0039	0.018	<0.005	0.022	<0.01
	06/02/15	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	0.045	<0.01	<0.002	0.02	<0.005	0.021	<0.01
	03/10/15	200.7/200.8	<0.05	0.18	<0.002	<0.006	<0.006	0.091	<0.001	0.0039	<0.05	<0.005	0.023	0.034
	11/18/14	200.7/200.8	<0.01	0.12	<0.002	<0.006	<0.006	0.026	<0.001	0.028	0.023	<0.005	0.026	0.058
	09/08/14	200.7/200.8	<0.01	0.12	<0.02	<0.006	<0.006	0.046	<0.01	0.033	0.027	<0.005	0.029	0.018
OW-59	12/06/17	200.7/200.8	**0.012**	0.013	<0.002	<0.006	<0.006	0.024	<0.0025	0.13	0.023	0.0047	**0.14**	0.011
OW-60	12/06/17	200.7/200.8	**0.013**	0.029	<0.002	<0.006	<0.006	0.02	<0.0005	0.042	0.031	0.0029	**0.047**	0.01

DEFINITIONS

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Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.14.3 STP1-NW, OW-59, OW-60
Semi-Volatile and Volatile Organic Compounds, Analytical Result Summary

STANDARDS			PARAMETERS		
			1-Methylnaphthalene (mg/L)	Acetone (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE
40 CFR 141.62 MCL			NE	NE	**0.006**
NMED Tap Water (MARCH 2017)			0.0114	**14.1**	0.0556
EPA RSL for Tap Water (MAY 2018)			**0.0011**	14	0.0056
Well ID	**DATE SAMPLED**	**METHOD**			
STP1-NW	12/04/17	8260B	<0.004	0.0041	NA
	09/05/17	8260B	0.00054	0.0058	NA
	06/02/17	8260B	<0.004	0.0031	NA
	02/21/17	8260B	<0.004	<0.01	NA
	11/14/16	8260B	<0.004	<0.01	NA
	09/09/16	8260B	<0.004	0.011	NA
	06/07/16	8260B	0.00045	<0.01	NA
	03/02/16	8260B		0.0038	NA
	06/02/15	8270C			<0.01
	03/10/15	8270C			<0.01
	11/18/14	8270C			0.011
OW-59	12/06/17	8260B	<0.004	0.0028	<0.01
OW-60	12/06/17	8260B	<0.004	0.0025	**0.045**

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.15 EVAPORATION PONDS (EP-1 thru EP-12B)

BTEX, MTBE and General Chemistry Analytical Result Summary

			PARAMETERS										
STANDARDS			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	**6.6 to 8.6**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4	NE	**1**	10	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	0.8	NE	2	32	NE	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-1	11/12/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**24**	**4200**	<10	<1.0	**5800**	8	17000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**18**	**1500**	<1.0	<1.0	**2100**	7.87	7600
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**21**	**1300**	<2.0	<2.0	**2000**	6.96	6900
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**20**	**1000**	<1.0	<1.0	**1200**	8.05	6200
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**72**	**570**	<2.0	<2.0	**980**	**8.79**	5500
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**34**	**3400**	<0.5	<0.5	**1300**	7.75	8800
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**240**	**3000**	<10	<10	**1200**	**8.71**	12000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**590**	200	<1.0	3.2	**980**	**5.49**	6200
	11/16/10	8260B	<0.001	<0.001	<0.001	0.0078	<0.0015	**350**	140	**4.8**	4.8	**1000**	7.40	4300
	08/02/10	8260B	<0.001	0.0077	<0.001	<0.0015	<0.001	**99**	**310**	<4.0	<4.0	**870**	7.68	3700
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**340**	**330**	<1.0	<1.0	**1500**	8.36	5400
EP-2	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**36**	**3900**	<10	<1.0	**1100**	7.33	17000
	03/30/17	8260B	**0.013**	0.022	0.0068	0.023	<0.005	**35**	**3500**	<4	<4	**1200**	7.58	17000
	08/29/16	8260B	0.0039	0.0029	0.00043	0.0024	<0.001	**22**	**3000**	<2.0	<0.5	**1600**	7.69	14000
	03/02/16	8260B	**0.024**	0.044	0.0049	0.032	<0.005	**5**	**3100**	<4.0	<4.0	**1400**	7.66	16000
	09/01/15	8260B	**0.01**	0.022	<0.01	<0.015	<0.01	<1.0	**2900**	<1.0	<1.0	**960**	7.87	14000
	03/24/15	8260B	<0.1	<0.01	<0.01	<0.015	<0.01	**35**	**1700**	<1.0	<1.0	**1200**	7.45	8200
	11/12/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**40**	**2400**	<10	<1.0	**1300**	7.97	8900
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**37**	**1900**	<1.0	<1.0	**680**	7.87	7600
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**70**	**1100**	<2.0	<2.0	**680**	8.33	6500
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**42**	**310**	<1.0	<1.0	**1700**	7.49	6000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**84**	**290**	<2.0	<2.0	**820**	8.31	6900
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**55**	**6600**	<2.0	<0.5	**1300**	7.60	20000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**46**	**2700**	<20	<20	**1700**	8.35	15000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**65**	**3700**	<20	<20	**990**	7.84	18000
	11/16/10	8260B	<0.001	0.003	0.0019	0.015	<0.0015	**41**	**3500**	<10	<10	**970**	7.38	14000
	08/02/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**43**	**1600**	<4.0	<4.0	**970**	7.91	6400
	04/20/10	8260B	<0.001	0.0013	<0.001	0.0043	<0.001	**170**	**1100**	<2.0	<0.5	**1200**	7.56	5800

8.15 EVAPORATION PONDS (EP-1 thru EP-12B)

BTEX, MTBE and General Chemistry Analytical Result Summary

			PARAMETERS											
STANDARDS			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	**6.6 to 8.6**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4	NE	**1**	10	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	0.8	NE	2	32	NE	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-3	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**31**	**4800**	<4	<4	**1100**	7.77	19000
	03/30/17	8260B	0.004	0.0069	0.0032	0.0092	<0.005	**10**	**5000**	<2.0	<0.5	**1200**	7.92	23000
	08/29/16	8260B	**0.0084**	0.0052	0.00084	0.0039	<0.001	**18**	**5100**	<2.0	<0.5	**1600**	7.78	20000
	03/02/16	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**29**	**4400**	<4.0	<4.0	**1300**	7.88	18000
	09/01/15	8260B	**0.011**	0.019	<0.01	<0.015	<0.01	**23**	**5300**	<1.0	<1.0	**650**	7.81	19000
	03/24/15	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**17**	**4000**	<1.0	<1.0	**900**	7.85	20000
	11/12/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**34**	**4000**	<10	<1.0	**1300**	7.85	12000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**23**	**3700**	<1.0	<1.0	**670**	7.85	12000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**39**	**5200**	<4.0	<4.0	**730**	7.77	18000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**21**	**6500**	<10	<1.0	**1400**	7.76	29000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**77**	**2000**	<2.0	<2.0	**1200**	7.84	12000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**22**	**9500**	<4.0	<4.0	**1400**	7.68	27000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.01	<0.01	**43**	**6400**	<20	<20	**1600**	8.24	17000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**54**	**3700**	<5.0	<1.0	**1100**	8.02	19000
	11/16/10	8260B	<0.001	0.0012	<0.001	0.0057	<0.0015	**11**	**5100**	<200	<200	**1000**	7.66	16000
	08/02/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**41**	**2800**	<10	<10	**1100**	7.76	9000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**63**	**8400**	<40	<40	**1100**	8.11	32000
EP-4	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**31**	**4900**	<4	<4	**1100**	7.87	18000
	03/30/17	8260B	0.0071	0.013	0.0045	0.014	<0.005	**37**	**4300**	<4	<4	**1100**	7.78	19000
	08/29/16	8260B	0.0025	0.0015	0.00029	0.0013	<0.001	**17**	**5600**	<2.0	<0.5	**1900**	7.53	24000
	03/02/16	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**24**	**8000**	<10	<10	**1800**	7.76	31000
	09/01/15	8260B	**0.011**	0.021	<0.01	<0.015	<0.01	**24**	**5300**	<10	<1.0	**690**	7.83	19000
	03/24/15	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**20**	**7200**	<10	<1.0	**1700**	7.79	29000
	11/12/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**33**	**4200**	<10	<1.0	**1300**	7.91	13000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**18**	**4300**	<1.0	<1.0	**650**	7.84	14000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**33**	**6000**	<4.0	<4.0	**830**	7.72	20000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**19**	**7700**	<10	<1.0	**1500**	7.77	32000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**46**	**4000**	<10	<10	**980**	8.13	19000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**20**	**6500**	<2.0	<0.5	**1400**	7.87	22000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**39**	**4300**	<20	<20	**1600**	7.76	18000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**35**	**5300**	<5.0	<1.0	**1100**	8.1	24000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.0015	**22**	**4500**	<20	<20	**1100**	7.81	18000
	08/02/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**35**	**2500**	<10	<10	**1100**	7.89	8700
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**67**	**8000**	<40	<40	**1000**	8.05	26000

8.15 EVAPORATION PONDS (EP-1 thru EP-12B)

BTEX, MTBE and General Chemistry Analytical Result Summary

			PARAMETERS											
STANDARDS			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	**6.6 to 8.6**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4	NE	**1**	10	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	0.8	NE	2	32	NE	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-5	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**30**	**10000**	<10	<10	**2200**	7.83	34000
	03/30/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**20**	**7700**	<2.0	<0.50	**1900**	7.80	33000
	08/29/16	8260B	0.00011	<0.001	<0.001	<0.0015	<0.001	**20**	**11000**	<10	<10	**2900**	8.09	39000
	03/02/16	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**27**	**9100**	<10	<10	**2000**	7.77	31000
	09/01/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**20**	**8500**	<10	<1.0	**1600**	7.97	32000
	03/24/15	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**17**	**7500**	<10	<1.0	**1600**	7.82	31000
	11/12/14	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**27**	**13000**	<10	<1.0	**2100**	7.93	44000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**12**	**5200**	<1.0	<1.0	**740**	7.83	16000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**29**	**6500**	<4.0	<4.0	**950**	7.89	21000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**17**	**8400**	<10	<1.0	**1400**	7.67	32000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**16**	**5600**	<50	<2.0	**870**	8.13	23000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**21**	**6100**	<4.0	<4.0	**1300**	7.84	22000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**26**	**4300**	<20	<20	**1600**	7.74	21000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**27**	**6700**	<5.0	<1.0	**1200**	8.06	26000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.001	**20**	**4200**	<20	<20	**1200**	7.86	18000
	08/02/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**39**	**4800**	<10	<10	**1300**	7.97	20000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**53**	**12000**	<40	<40	**1100**	8.04	40000
EP-6	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**31**	**10000**	<10	<1.0	**2300**	7.92	37000
	03/30/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**22**	**7200**	<2.0	<0.5	**1800**	7.79	33000
	08/29/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**20**	**10000**	<5.0	<0.5	**2600**	8.14	41000
	03/02/16	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**22**	**8700**	<10	<1.0	**2000**	7.79	32000
	09/01/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**21**	**11000**	<10	<1.0	**2000**	7.95	39000
	03/25/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**15**	**7900**	<10	<10	**1700**	7.83	30000
	11/12/14	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**26**	**15000**	<10	<1.0	**2200**	7.99	48000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**18**	**6900**	<1.0	<1.0	**1500**	7.69	23000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**17**	**11000**	<10	<10	**2200**	7.66	38000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**15**	**11000**	<10	<1.0	**1900**	7.7	41000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**21**	**11000**	<0.5	<2.0	**2500**	7.93	42000
	05/29/12	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**20**	**8800**	<4.0	<4.0	**2100**	7.86	27000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**24**	**6900**	<20	<20	**2300**	7.94	26000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**18**	**6500**	<20	<20	**1300**	7.83	23000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**25**	**6300**	<20	<20	**1500**	774	21000
	08/02/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**21**	**7400**	<40	<40	**1500**	8.33	27000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**29**	**4000**	<2.0	<2.0	**1100**	7.66	8400

8.15 EVAPORATION PONDS (EP-1 thru EP-12B)

BTEX, MTBE and General Chemistry Analytical Result Summary

STANDARDS			PARAMETERS											
			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	**6.6 to 8.6**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4	NE	**1**	10	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	0.8	NE	2	32	NE	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-7	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	<10	**95000**	<100	<100	**18000**	7.85	280000
	03/30/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**11**	**49000**	<40	<40	**9100**	8.07	190000
	08/30/16	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**17**	**66000**	<100	<100	**15000**	7.63	220000
	03/02/16	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**20**	**49000**	<40	<40	**12000**	7.88	130000
	09/01/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**27**	**59000**	<10	<1.0	**12000**	7.82	180000
	03/25/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**25**	**50000**	<40	<40	**11000**	7.84	140000
	11/12/14	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**44**	**61000**	<40	<40	**12000**	7.82	160000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**28**	**41000**	<10	<1.0	**8500**	7.82	130000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**24**	**52000**	<40	<40	**11000**	7.68	170000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**28**	**55000**	<10	<1.0	**11000**	7.61	190000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**37**	**81000**	<500	<2.0	**15000**	7.76	210000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**24**	**50000**	<20	<20	**9500**	7.72	150000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**22**	**46000**	<40	<40	**8100**	7.82	120000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**27**	**28000**	<100	<100	**8400**	7.79	120000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.0015	**35**	**35000**	<200	<200	**8400**	7.85	84000
	08/02/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**18**	**62000**	<200	<200	**11000**	7.41	180000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**16**	**27000**	<200	<50	**6900**	7.31	150000
EP-8	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	<10	**94000**	<100	<100	**16000**	7.86	290000
	03/30/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**11**	**64000**	<40	<40	**12000**	8.07	190000
	08/30/16	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**17**	**81000**	<40	<40	**13000**	7.63	220000
	09/01/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**27**	**64000**	<10	<1.0	**13000**	7.80	180000
	03/25/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.1	**27**	**65000**	<40	<40	**14000**	7.96	130000
	11/12/14	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**41**	**61000**	<40	<40	**11000**	7.82	170000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**27**	**39000**	<10	<1.0	**7900**	7.82	130000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**33**	**110000**	<40	<40	**18000**	7.07	370000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**29**	**47000**	<10	<1.0	**8600**	7.59	170000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**71**	**250000**	<500	<500	**31000**	**6.58**	550000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**33**	**67000**	<20	<20	**9700**	7.53	180000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**27**	**27000**	<20	<20	**3600**	7.92	66000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**43**	**170000**	<100	<100	**18000**	6.83	370000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.0015	**44**	**81000**	<200	<200	**12000**	7.14	190000
	08/02/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**43**	**110000**	<100	<100	**22000**	**6.21**	300000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**46**	**49000**	<200	<200	**6900**	7.31	150000

8.15 EVAPORATION PONDS (EP-1 thru EP-12B)

BTEX, MTBE and General Chemistry Analytical Result Summary

STANDARDS			PARAMETERS											
			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	**6.6 to 8.6**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4	NE	**1**	10	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	0.8	NE	2	32	NE	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-9	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	<10	**200000**	<200	<200	**16000**	7.11	560000
	03/30/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**13**	**58000**	<40	<40	**5600**	7.65	180000
	08/30/16	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	<10	**160000**	<400	<400	**12000**	7.25	430000
	03/02/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**21**	**98000**	<100	<100	**10000**	7.57	240000
	09/01/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**20**	**59000**	<20	<1.0	**7200**	7.75	180000
	03/25/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**22**	**30000**	<20	<20	**4500**	7.84	110000
	11/13/14	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**22**	**98000**	<100	<100	**12000**	7.40	300000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**18**	**56000**	<10	8.1	**7800**	7.70	160000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**15**	**55000**	<40	<40	**8100**	7.45	180000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**19**	**62000**	<10	3	**8400**	7.54	200000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**13**	**46000**	<40	<40	**6400**	7.69	150000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**21**	**63000**	<20	<20	**7500**	7.57	160000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**20**	**76000**	<100	<100	**9400**	7.58	210000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**19**	**57000**	<200	<200	**7100**	7.57	190000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.0015	**21**	**76000**	<200	<200	**8700**	7.31	200000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**20**	**38000**	<200	<200	**5000**	7.58	120000
EP-11	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	<10	**210000**	<100	<100	**36000**	7.61	470000
	03/30/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**11**	**49000**	<40	<40	**10000**	8.02	190000
	08/30/16	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**16**	**93000**	<40	<40	**13000**	7.64	230000
	03/02/16	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**29**	**50000**	<40	<40	**11000**	7.88	130000
	09/01/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**25**	**66000**	<10	<1.0	**13000**	7.76	170000
	03/25/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**34**	**38000**	<40	<40	**8200**	7.95	130000
	11/12/14	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**32**	**63000**	<40	<40	**17000**	7.74	180000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**22**	**10000**	<10	<1.0	**4300**	7.76	36000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**22**	**11000**	<10	<10	**4500**	7.92	81000
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**23**	**8900**	<10	<1.0	**4000**	7.88	39000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**40**	**3500**	<2.0	<2.0	**1300**	8.06	18000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**22**	**8200**	<4.0	<4.0	**3700**	7.84	30000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**29**	**5700**	<20	<20	**1800**	7.83	19000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**23**	**16000**	<40	<40	**3900**	7.85	62000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.0015	**28**	**14000**	<40	<40	**3300**	7.86	47000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**18**	**17000**	<100	<100	**4400**	7.73	62000

8.15 EVAPORATION PONDS (EP-1 thru EP-12B)

BTEX, MTBE and General Chemistry Analytical Result Summary

STANDARDS			PARAMETERS											
			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	**6.6 to 8.6**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4	NE	**1**	10	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	0.8	NE	2	32	NE	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-12A	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**27**	**1500**	<10	<1.0	520	7.76	54000
	03/30/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**21**	**4900**	<2.0	<0.50	**1600**	7.91	26000
	08/30/16	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**18**	**5800**	<2.0	<0.5	**3100**	7.79	21000
	03/02/16	8260B	<0.005	<0005	<0.005	<0.0075	<0.005	**24**	**6500**	<10	<1.0	**1600**	7.95	23000
	09/01/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**31**	**4900**	<10	<1.0	**1700**	8.31	20000
	03/25/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**20**	**2500**	<2.0	<2.0	**1000**	8.02	13000
	11/12/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**43**	**3000**	**2.5**	2.5	**1600**	8.24	12000
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**34**	**1800**	<1.0	<1.0	**1100**	7.90	8000
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**43**	**1900**	<2.0	<2.0	**1300**	8.20	8600
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**29**	**3800**	<1.0	<1.0	**1700**	7.98	17000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**35**	**4000**	<2.0	<2.0	**1400**	8.09	19000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**23**	**7600**	<4.0	<4.0	**2300**	7.88	25000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**36**	**5400**	<20	<20	**1500**	8.05	18000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**28**	**6400**	<5.0	<1.0	**1400**	8.08	26000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.0015	**21**	**11000**	<40	<40	**3100**	8.07	39000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**29**	**6400**	<20	<20	**1300**	7.89	20000
EP-12B	10/24/17	8260B	<0.005	<0.005	<0.005	<0.0075	<0.005	**34**	**4000**	<10	<1.0	**1200**	7.44	17000
	03/30/17	8260B	**0.0068**	0.012	0.0042	0.013	<0.005	**20**	**4300**	<2.0	<0.5	**1400**	7.78	20000
	08/30/16	8260B	0.0035	0.0024	0.0012	<0.015	<0.01	**21**	**2600**	<2.0	<0.5	**1600**	7.82	15000
	03/02/16	8260B	0.0012	0.0017	<0.005	<0.0075	<0.005	**34**	**4200**	<10	<10	**1200**	7.86	18000
	09/01/15	8260B	**0.0099**	0.021	<0.01	<0.015	<0.01	**51**	**3200**	<10	<1.0	**900**	7.96	15000
	03/25/15	8260B	<0.005	<0.01	<0.01	<0.015	<0.01	**11**	**2800**	<2.0	<2.0	**980**	7.96	13000
	11/12/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**38**	**1900**	<2.0	<2.0	**1200**	7.84	7600
	03/05/14	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**38**	**1800**	<1.0	<1.0	**710**	7.97	7800
	10/15/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**14**	**1300**	<2.0	<2.0	**770**	8.43	6800
	05/28/13	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**32**	**3100**	<1.0	<1.0	**1500**	7.93	14000
	11/06/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**71**	**1900**	<2.0	<2.0	**1100**	7.91	12000
	05/29/12	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**19**	**7000**	<4.0	<10	**1500**	7.75	25000
	11/01/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**39**	**3600**	<20	<20	**1500**	8.12	18000
	05/23/11	8260B	<0.01	<0.01	<0.01	<0.015	<0.01	**37**	**4800**	<5.0	<1.0	**1100**	8.07	22000
	11/16/10	8260B	<0.001	<0.001	<0.001	<0.003	<0.0015	**22**	**6100**	<20	<20	**1700**	7.74	22000
	04/20/10	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001	**80**	**5000**	<5.0	<5.0	**950**	8.06	9400

8.15 EVAPORATION PONDS (EP-1 thru EP-12B)

BTEX, MTBE and General Chemistry Analytical Result Summary

STANDARDS			PARAMETERS										
			Benzene (mg/L)	Toluene (mg/L)	Ethyl benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	pH	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	**1.6**	**250**	NE	**10**	**600**	**6.6 to 8.6**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE	4	NE	**1**	10	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	1.18	NE	1.97	31.59	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	0.8	NE	2	32	NE	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**												

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.15.1 EVAPORATION PONDS (EP-1 thru EP-12B)

BOD/COD/E-COLI Analytical Result Summary

STANDARDS			PARAMETERS			
			BOD (mg/L)	COD (mg/L)	E-Coli (CFU/100ml)	Total Coliform (CFU/100ml)
WQCC 20NMAC 6.2.3103			<30[1]	<125[1]	< 500 organisms per 100 ml	
40 CFR 141.62 MCL			NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE		
EPA RSL for Tap Water (MAY 2018)			NE	NE	MCL[6]	
SAMPLE ID	**DATE SAMPLED**	**METHOD**				
EP-1	11/12/14	SM5210B/E410.4/SM9223B	**240**	**1700**	ND	
	03/05/14	SM5210B/E410.4/SM9223B	**55**	**560**	<10	
	10/16/13	SM5210B/E410.4/SM9223B	**<33.3**	**560**	20	NL
	05/29/13	SM5210B/E410.4/SM9223B	**75**	**310**	10	NL
	11/07/12	SM5210B/E410.4/SM9223B	**520**	**1100**	**10462**	NL
	05/30/12	SM5210B/E410.4/SM9223B	**340**	**990**	**>24196**	NL
	11/02/11	SM5210B/9223B	**960**	**2250**	**>2419.6**	NL
	05/24/11	SM5210B/9223B	**440**	**1340**	**1986.3**	NL
	11/17/10	SM9223B/3014	**1400**	**3200**	<10	NL
	08/2-3/10	SM5210B/E410.4/3014	**290**	**346**	**>2419.6**	NL
	04/21/10	SM5210B/E410.4/3014	**1080**	**2210**	**>2419.6**	**>2419.6**
EP-2	10/24/17	SM5210B/E410.4/SM9223B	**410**	**770**	**>24196**	NL
	03/30/17	SM5210B/E410.4/SM9223B	**410**	**1030**	**>24196**	NL
	08/29/16	SM5210B/E410.4/SM9223B	**220**	**694**	**>24196**	
	03/08/16	SM5210B/E410.4/SM9223B	**>413.04**	**977**	**>2419.6**	>2419.6
	09/02/15	SM5210B/E410.4/SM9223B	**460**	**775**	**5475**	
	03/26/15	SM5210B/E410.4/SM9223B	**330**	**610**	**>24196**	
	11/12/14	SM5210B/E410.4/SM9223B	**170**	**580**	**>24196**	
	03/05/14	SM5210B/E410.4/SM9223B	**450**	**1000**	**>2419.6**	
	10/16/13	SM5210B/E410.4/SM9223B	**420**	**1100**	**3282**	NL
	05/29/13	SM5210B/E410.4/SM9223B	**210**	**700**	31	NL
	11/07/12	SM5210B/E410.4/SM9223B	**750**	**1300**	<10	NL
	05/30/12	SM5210B/E410.4/SM9223B	**100**	**860**	**4106**	
	11/02/11	SM5210B/9223B	**530**	**1560**	**>2419.6**	NL
	05/24/11	SM5210B/9223B	**230**	**737**	**648.8**	NL
	11/17/10	SM9223B/3014	**550**	**1020**	**1553.1**	NL
	08/2-3/10	SM5210B/E410.4/3014	**64**	**172**	**>2419.6**	NL
	04/21/10	SM5210B/E410.4/3014	**1100**	**2060**	**>2419.6**	**>2419.6**
EP-3	10/24/17	SM5210B/E410.4/SM9223B	**300**	**800**	**>24196**	NL
	03/30/17	SM5210B/E410.4/SM9223B	**280**	**717**	**>24196**	NL
	08/29/16	SM5210B/E410.4/SM9223B	**110**	**746**	**>24196**	
	03/08/16	SM5210B/E410.4/SM9223B	**240**	**627**	**1732.9**	>2419.6
	09/02/15	SM5210B/E410.4/SM9223B	**120**	**725**	**1076**	
	03/26/15	SM5210B/E410.4/SM9223B	**230**	**977**	**24196**	
	11/12/14	SM5210B/E410.4/SM9223B	**120**	**590**	408	
	03/05/14	SM5210B/E410.4/SM9223B	**440**	**990**	122	
	10/16/13	SM5210B/E410.4/SM9223B	**320**	**870**	121	NL
	05/29/13	SM5210B/E410.4/SM9223B	**120**	**1600**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	**390**	**900**	10	NL
	05/30/12	SM5210B/E410.4/SM9223B	**69**	**980**	10	NL
	11/02/11	SM5210B/9223B	**140**	**608**	**>2419.6**	NL
	05/24/11	SM5210B/9223B	**190**	**574**	1	NL
	11/17/10	SM9223B/3014	**120**	**560**	40.8	NL
	08/2-3/10	SM5210B/E410.4/3014	**36**	**238**	**>2419.6**	NL
	04/21/10	SM5210B/E410.4/3014	**200**	**771**	**100.6**	**>2419.6**

8.15.1 EVAPORATION PONDS (EP-1 thru EP-12B)
BOD/COD/E-COLI Analytical Result Summary

STANDARDS			BOD (mg/L)	COD (mg/L)	E-Coli (CFU/100ml)	Total Coliform (CFU/100ml)
WQCC 20NMAC 6.2.3103			<30[1]	<125[1]	< 500 organisms per 100 ml	
40 CFR 141.62 MCL			NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE		
EPA RSL for Tap Water (MAY 2018)			NE	NE	MCL[6]	
SAMPLE ID	**DATE SAMPLED**	**METHOD**				
EP-4	10/24/17	SM5210B/E410.4/SM9223B	**280**	**990**	**>24196**	NL
	03/30/17	SM5210B/E410.4/SM9223B	**390**	**802**	**>24196**	NL
	08/29/16	SM5210B/E410.4/SM9223B	**<64.88**	**872**	**6131**	
	03/08/16	SM5210B/E410.4/SM9223B	**190**	**569**	36.3	2419.6
	09/02/15	SM5210B/E410.4/SM9223B	**110**	**909**	**880**	
	03/26/15	SM5210B/E410.4/SM9223B	**110**	**730**	**5475**	
	11/12/14	SM5210B/E410.4/SM9223B	**120**	**670**	63	
	03/05/14	SM5210B/E410.4/SM9223B	**500**	**1000**	1	
	10/16/13	SM5210B/E410.4/SM9223B	**270**	**840**	31	NL
	05/29/13	SM5210B/E410.4/SM9223B	**96**	**700**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	**230**	**880**	<10	NL
	05/30/12	SM5210B/E410.4/SM9223B	**59**	**680**	<10	NL
	11/02/11	SM5210B/9223B	**62**	**478**	**547.5**	NL
	05/24/11	SM5210B/9223B	**190**	**639**	4.1	NL
	11/17/20	SM9223B/3014	**140**	**440**	12	NL
	08/2-3/10	SM5210B/E410.4/3014	**35**	**204**	**>2419.6**	NL
	04/21/10	SM5210B/E410.4/3014	**281**	**683**	<1.0	**>2419.6**
EP-5	10/24/17	SM5210B/E410.4/SM9223B	**<2**	**820**	52	NL
	03/30/17	SM5210B/E410.4/SM9223B	**32**	**990**	52	NL
	08/29/16	SM5210B/E410.4/SM9223B	**19**	**861**	31	
	03/08/16	SM5210B/E410.4/SM9223B	**63**	**537**	1	613.1
	09/02/15	SM5210B/E410.4/SM9223B	17	**979**	**1515**	
	03/26/15	SM5210B/E410.4/SM9223B	**47**	**860**	135	
	11/12/14	SM5210B/E410.4/SM9223B	<20.55	**660**	<1	
	03/05/14	SM5210B/E410.4/SM9223B	**>69.15**	**1000**	<1	
	10/16/13	SM5210B/E410.4/SM9223B	**220**	**720**	31	NL
	05/29/13	SM5210B/E410.4/SM9223B	**66**	**600**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	**150**	**1000**	<10	NL
	05/30/12	SM5210B/E410.4/SM9223B	**35**	**760**	10	NL
	11/02/11	SM5210B/9223B	29	**302**	5.2	NL
	05/24/11	SM5210B/9223B	**150**	**413**	1	NL
	11/17/10	SM9223B/3014	**76**	**320**	4.1	NL
	08/2-3/10	SM5210B/E410.4/3014	**40**	**208**	**1960.8**	NL
	04/21/10	SM5210B/E410.4/3014	**123**	**782**	2	**>2419.6**
EP-6	10/24/17	SM5210B/E410.4/SM9223B	**100**	**640**	63	NL
	03/30/17	SM5210B/E410.4/SM9223B	30	**981**	10	NL
	08/29/16	SM5210B/E410.4/SM9223B	14	**746**	10	
	03/02/16	SM5210B/E410.4/SM9223B	**77**	**574**	10	
	09/02/15	SM5210B/E410.4/SM9223B	8	**1700**	341	
	03/26/15	SM5210B/E410.4/SM9223B	**47**	**978**	63	
	11/12/14	SM5210B/E410.4/SM9223B	**<15.30**	**810**	<1	
	03/05/14	SM5210B/E410.4/SM9223B	**>171.97**	**600**	<10	NL
	10/16/13	SM5210B/E410.4/SM9223B	<25.5	**940**	<10	NL
	05/29/13	SM5210B/E410.4/SM9223B	**46**	**710**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	10	**1000**	<1.0	NL
	05/30/12	SM5210B/E410.4/SM9223B	18	**710**	<1.0	NL
	11/02/11	SM5210B/9223B	7.3	**252**	47.3	NL
	05/24/11	SM5210B/9223B	**71**	**473**	<1.0	NL
	11/17/10	SM9223B/3014	<1200	**168**	8.6	NL
	08/2-3/10	SM5210B/E410.4	15	**172**	**1892**	NL
	04/21/10	SM5210B/E410.5	**54.8**	**290**	1	**>2419.6**

8.15.1 EVAPORATION PONDS (EP-1 thru EP-12B)

BOD/COD/E-COLI Analytical Result Summary

STANDARDS			BOD (mg/L)	COD (mg/L)	E-Coli (CFU/100ml)	Total Coliform (CFU/100ml)
WQCC 20NMAC 6.2.3103			<30[1]	<125[1]	< 500 organisms per 100 ml	
40 CFR 141.62 MCL			NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE		
EPA RSL for Tap Water (MAY 2018)			NE	NE	MCL[6]	
SAMPLE ID	**DATE SAMPLED**	**METHOD**				
EP-7	10/24/17	SM5210B/E410.4/SM9223B	NA	NA	NA	NL
	03/30/17	SM5210B/E410.4/SM9223B	18	**3150**	<1	NL
	08/30/16	SM5210B/E410.4/SM9223B	4	**3140**	<1	
	03/08/16	SM5210B/E410.4/SM9223B	**41**	**820**	<1	3.1
	09/02/15	SM5210B/E410.4/SM9223B	21	**1960**	<10	
	03/26/15	SM5210B/E410.4/SM9223B	11	**658**	<10	
	11/12/14	SM5210B/E410.4/SM9223B	28	**4400**	20	
	03/05/14	SM5210B/E410.4/SM9223B	11	**3900**	<1.0	
	10/16/13	SM5210B/E410.4/SM9223B	**37**	**3200**	<10	NL
	05/29/13	SM5210B/E410.4/SM9223B	19	**6000**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	21	**2300**	<1.0	NL
	05/30/12	SM5210B/E410.4/SM9223B	15	**3200**	<1.0	NL
	11/02/11	SM5210B/9223B	15	**1240**	<1.0	NL
	05/24/11	SM5210B/9223B	27	**918**	<1.0	NL
	11/17/10	SM9223B/3014	**380**	**920**	<1.0	NL
	08/2-3/10	SM5210B/E410.4/3014	5	**870**	<1.0	NL
	04/21/10	SM5210B/E410.4/3014	<60.0	**1010**	<1.0	96
EP-8	10/24/17	SM5210B/E410.4/SM9223B	23	**2100**	<10	NL
	03/30/17	SM5210B/E410.4/SM9223B	18	**5430**	<10	NL
	08/30/16	SM5210B/E410.4/SM9223B	6	**3180**	<1	
	09/02/15	SM5210B/E410.4/SM9223B	32	**880**	10	
	03/26/15	SM5210B/E410.4/SM9223B	12	**600**	<1	
	11/12/14	SM5210B/E410.4/SM9223B	27	**4100**	10	
	03/05/14	SM5210B/E410.4/SM9223B	13	**2900**	<1.0	
	10/16/13	SM5210B/E410.4/SM9223B	6.8	**9800**	<10	NL
	05/29/13	SM5210B/E410.4/SM9223B	22	**4600**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	10	**13000**	<10	NL
	05/30/12	SM5210B/E410.4/SM9223B	4.5	**3800**	<1.0	NL
	11/02/11	SM5210B/9223B	9	**512**	32.3	NL
	05/24/11	SM5210B/9223B	**46**	**3140**	<1.0	NL
	11/17/10	SM9223B/3014	**400**	**1720**	<1.0	NL
	08/2-3/10	SM5210B/E410.4/3014	5	**2520**	<1.0	<1
	04/21/10	SM5210B/E410.4/3014	14.3	**776**	<1.0	2
EP-9	10/24/17	SM5210B/E410.4/SM9223B	20	**5000**	<10	NL
	03/30/17	SM5210B/E410.4/SM9223B	30	**5590**	<1	NL
	08/30/16	SM5210B/E410.4/SM9223B	**37**	**5420**	<1	
	03/02/16	SM5210B/E410.4/SM9223B	<2.99	**2720**	<1	
	09/02/15	SM5210B/E410.4/SM9223B	20	**1480**	74	
	03/26/15	SM5210B/E410.4/SM9223B	11	**509**	<10	
	11/13/14	SM5210B/E410.4/SM9223B	4.2	**3900**	<1	
	03/05/14	SM5210B/E410.4/SM9223B	15	**1000**	<1	
	10/16/13	SM5210B/E410.4/SM9223B	<12.3	**4700**	<10	NL
	05/29/13	SM5210B/E410.4/SM9223B	19	**7400**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	7.9	**1400**	<1.0	NL
	05/30/12	SM5210B/E410.4/SM9223B	23	**2800**	<1.0	NL
	11/02/11	SM5210B/9223B	9	**1870**	<1.0	NL
	05/24/11	SM5210B/9223B	**43**	**1640**	<1.0	NL
	11/17/10	SM9223B/3014	**350**	**1240**	<1.0	NL
	04/21/10	SM5210B/E410.4/3014	<60.0	**760**	<1.0	85.5

8.15.1 EVAPORATION PONDS (EP-1 thru EP-12B)

BOD/COD/E-COLI Analytical Result Summary

STANDARDS			BOD (mg/L)	COD (mg/L)	E-Coli (CFU/100ml)	Total Coliform (CFU/100ml)
WQCC 20NMAC 6.2.3103			<30[1]	<125[1]	< 500 organisms per 100 ml	
40 CFR 141.62 MCL			NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE		
EPA RSL for Tap Water (MAY 2018)			NE	NE	MCL[6]	
SAMPLE ID	**DATE SAMPLED**	**METHOD**				
EP-11	10/24/17	SM5210B/E410.4/SM9223B	4	**2260**	<1	
	03/30/17	SM5210B/E410.4/SM9223B	21	**4120**	<1	<1
	08/30/16	SM5210B/E410.4/SM9223B	4	**2260**	<1	
	03/08/16	SM5210B/E410.4/SM9223B	18	**210**	<1	<1
	09/02/15	SM5210B/E410.4/SM9223B	30	**1120**	10	
	03/26/15	SM5210B/E410.4/SM9223B	16	**692**	10	
	11/12/14	SM5210B/E410.4/SM9223B	**89**	**4700**	<10	
	03/05/14	SM5210B/E410.4/SM9223B	**48**	**570**	<10	
	10/16/13	SM5210B/E410.4/SM9223B	**190**	**530**	20	NL
	05/29/13	SM5210B/E410.4/SM9223B	30	**610**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	**130**	**620**	<10	NL
	05/30/12	SM5210B/E410.4/SM9223B	20	**890**	<10	NL
	11/02/11	SM5210B/9223B	**40**	**486**	461.1	NL
	05/24/11	SM5210B/9223B	**52**	**711**	<1.0	NL
	11/17/10	SM9223B/3014	**350**	**460**	4.1	NL
	04/21/10	SM5210B/E410.4/3014	<60.0	**492**	<1.0	71.9
EP-12A	10/24/17	SM5210B/E410.4/SM9223B	**270**	**1100**	10	NL
	03/30/17	SM5210B/E410.4/SM9223B	**59**	**721**	10	NL
	08/30/16	SM5210B/E410.4/SM9223B	<39.64	**618**	**2723**	
	03/08/16	SM5210B/E410.4/SM9223B	**130**	**867**	21.6	980.4
	09/02/15	SM5210B/E410.4/SM9223B	**150**	**755**	**8164**	
	03/26/15	SM5210B/E410.4/SM9223B	**170**	**403**	**12033**	
	11/12/14	SM5210B/E410.4/SM9223B	<37.50	**450**	131	
	03/05/14	SM5210B/E410.4/SM9223B	**210**	**560**	<10	
	10/16/13	SM5210B/E410.4/SM9223B	**270**	**930**	41	NL
	05/29/13	SM5210B/E410.4/SM9223B	**100**	**1400**	<10	NL
	11/07/12	SM5210B/E410.4/SM9223B	**150**	**650**	<10	NL
	05/29/12	SM5210B/E410.4/SM9223B	22	**660**	<10	NL
	11/02/11	SM5210B/9223B	**85**	**515**	**>2419.6**	NL
	05/24/11	SM5210B/9223B	**130**	**582**	1	NL
	11/17/10	SM9223B/3014	**330**	**300**	64.4	NL
	04/21/10	SM5210B/E410.4/3014	**87.3**	**675**	47.6	>2419.6
EP-12B	10/24/17	SM5210B/E410.4/SM9223B	**370**	**780**	**24200**	NL
	03/30/17	SM5210B/E410.4/SM9223B	**260**	**694**	**>24196**	NL
	08/30/16	SM5210B/E410.4/SM9223B	**240**	**770**	**>24196**	
	03/08/16	SM5210B/E410.4/SM9223B	**240**	**806**	**770.1**	>2419.6
	09/02/15	SM5210B/E410.4/SM9223B	**300**	**657**	**3873**	
	03/26/15	SM5210B/E410.4/SM9223B	**270**	**647**	**17329**	
	11/12/14	SM5210B/E410.4/SM9223B	**110**	**410**	**1012**	
	03/05/14	SM5210B/E410.4/SM9223B	**430**	**810**	<10	
	10/16/13	SM5210B/E410.4/SM9223B	**460**	**940**	231	NL
	05/29/13	SM5210B/E410.4/SM9223B	**260**	**770**	31	NL
	11/07/12	SM5210B/E410.4/SM9223B	**310**	**850**	<10	NL
	05/30/12	SM5210B/E410.4/SM9223B	**37**	**920**	<10	NL
	11/02/11	SM5210B/9223B	**130**	**618**	**>2419.6**	NL
	05/24/11	SM5210B/9223B	**170**	**450**	3	NL
	11/17/10	SM9223B/3014	**350**	**280**	12	NL
	04/21/10	SM5210B/E410.4/3014	**342**	**1070**	**1540.2**	>2419.6

8.15.1 EVAPORATION PONDS (EP-1 thru EP-12B)
BOD/COD/E-COLI Analytical Result Summary

STANDARDS			BOD (mg/L)	COD (mg/L)	E-Coli (CFU/100ml)	Total Coliform (CFU/100ml)
WQCC 20NMAC 6.2.3103			**<30[1]**	**<125[1]**	< 500 organisms per 100 ml	
40 CFR 141.62 MCL			NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE		
EPA RSL for Tap Water (MAY 2018)			NE	NE	MCL[6]	
SAMPLE ID	**DATE SAMPLED**	**METHOD**				

DEFINITIONS
NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS
WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.15.2 EVAPORATION PONDS (EP-1 thru EP-12B)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**											
EP-1	11/12/14	200.7/200.8	**0.047**	0.13	0.048	<0.006	2.2	<0.005	0.68	0.017	0.00032	<0.005	0.059
	03/05/14	200.7/200.8	**0.013**	0.12	0.018	<0.006	0.86	<0.001	0.51	<0.01	<0.0002	<0.001	0.028
	10/15/13	200.7/200.8	**0.011**	0.1	0.018	<0.006	0.56	<0.01	0.46	<0.01	<0.0002	<0.01	0.025
	05/28/13	200.7/200.8	0.0062	0.057	0.0099	<0.006	0.4	<0.005	0.39	0.0077	<0.0002	0.0016	0.019
	11/06/12	200.7/200.8	0.0095	0.037	0.0079	<0.006	3.1	<0.005	0.6	0.011	**0.0022**	<0.0025	0.066
	05/29/12	200.7/200.8	0.0091	0.074	<0.006	0.014	2.3	<0.005	0.15	0.0098	0.00082	<0.0025	0.17
	11/01/11	200.7/200.8	0.0077	0.18	0.013	0.021	7.3	<0.005	0.14	0.0067	**0.0045**	<0.0025	0.43
	05/23/11	200.7/200.8	**0.014**	0.077	**0.055**	0.013	**20**	<0.005	0.36	<0.05	0.0015	<0.0025	0.23
	11/16/10	6010B	<0.1	<0.1	**0.39**	<0.03	**14**	<0.025	0.19	<0.25	0.00067	<0.02	0.89
	08/02/10	6010B	<0.5	<0.5	<0.15	<0.15	**15**	<0.13	0.43	<1.3	0.0016	NL	1.3
	04/20/10	6010B	<0.1	0.27	<0.03	<0.03	**36**	<0.025	0.24	<0.25	<0.0002	0.00581	0.49
EP-2	10/24/17	200.7/200.8	**0.012**	0.17	0.005	<0.006	0.89	<0.0025	0.32	0.01	<0.0002	<0.0025	0.016
	03/30/17	200.7/200.8	**0.018**	0.24	0.0075	<0.006	1.4	0.00087	0.35	0.032	0.00014	0.0017	0.024
	08/29/16	200.7/200.8	**0.014**	0.12	0.012	<0.006	3.5	<0.0025	0.43	0.03	0.000069	0.0015	0.038
	03/02/16	200.7/200.8	**0.011**	0.13	0.0072	<0.006	0.85	<0.005	0.22	0.018	0.000071	0.0051	0.014
	09/01/15	200.7/200.8	**0.014**	0.13	0.013	<0.006	0.58	<0.0025	0.3	0.013	<0.0002	0.0048	0.014
	03/24/15	200.7/200.8	<0.2	0.14	0.017	0.0073	4.4	<0.01	0.42	<0.2	<0.0002	<0.01	0.089
	11/12/14	200.7/200.8	<0.02	0.11	0.012	<0.006	2.8	0.002	0.24	<0.02	<0.0002	0.0071	0.025
	03/05/14	200.7/200.8	**0.012**	0.12	0.013	<0.006	1.2	<0.001	0.36	0.023	<0.0001	0.0051	0.02
	10/15/13	200.7/200.8	**0.011**	0.093	0.0081	<0.006	0.45	<0.01	0.2	0.012	<0.0002	<0.01	0.032
	05/28/13	200.7/200.8	**0.013**	0.056	0.017	<0.006	3.1	<0.005	0.44	0.029	<0.0002	<0.001	0.045
	11/06/12	200.7/200.8	0.0093	0.037	0.014	<0.006	1.3	<0.005	0.37	0.0053	0.00033	<0.0025	0.025
	05/29/12	200.7/200.8	**0.011**	0.064	<0.006	<0.006	0.99	<0.005	0.15	0.011	<0.0002	<0.0025	0.032
	11/01/11	200.7/200.8	0.0083	0.059	0.008	<0.006	3.9	<0.005	0.11	0.0062	0.0015	<0.005	0.12
	05/23/11	200.7/200.8	**0.014**	0.024	0.024	<0.006	2.6	<0.005	0.33	<0.05	<0.0002	<0.0025	0.037
	11/16/10	200.7/200.8	<0.1	<0.11	**0.051**	<0.03	7.9	<0.025	0.41	<0.25	0.00045	<0.001	0.59
	08/02/10	6010B	<0.2	<0.2	<0.06	<0.06	2.4	<0.05	0.23	<0.5	<0.0002	<0.001	<0.5
	04/20/10	6010B	<0.1	<0.1	<0.03	<0.03	17	<0.025	0.31	<0.25	0.00077	0.0083	<0.25

8.15.2 EVAPORATION PONDS (EP-1 thru EP-12B)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**											
EP-3	10/24/17	200.7/200.8	**0.012**	0.17	0.0057	<0.006	0.98	<0.0025	0.31	0.01	<0.0002	<0.0025	0.017
	03/30/17	200.7/200.8	**0.018**	0.22	0.0072	<0.006	0.69	0.00063	0.35	0.03	0.000079	0.0011	0.016
	08/29/16	200.7/200.8	0.0089	0.14	0.01	<0.006	2.5	<0.0025	0.38	0.032	0.000067	0.0016	0.033
	03/02/16	200.7/200.8	**0.013**	0.18	0.0095	<0.006	1.4	0.00083	0.38	0.019	0.000079	0.0042	0.015
	09/01/15	200.7/200.8	**0.015**	0.2	0.017	<0.006	0.42	<0.0025	0.29	0.018	<0.0002	0.0027	0.013
	03/24/15	200.7/200.8	<0.2	0.13	0.01	<0.006	1.2	<0.2	0.33	<0.2	<0.0002	<0.2	0.021
	11/12/14	200.7/200.8	<0.02	0.1	0.0098	<0.006	1.9	<0.02	0.23	<0.02	<0.0002	<0.02	0.02
	03/05/14	200.7/200.8	**0.011**	0.15	<0.03	<0.03	1	<0.01	0.41	0.019	<0.0002	<0.01	<0.05
	10/15/13	200.7/200.8	**0.014**	0.11	0.007	<0.006	0.76	<0.01	0.19	0.015	<0.0002	<0.01	0.023
	05/28/13	200.7/200.8	**0.013**	0.079	0.011	<0.006	0.89	<0.005	0.22	0.013	<0.0002	<0.005	0.016
	11/06/12	200.7/200.8	0.0095	0.039	0.0076	<0.006	1.7	<0.005	0.48	0.008	0.00044	<0.0025	0.031
	05/29/12	200.7/200.8	**0.013**	0.081	<0.006	<0.006	0.39	<0.005	0.11	0.013	<0.0002	<0.005	<0.01
	11/01/11	200.7/200.8	0.0076	0.061	0.0069	<0.006	2.6	<0.005	0.12	0.0065	0.00055	<0.005	0.06
	05/23/11	200.7/200.8	**0.015**	0.034	0.023	<0.006	2	<0.005	0.33	<0.05	<0.0002	<0.0025	0.033
	11/16/10	6010B	<0.1	<0.1	<0.03	<0.03	0.65	<0.025	0.19	<0.25	<0.0002	<0.001	<0.1
	08/02/10	6010B	<0.2	<0.2	<0.06	<0.06	3	<0.05	0.38	<0.5	<0.0002	<0.001	<0.5
	04/20/10	6010B	<0.1	<0.1	<0.03	<0.03	1.6	<0.025	0.39	<0.25	<0.0002	0.00326	<0.25
EP-4	10/24/17	200.7/200.8	**0.011**	0.17	0.0055	<0.006	0.96	<0.0025	0.3	0.01	<0.0002	<0.0025	0.015
	03/30/17	200.7/200.8	**0.015**	0.23	0.0063	<0.006	0.76	0.00062	0.35	0.027	0.000091	0.0011	0.016
	08/29/16	200.7/200.8	**0.011**	0.15	0.0095	<0.006	1.6	<0.0025	0.35	0.035	0.000055	0.0022	0.025
	03/02/16	200.7/200.8	**0.023**	0.15	0.0086	<0.006	0.63	<0.005	0.43	0.021	0.000073	0.004	0.012
	09/01/15	200.7/200.8	**0.016**	0.2	0.017	<0.006	0.43	<0.0025	0.29	0.018	<0.0002	0.0028	0.018
	03/24/15	200.7/200.8	<0.2	0.13	0.009	<0.006	0.81	<0.2	0.44	<0.2	<0.0002	<0.2	0.014
	11/12/14	200.7/200.8	<0.02	0.11	0.01	<0.006	1.7	<0.02	0.28	<0.02	<0.0002	<0.02	0.023
	03/05/14	200.7/200.8	**0.012**	0.14	<0.03	<0.03	0.99	<0.01	0.43	0.018	<0.0002	<0.01	<0.05
	10/15/13	200.7/200.8	**0.012**	0.091	0.0068	<0.006	0.38	<0.01	0.15	0.017	<0.0002	<0.01	0.018
	05/28/13	200.7/200.8	**0.014**	0.082	0.012	<0.006	0.58	<0.01	0.18	<0.02	<0.0002	<0.01	0.015
	11/06/12	200.7/200.8	**0.011**	0.061	<0.006	<0.006	1.2	<0.005	0.52	0.011	<0.0002	<0.0025	0.026
	05/29/12	200.7/200.8	**0.015**	0.064	0.006	<0.006	0.28	<0.005	0.064	0.018	<0.0002	<0.0025	<0.01
	11/01/11	200.7/200.8	0.0087	0.077	<0.006	<0.006	1.2	<0.005	0.21	0.0078	0.00022	<0.005	0.024
	05/23/11	200.7/200.8	**0.012**	0.065	0.024	<0.006	0.41	<0.005	0.3	<0.05	<0.0002	<0.0025	0.018
	11/16/10	6010B	<0.1	<0.1	<0.03	<0.03	0.5	<0.025	0.17	<0.25	<0.0002	<0.001	<0.1
	08/02/10	6010B	<0.2	<0.2	<0.06	<0.06	0.76	<0.05	0.31	<0.5	<0.0002	<.001	<0.5
	04/20/10	6010B	<0.1	0.086	<0.006	<0.006	2	<0.005	0.37	<0.05	<0.0002	0.00327	<0.05

8.15.2 EVAPORATION PONDS (EP-1 thru EP-12B)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**											
EP-5	10/24/17	200.7/200.8	**0.017**	0.24	0.01	<0.006	0.28	<0.005	0.47	0.016	<0.0002	0.0028	0.008
	03/30/17	200.7/200.8	**0.032**	0.18	0.0094	<0.006	0.33	0.0008	0.66	**0.056**	0.000059	0.0025	0.0084
	08/29/16	200.7/200.8	**0.024**	0.17	0.0085	<0.006	0.25	<0.0025	0.35	0.047	0.000054	0.0036	0.0078
	03/02/16	200.7/200.8	**0.022**	0.15	0.009	<0.006	0.6	<0.005	0.43	0.02	0.000067	0.0039	0.011
	09/01/15	200.7/200.8	**0.026**	0.16	0.016	<0.006	0.16	<0.005	0.32	0.034	<0.0002	<0.005	0.012
	03/24/15	200.7/200.8	**0.022**	0.14	0.01	<0.006	0.89	<0.01	0.89	<0.2	<0.0002	<0.01	0.016
	11/12/14	200.7/200.8	**0.032**	0.13	0.0077	<0.006	0.62	<0.02	0.48	<0.05	<0.0002	<0.05	0.012
	03/05/14	200.7/200.8	**0.015**	0.12	<0.03	<0.03	0.6	<0.01	0.55	0.016	<0.0002	<0.01	<0.05
	10/15/13	200.7/200.8	**0.013**	0.09	0.0071	<0.006	0.33	<0.01	0.18	0.017	<0.0002	<0.01	0.016
	05/28/13	200.7/200.8	**0.012**	0.084	0.012	<0.006	0.47	<0.01	0.16	<0.02	<0.0002	<0.01	0.014
	11/06/12	200.7/200.8	**0.012**	0.062	<0.006	<0.006	0.63	<0.005	0.39	0.012	<0.0002	<0.0025	0.023
	05/29/12	200.7/200.8	**0.015**	0.064	<0.006	<0.006	0.28	<0.005	0.07	0.018	<0.0002	<0.0025	<0.01
	11/01/11	200.7/200.8	**0.011**	0.094	0.0085	<0.006	0.39	<0.005	0.27	0.0069	.<0.0002	<0.005	0.01
	05/23/11	200.7/200.8	**0.018**	0.083	0.022	<0.006	0.14	<0.005	0.19	<0.05	<0.0002	<0.0025	0.015
	11/16/10	6010B	<0.1	<0.1	0.043	<0.03	0.68	<0.025	0.22	<0.25	<0.0002	<0.001	<0.1
	08/02/10	6010B	<0.2	<0.2	<0.06	<0.06	<0.5	<0.05	0.069	<0.5	<0.002	<0.001	<0.5
	04/20/10	6010B	<0.1	0.11	<0.03	<0.03	1.1	<0.025	0.45	<0.25	<0.0002	0.00571	<0.05
EP-6	10/24/17	200.7/200.8	**0.018**	0.25	0.01	<0.006	0.19	<0.005	0.49	0.018	<0.0002	0.0029	0.0039
	03/30/17	200.7/200.8	**0.031**	0.18	0.0093	<0.006	0.38	0.0007	0.66	**0.058**	0.000059	0.0026	0.0097
	08/29/16	200.7/200.8	**0.038**	0.19	0.0083	<0.006	0.15	<0.0025	0.39	0.046	<0.0002	0.0039	0.0073
	03/02/16	200.7/200.8	**0.021**	0.18	0.011	<0.006	1.1	0.0012	0.47	0.017	<0.0002	0.0039	0.014
	09/01/15	200.7/200.8	**0.031**	0.13	0.014	<0.006	0.028	<0.005	0.33	0.04	<0.0002	<0.005	0.014
	03/25/15	200.7/200.8	**0.023**	0.13	0.0092	<0.006	0.78	<0.01	0.43	0.026	<0.0002	<0.01	0.018
	11/12/14	200.7/200.8	**0.034**	0.15	0.0082	<0.006	1.6	<0.02	0.55	<0.05	<0.0002	<0.05	<0.02
	03/05/14	200.7/200.8	**0.015**	0.12	0.0089	<0.006	0.67	<0.01	0.59	0.018	<0.0002	<0.01	0.014
	10/15/13	200.7/200.8	<0.05	0.099	0.0099	<0.006	0.1	<0.05	0.22	<0.05	<0.0002	<0.05	<0.01
	05/28/13	200.7/200.8	**0.023**	0.09	0.0088	<0.006	0.13	<0.01	0.13	<0.02	<0.0002	<0.002	<0.01
	11/06/12	200.7/200.8	**0.023**	0.092	0.0076	<0.006	0.14	<0.005	0.086	0.024	<0.0002	<0.0025	<0.01
	05/29/12	200.7/200.8	**0.017**	0.1	0.0093	<0.006	0.28	<0.005	0.42	0.016	<0.0002	<0.0025	0.013
	11/01/11	200.7/200.8	**0.017**	0.11	0.015	<0.006	0.15	<0.005	0.21	0.0089	<0.0002	<0.005	<0.01
	05/23/11	200.7/200.8	**0.02**	0.12	0.019	<0.006	0.17	<0.005	0.14	<0.05	<0.0002	<0.005	0.01
	11/16/10	6010B	<0.1	0.14	0.04	<0.03	<0.03	<0.025	0.33	<0.25	<0.0002	0.001	<0.1
	08/02/10	6010B	<0.2	<0.2	<0.06	<0.06	<0.5	<0.05	**4.8**	<0.5	<0.0002	<0.001	<0.5

8.15.2 EVAPORATION PONDS (EP-1 thru EP-12B)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**											
EP-7	10/24/17	200.7/200.8	**0.11**	0.23	0.026	<0.03	0.15	<0.025	1.2	**0.14**	<0.0002	0.0081	<0.05
	03/30/17	200.7/200.8	**0.18**	0.16	<0.03	<0.03	0.72	<0.025	0.71	**0.3**	0.00004	<0.025	0.018
	08/30/16	200.7/200.8	**0.14**	0.17	<0.03	<0.03	<0.1	<0.025	1.5	**0.19**	0.000075	0.0088	0.02
	03/02/16	200.7/200.8	**0.069**	0.2	0.012	<0.03	2	<0.025	0.61	**0.071**	0.000092	0.0059	0.023
	09/01/15	200.7/200.8	**0.16**	0.18	**0.064**	<0.03	0.12	<0.05	0.51	**0.22**	<0.0002	<0.05	<0.05
	03/25/15	200.7/200.8	<0.2	0.16	<0.03	<0.03	0.32	<0.2	0.77	<0.2	<0.0002	<0.2	<0.05
	11/12/14	200.7/200.8	**0.14**	0.2	<0.03	<0.03	0.72	<0.05	1.1	<0.5	<0.0002	<0.05	<0.05
	03/05/14	200.7/200.8	**0.15**	0.11	<0.03	<0.03	0.28	<0.1	2	**0.12**	<0.0002	<0.1	<0.05
	10/15/13	200.7/200.8	**0.14**	0.099	<0.3	<0.03	0.39	<0.05	0.54	**0.16**	<0.0002	<0.05	<0.05
	05/28/13	200.7/200.8	**0.13**	0.11	<0.03	<0.03	0.14	<0.05	**3.1**	**0.1**	<0.0002	<0.1	<0.05
	11/06/12	200.7/200.8	**0.14**	0.081	<0.03	<0.03	<0.1	<0.025	0.32	<0.25	<0.0002	<0.02	<0.05
	05/29/12	200.7/200.8	**0.078**	0.14	0.014	<0.006	0.18	<0.005	0.74	**0.077**	<0.0002	<0.02	0.011
	11/01/11	200.7/200.8	**0.049**	0.098	<0.03	<0.03	0.39	<0.025	0.83	0.03	<0.0002	<0.02	<0.05
	05/23/11	200.7/200.8	**0.079**	0.13	<0.03	<0.03	0.16	<0.025	**2.5**	<0.25	<0.0002	<0.01	<0.05
	01/16/10	6010B	<0.2	<0.2	<0.06	<0.06	0.83	<0.05	**3.3**	<0.5	<0.0002	0.003	<0.2
	08/02/10	6010B	<1.0	<1.0	<0.3	<0.3	<2.5	<0.25	**3.9**	<2.5	<0.0002	NL	<2.5
	04/20/10	6010B	**0.1**	<0.2	<0.03	<0.03	0.28	<0.025	**2.7**	<0.25	<0.0002	0.00225	<0.25
EP-8	10/24/17	200.7/200.8	**0.12**	0.22	0.026	<0.03	0.2	<0.025	1.1	**0.19**	<0.0002	0.0079	<0.05
	03/30/17	200.7/200.8	**0.17**	0.17	<0.03	<0.03	0.31	<0.025	0.55	**0.31**	0.000047	<0.025	0.016
	08/30/16	200.7/200.8	**0.14**	0.19	0.016	<0.03	<0.1	<0.025	1.5	**0.19**	0.000079	0.0095	0.018
	09/01/15	200.7/200.8	**0.18**	0.18	0.046	<0.03	<0.1	<0.05	0.52	**0.22**	<0.0002	<0.05	<0.05
	03/25/15	200.7/200.8	<0.2	0.16	<0.03	<0.03	0.34	<0.2	0.78	<0.2	<0.0002	<0.2	<0.05
	11/12/14	200.7/200.8	**0.14**	0.2	<0.03	<0.03	0.57	<0.05	1.2	<0.5	<0.0002	<0.05	<0.05
	03/05/14	200.7/200.8	**0.12**	0.12	<0.03	<0.03	0.28	<0.1	**2.2**	<0.1	<0.0002	<0.1	<0.05
	10/15/13	200.7/200.8	**0.35**	0.24	<0.06	<0.06	0.23	<0.1	**18**	**0.3**	<0.0002	<0.1	<0.1
	05/28/13	200.7/200.8	**0.12**	0.13	<0.03	<0.03	0.16	<0.02	**4**	<0.1	<0.001	<0.01	<0.05
	11/06/12	200.7/200.8	**0.5**	0.23	<0.12	<0.12	<0.2	<0.1	**34**	<2.5	<0.0002	<0.05	<0.2
	05/29/12	200.7/200.8	**0.15**	0.17	0.018	0.0071	0.5	<0.005	**8.6**	**0.12**	<0.0002	<0.02	0.025
	11/01/11	200.7/200.8	**0.047**	0.13	0.017	<0.006	0.17	<0.005	1.5	0.026	.<0.0002	<0.005	0.012
	05/23/11	200.7/200.8	**0.42**	0.23	<0.03	<0.06	0.41	<0.025	**20**	<0.25	<0.0002	<0.0025	0.1
	11/16/10	6010B	<0.4	<0.4	<0.12	<0.12	<1.0	<0.025	<1.0	<1.0	<0.0002	0.003	<0.4
	08/02/10	6010B	<1.0	<1.0	<0.3	<0.3	<2.5	<0.25	**24**	<2.5	<0.0002	NL	<2.5
	04/20/10	6010B	**0.17**	0.13	<0.03	<0.03	0.62	<0.025	**9.6**	<0.25	<0.0002	0.00227	<0.25

8.15.2 EVAPORATION PONDS (EP-1 thru EP-12B)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**											
EP-9	10/24/17	200.7/200.8	**0.22**	0.26	0.021	<0.03	0.1	<0.025	**4.9**	**0.33**	<0.0002	0.0087	<0.05
	03/30/17	200.7/200.8	**0.13**	0.26	<0.03	<0.03	1.8	<0.025	1.4	**0.23**	0.000047	<0.025	0.022
	08/30/16	200.7/200.8	**0.25**	0.29	<0.06	<0.06	<0.2	<0.05	1.8	**0.31**	0.000092	<0.05	0.029
	03/02/16	200.7/200.8	**0.11**	0.24	0.012	<0.03	0.26	<0.025	0.27	**0.079**	<0.0002	0.0061	0.023
	09/01/15	200.7/200.8	**0.14**	0.22	0.033	<0.03	<0.1	<0.05	0.4	**0.18**	<0.0002	<0.05	<0.05
	03/25/15	200.7/200.8	<0.2	0.11	<0.03	<0.03	0.12	<0.2	0.5	<0.2	<0.0002	<0.2	<0.05
	11/13/14	200.7/200.8	**0.2**	0.25	<0.03	<0.03	0.19	<0.05	0.25	<1.0	<0.0002	<0.05	<0.1
	03/05/14	200.7/200.8	**0.12**	0.18	<0.03	<0.03	0.26	<0.1	**2.7**	**0.15**	<0.0002	<0.1	<0.05
	10/15/13	200.7/200.8	<0.1	0.18	<0.03	<0.03	0.1	<0.05	**3.3**	**0.11**	<0.0002	<0.05	<0.05
	05/28/13	200.7/200.8	**0.095**	0.2	<0.03	<0.03	<0.1	<0.05	**3.4**	<0.1	<0.0002	<0.01	<0.05
	11/06/12	200.7/200.8	**0.055**	0.15	<0.03	<0.03	0.13	<0.025	0.94	<0.25	<0.0002	<0.01	<0.05
	05/29/12	200.7/200.8	**0.081**	0.17	0.0096	<0.006	0.11	<0.005	**4.7**	**0.074**	<0.0002	<0.02	0.014
	11/01/11	200.7/200.8	**0.087**	0.2	<0.03	<0.03	0.037	<0.025	1.9	**0.051**	<0.0002	<0.02	<0.05
	05/23/11	200.7/200.8	**0.1**	0.2	<0.03	<0.03	0.18	<0.025	**7.4**	<0.25	<0.0002	<0.01	<0.05
	11/16/10	6010B	<0.4	<0.4	<0.12	<0.12	<1.0	<0.1	**6.7**	<1.0	<0.0002	0.003	<0.4
	04/20/10	6010B	<0.1	0.14	<0.03	<0.03	0.62	<0.025	**29**	<0.25	<0.0002	0.0022	<0.25
EP-11	10/24/17	200.7/200.8	**0.24**	0.17	0.044	<0.06	0.31	<0.05	**2.2**	**0.35**	<0.0002	<0.05	<0.1
	03/30/17	200.7/200.8	**0.17**	0.18	0.018	<0.03	0.31	<0.025	0.59	**0.32**	0.000042	<0.025	0.019
	08/30/16	200.7/200.8	**0.14**	0.18	0.02	<0.03	<0.1	<0.025	1.5	**0.19**	0.000078	0.0083	0.017
	03/02/16	200.7/200.8	**0.086**	0.19	<0.03	<0.03	2.9	<0.025	0.55	**0.075**	0.000077	0.0066	0.021
	09/01/15	200.7/200.8	**0.17**	0.17	0.036	<0.03	0.18	<0.05	0.48	**0.21**	<0.0002	<0.05	<0.05
	03/25/15	200.7/200.8	<0.2	0.13	<0.03	<0.03	0.22	<0.2	0.66	<0.2	<0.0005	<0.2	<0.05
	11/12/14	200.7/200.8	**0.14**	0.16	<0.03	<0.03	0.38	<0.05	1.2	<0.5	<0.0002	<0.05	<0.05
	03/05/14	200.7/200.8	**0.042**	0.081	0.013	<0.006	0.79	<0.01	0.99	0.041	<0.0002	<0.01	0.019
	10/15/13	200.7/200.8	<0.05	0.072	0.011	<0.006	0.42	<0.05	0.41	<0.05	<0.0002	<0.05	<0.01
	05/28/13	200.7/200.8	**0.042**	0.064	0.01	<0.006	0.12	<0.01	0.44	<0.05	<0.0002	<0.005	<0.01
	11/06/12	200.7/200.8	**0.017**	0.051	0.0065	<0.006	0.99	<0.005	0.35	0.014	<0.0002	<0.0025	0.024
	05/29/12	200.7/200.8	**0.028**	0.086	0.0099	<0.006	0.48	<0.005	0.8	0.017	<0.0002	<0.0025	0.014
	11/01/11	200.7/200.8	0.0083	0.071	<0.006	<0.006	1.2	<0.005	0.19	0.0084	<0.0002	<0.005	0.021
	05/23/11	200.7/200.8	**0.061**	0.085	<0.03	<0.03	0.22	<0.025	0.9	<0.25	<0.0002	<0.01	<0.05
	11/16/10	6010B	<0.1	0.14	**0.35**	<0.03	1.3	<0.025	0.88	<0.25	<0.0002	0.002	<0.1
	04/20/10	6010B	<0.1	<0.1	<0.03	<0.03	0.42	<0.025	1.6	<0.25	<0.0002	0.00197	<0.25

8.15.2 EVAPORATION PONDS (EP-1 thru EP-12B)

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**											
EP-12A	10/24/17	200.7/200.8	**0.036**	0.21	0.013	<0.006	0.54	<0.005	0.2	<0.1	<0.0002	0.0028	0.0088
	03/30/17	200.7/200.8	**0.026**	0.12	0.0079	<0.006	0.7	0.0005	0.41	0.048	0.00006	0.0011	0.0074
	08/30/16	200.7/200.8	**0.017**	0.11	0.0092	<0.006	1.1	<0.005	0.38	0.028	0.000093	0.0022	0.018
	03/02/16	200.7/200.8	**0.021**	0.16	0.011	<0.006	2.3	<0.025	0.39	0.022	<0.0002	0.0041	0.015
	09/01/15	200.7/200.8	**0.029**	0.099	0.02	<0.006	0.28	<0.0025	0.14	0.038	<0.0002	0.0029	<0.01
	03/25/15	200.7/200.8	**0.019**	0.076	0.012	<0.006	0.6	<0.01	0.095	<0.2	<0.0002	<0.01	0.015
	11/12/14	200.7/200.8	<0.05	0.14	0.018	<0.006	4.1	<0.05	0.44	<0.05	<0.0002	<0.05	0.019
	03/05/14	200.7/200.8	**0.019**	0.059	0.014	<0.006	1.9	<0.01	0.95	0.02	<0.0002	<0.01	0.021
	10/15/13	200.7/200.8	<0.05	0.072	0.011	<0.006	0.65	<0.05	0.38	<0.05	<0.0002	<0.05	0.016
	05/28/13	200.7/200.8	**0.018**	0.054	0.012	<0.006	0.67	<0.01	0.23	<0.02	<0.0002	<0.01	0.015
	11/06/12	200.7/200.8	**0.015**	0.053	<0.006	<0.006	0.86	<0.005	0.32	0.013	<0.0002	<0.0025	0.02
	05/29/12	200.7/200.8	**0.025**	0.083	0.0097	<0.006	0.52	<0.005	0.75	0.017	<0.0002	<0.0025	0.016
	11/01/11	200.7/200.8	0.0085	0.065	0.0067	<0.006	1.9	<0.005	0.14	0.0063	0.00035	<0.005	0.04
	05/23/11	200.7/200.8	**0.024**	0.061	0.02	<0.006	0.22	<0.005	0.32	<0.05	<0.0002	<0.0025	0.016
	11/16/10	6010B	<0.1	<0.1	<0.03	<0.03	1.1	<0.025	0.4	<0.25	<0.0002	0.002	<0.1
	04/20/10	6010B	<0.1	<0.1	<0.03	<0.03	0.92	<0.025	0.28	<0.25	<0.0002	0.00175	<0.25
EP-12B	10/24/17	200.7/200.8	**0.012**	0.17	0.0042	<0.006	0.85	<0.005	0.31	<0.1	<0.0002	<0.005	0.016
	03/30/17	200.7/200.8	**0.017**	0.21	0.0083	<0.006	0.93	0.00087	0.37	0.03	0.000096	0.0012	0.018
	08/30/16	200.7/200.8	**0.018**	0.17	0.015	<0.006	5.8	<0.005	0.47	0.03	<0.0002	0.0017	0.043
	03/02/16	200.7/200.8	**0.013**	0.2	0.014	<0.006	3.7	0.0035	0.38	0.024	0.000054	0.0047	0.025
	09/01/15	200.7/200.8	**0.014**	0.13	0.013	<0.006	0.55	<0.0025	0.26	0.017	<0.0002	0.0035	0.015
	03/25/15	200.7/200.8	**0.018**	0.1	0.011	<0.006	1.1	<0.01	0.22	<0.2	<0.0002	<0.01	0.02
	11/12/14	200.7/200.8	<0.05	0.087	0.011	<0.006	1.4	<0.05	0.27	<0.05	<0.0002	<0.05	0.019
	03/05/14	200.7/200.8	**0.014**	0.08	0.013	<0.006	1.2	<0.01	0.55	0.014	<0.0002	<0.01	0.014
	10/15/13	200.7/200.8	**0.011**	0.08	0.0076	<0.006	0.38	<0.01	0.2	0.012	<0.0002	<0.01	0.023
	05/28/13	200.7/200.8	**0.013**	0.049	0.013	<0.006	1.3	<0.01	0.25	<0.02	<0.0002	<0.01	0.025
	11/06/12	200.7/200.8	0.0092	0.04	0.0069	<0.006	1.6	<0.005	0.47	0.0089	0.00042	<0.0025	0.031
	05/29/12	200.7/200.8	**0.016**	0.072	<0.006	<0.006	0.32	<0.005	0.12	0.017	<0.0002	<0.0025	<0.01
	11/01/11	200.7/200.8	0.0076	0.063	0.0073	<0.006	2.4	<0.005	0.13	0.006	0.00055	<0.005	0.059
	05/23/11	200.7/200.8	**0.016**	0.05	0.022	<0.006	0.59	<0.005	0.29	<0.05	<0.0002	<0.0025	0.02
	11/16/10	6010B	<0.1	<0.1	<0.03	<0.03	0.84	<0.025	0.15	<0.25	<0.0002	<0.001	<0.25
	04/20/10	6010B	<0.1	<0.1	<0.03	<0.03	4.2	<0.025	0.35	<0.25	<0.0002	0.00291	<0.25

8.15.2 EVAPORATION PONDS (EP-1 thru EP-12B)

Total Metals Analytical Result Summary

STANDARDS	PARAMETERS										
	Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103	0.1	1	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL	**0.01**	**2**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED Tap Water (MARCH 2017)	0.000855	3.28	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)	0.000052	0.38	NE	0.8	14	0.015	0.43	0.1	0.00063	0.004	6
SAMPLE ID / DATE SAMPLED / METHOD											

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.15.3 EVAPORATION PONDS (EP-1 thru EP-12B)

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-1	11/12/14	200.7/200.8	0.0093	0.16	<0.002	<0.002	<0.006	0.64	<0.0025	**0.31**	0.014	<0.005	<0.0025	0.031
	03/05/14	200.7/200.8	<0.01	0.13	<0.002	0.018	<0.006	0.78	<0.01	**0.53**	<0.01	<0.005	<0.01	0.021
	10/15/13	200.7/200.8	0.01	0.1	<0.002	0.017	<0.006	0.42	<0.005	**0.45**	<0.01	<0.05	<0.01	0.017
	05/28/13	200.7/200.8	<0.01	0.061	<0.01	<0.03	<0.03	0.25	<0.01	**0.43**	<0.01	<0.025	<0.01	<0.05
	11/06/12	200.7/200.8	0.0088	0.034	<0.002	0.0073	<0.006	**2.2**	<0.005	**0.66**	0.0072	<0.005	0.0011	0.099
	05/29/12	200.7/200.8	0.0084	0.046	<0.002	<0.006	<0.006	0.76	<0.005	0.15	0.011	<0.005	<0.005	0.074
	11/01/11	200.7/200.8	0.0047	0.012	<0.002	<0.006	<0.006	1	<0.005	0.12	0.015	<0.005	<0.002	0.059
	05/23/11	200.7/200.8	<0.01	0.014	<0.01	0.047	<0.03	**15**	<0.025	**0.34**	<0.25	<0.025	<0.005	0.13
	11/16/10	6010B	<0.1	<0.1	<0.1	<0.03	<0.03	**4.3**	<0.025	0.15	<0.25	<0.025	<0.001	<0.25
	08/02/10	6010B	<0.02	0.072	<0.002	0.013	<0.006	**2.5**	<0.005	**0.36**	<0.05	<0.025	<0.001	0.096
	04/20/10	6010B	<0.02	0.085	<0.002	0.019	0.0091	**29**	<0.005	**0.24**	**0.066**	<0.005	0.00442	0.28
EP-2	10/24/17	200.7/200.8	0.0093	0.16	<0.002	0.0054	<0.006	0.64	<0.0025	**0.31**	0.014	<0.005	<0.0025	0.031
	03/30/17	200.7/200.8	**0.015**	0.22	<0.002	0.013	<0.006	**1.1**	<0.0025	**0.34**	0.026	<0.005	0.0013	0.017
	08/29/16	200.7/200.8	**0.018**	0.12	<0.002	0.012	<0.006	**3**	<0.0025	**0.44**	**0.053**	<0.005	0.0014	0.052
	03/02/16	200.7/200.8	0.0098	0.13	<0.002	0.0069	<0.006	**0.63**	0.00039	**0.22**	0.017	<0.005	0.0044	0.016
	09/01/15	200.7/200.8	0.0098	0.13	<0.002	0.012	<0.006	**0.37**	<0.0025	**0.3**	0.011	<0.005	0.0031	0.02
	03/24/15	200.7/200.8	<0.01	0.13	<0.002	0.017	<0.006	**4**	<0.2	**0.37**	<0.1	<0.005	<0.01	0.086
	11/12/14	200.7/200.8	**0.011**	0.076	<0.002	0.0099	<0.006	**1.4**	<0.01	**0.21**	<0.01	<0.005	<0.01	0.056
	03/05/14	200.7/200.8	<0.01	0.13	<0.005	0.016	<0.006	0.72	<0.01	**0.38**	0.042	<0.005	<0.01	0.01
	10/15/13	200.7/200.8	<0.01	0.085	<0.002	0.0071	<0.006	0.27	<0.005	0.19	0.011	<0.005	<0.01	0.017
	05/28/13	200.7/200.8	**0.012**	0.059	<0.01	<0.03	<0.03	**3.2**	<0.01	**0.48**	0.024	<0.025	<0.01	0.092
	11/06/12	200.7/200.8	0.01	0.034	<0.002	0.012	<0.006	**1.2**	<0.005	**0.36**	0.0041	<0.005	<0.001	0.045
	05/29/12	200.7/200.8	**0.011**	0.06	<0.002	<0.006	<0.006	0.46	<0.005	0.15	0.011	<0.005	<0.005	0.024
	11/01/11	200.7/200.8	0.0058	0.042	<0.002	0.0065	<0.006	**1.1**	<0.005	0.11	0.0057	<0.005	<0.002	0.044
	05/23/11	200.7/200.8	**0.014**	0.026	<0.01	<0.03	<0.03	**1.7**	<0.025	**0.33**	<0.25	<0.025	<0.005	<0.05
	11/16/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.71	<0.025	0.18	<0.25	<0.025	<0.001	<0.25
	08/02/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	**2.2**	<0.025	**0.27**	<0.25	<0.025	<0.001	<0.25
	04/20/10	6010B	<0.02	0.057	<0.002	0.013	<0.006	**9.7**	<0.005	**0.34**	<0.25	<0.005	0.0046	0.12

8.15.3 EVAPORATION PONDS (EP-1 thru EP-12B)

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-3	10/24/17	200.7/200.8	**0.011**	0.16	<0.002	0.0053	<0.006	0.64	<0.0025	**0.31**	0.011	<0.005	<0.0025	0.024
	03/30/17	200.7/200.8	**0.016**	0.22	<0.002	0.0072	<0.006	0.69	<0.0025	**0.35**	0.028	<0.005	0.0013	0.016
	08/29/16	200.7/200.8	**0.015**	0.15	<0.002	0.012	<0.006	**2.2**	<0.0025	**0.43**	0.049	<0.005	0.0019	0.041
	03/02/16	200.7/200.8	**0.011**	0.16	<0.002	0.0085	<0.006	0.59	0.00054	**0.36**	0.021	<0.005	0.0037	0.0099
	09/01/15	200.7/200.8	**0.013**	0.19	<0.002	0.014	<0.006	0.21	<0.0025	**0.27**	0.014	<0.005	<0.0025	0.014
	03/24/15	200.7/200.8	<0.1	0.13	<0.002	0.0088	<0.006	0.9	<0.2	**0.31**	<0.1	<0.005	<0.01	0.055
	11/12/14	200.7/200.8	**0.012**	0.1	<0.002	0.0091	<0.006	**1.6**	<0.01	**92**	<0.01	<0.005	<0.01	0.016
	03/05/14	200.7/200.8	<0.01	0.13	<0.002	0.013	<0.006	0.65	<0.01	**0.41**	0.021	<0.005	<0.01	<0.01
	10/15/13	200.7/200.8	0.01	0.085	<0.002	0.0073	<0.006	0.2	<0.005	0.15	0.015	<0.05	<0.01	0.012
	05/28/13	200.7/200.8	**0.011**	0.088	<0.01	<0.03	<0.03	0.41	<0.01	**0.26**	0.013	<0.025	<0.01	0.072
	11/06/12	200.7/200.8	0.0081	0.04	<0.002	0.0065	<0.006	1	<0.005	**0.52**	0.0053	<0.005	0.0014	0.076
	05/29/12	200.7/200.8	**0.014**	0.076	<0.002	<0.006	<0.006	0.22	<0.005	0.1	0.022	<0.005	<0.01	0.033
	11/01/11	200.7/200.8	0.0066	0.053	<0.002	<0.006	<0.006	**1.3**	<0.005	0.12	0.0056	<0.005	<0.005	0.03
	05/23/11	200.7/200.8	**0.014**	0.033	<0.002	0.024	<0.006	**1.5**	<0.005	**0.34**	<0.05	<0.005	<0.005	0.033
	11/16/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.24	<0.025	0.15	<0.25	<0.025	<0.001	<0.25
	08/02/10	6010B	<0.1	0.12	<0.002	0.0093	<0.006	**1.8**	<0.005	**0.37**	<0.05	<0.005	<0.001	<0.05
	04/20/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.88	<0.025	**0.42**	<0.25	<0.005	0.00258	<0.25
EP-4	10/24/17	200.7/200.8	**0.013**	0.16	<0.002	0.006	<0.006	0.65	<0.0025	**0.3**	0.013	<0.005	0.0005	0.035
	03/30/17	200.7/200.8	**0.015**	0.22	<0.002	0.009	<0.006	0.61	<0.0025	**0.34**	0.029	<0.005	0.0011	0.035
	08/29/16	200.7/200.8	**0.016**	0.15	<0.002	0.013	<0.006	**1.3**	<0.0025	**0.37**	0.05	<0.005	0.0022	0.036
	03/02/16	200.7/200.8	**0.019**	0.15	<0.002	0.0088	<0.006	0.49	0.00059	**0.43**	0.02	<0.005	0.0035	0.018
	09/01/15	200.7/200.8	**0.014**	0.19	<0.002	0.013	<0.006	0.24	<0.0025	**0.28**	0.018	<0.005	0.0026	0.016
	03/24/15	200.7/200.8	**0.022**	0.12	<0.002	0.0079	<0.006	0.46	<0.2	**0.4**	0.038	<0.005	<0.01	<0.01
	11/12/14	200.7/200.8	**0.012**	0.11	<0.002	0.01	<0.006	**1.3**	0.0013	**0.27**	0.011	<0.005	0.0039	0.017
	03/05/14	200.7/200.8	<0.01	0.13	<0.002	0.012	<0.006	0.58	<0.01	**0.43**	0.021	<0.005	<0.01	<0.01
	10/15/13	200.7/200.8	**0.012**	0.084	<0.002	<0.006	<0.006	0.26	<0.005	0.15	0.017	<0.05	<0.01	0.013
	05/28/13	200.7/200.8	**0.013**	0.085	<0.01	<0.03	<0.03	0.31	<0.01	0.19	0.019	<0.025	<0.01	<0.05
	11/06/12	200.7/200.8	0.0076	0.068	<0.002	<0.006	<0.006	0.29	<0.005	**0.59**	<0.01	<0.005	<0.001	0.13
	05/29/12	200.7/200.8	**0.017**	0.06	<0.002	0.0067	<0.006	0.2	<0.005	0.061	0.024	<0.005	<0.005	0.036
	11/01/11	200.7/200.8	0.0086	0.073	<0.002	<0.006	<0.006	0.78	<0.005	0.2	0.0084	<0.005	<0.005	0.022
	05/23/11	200.7/200.8	**0.017**	0.067	<0.002	0.024	<0.006	0.19	<0.005	**0.33**	<0.05	<0.005	<0.005	0.019
	11/16/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.22	<0.025	0.14	<0.25	<0.025	<0.001	<0.25
	08/02/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	1	<0.025	**0.33**	<0.25	<0.025	0.002	<0.25
	04/20/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.95	<0.025	**0.41**	<0.25	<0.005	0.00292	<0.25

8.15.3 EVAPORATION PONDS (EP-1 thru EP-12B)

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-5	10/24/17	200.7/200.8	**0.019**	0.23	<0.002	0.0079	<0.006	0.2	<0.01	**0.45**	0.018	<0.005	<0.01	0.0034
	03/30/17	200.7/200.8	**0.029**	0.17	<0.002	0.01	<0.006	0.15	<0.0025	**0.62**	**0.051**	<0.005	0.0026	0.024
	08/29/16	200.7/200.8	**0.025**	0.19	<0.002	0.01	<0.006	0.1	<0.01	**0.37**	0.039	<0.005	0.004	0.023
	03/02/16	200.7/200.8	**0.02**	0.15	<0.002	0.0097	<0.006	0.45	<0.01	**0.43**	0.019	<0.005	0.0034	0.02
	09/01/15	200.7/200.8	**0.025**	0.14	<0.002	0.017	<0.006	0.058	<0.005	**0.32**	0.031	<0.005	<0.005	0.014
	03/24/15	200.7/200.8	<0.2	0.13	<0.002	0.0075	<0.006	0.51	<0.2	**0.44**	<0.1	<0.005	<0.01	<0.01
	11/12/14	200.7/200.8	**0.025**	0.13	<0.002	0.0089	<0.006	0.24	<0.02	**0.48**	<0.02	<0.005	<0.02	<0.01
	03/05/14	200.7/200.8	**0.012**	0.1	<0.01	<0.03	<0.03	0.46	<0.01	**0.55**	0.021	<0.025	<0.01	<0.05
	10/15/13	200.7/200.8	**0.013**	0.089	<0.002	0.0079	<0.006	0.27	<0.005	0.18	0.018	<0.05	<0.01	0.012
	05/28/13	200.7/200.8	**0.013**	0.085	<0.01	<0.03	<0.03	0.28	<0.01	0.16	0.019	<0.025	<0.1	<0.05
	11/06/12	200.7/200.8	0.0075	0.07	<0.002	<0.006	<0.006	0.25	<0.005	**0.45**	<0.05	<0.005	<0.001	0.034
	05/29/12	200.7/200.8	**0.017**	0.059	<0.002	0.0069	<0.006	0.19	<0.005	0.065	0.023	<0.005	<0.01	0.023
	11/01/11	200.7/200.8	0.0098	0.085	<0.002	0.007	<0.006	0.3	<0.005	**0.24**	0.0075	<0.005	<0.005	<0.1
	05/23/11	200.7/200.8	**0.018**	0.086	<0.002	0.023	<0.006	0.049	<0.005	**0.21**	<0.05	<0.005	<0.005	0.015
	11/16/10	6010B	<0.1	<0.1	<0.01	0.031	<0.03	0.37	<0.025	0.19	<0.25	<0.025	<0.001	<0.25
	08/02/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.42	<0.025	**0.3**	<0.25	<0.025	0.003	<0.25
	04/20/10	6010B	<0.1	0.12	<0.01	<0.03	<0.03	0.71	<0.025	**0.49**	<0.25	<0.005	0.00271	<0.25
EP-6	10/24/17	200.7/200.8	**0.021**	0.23	<0.002	0.0091	<0.006	0.13	<0.01	**0.47**	0.017	<0.005	0.0024	0.069
	03/30/17	200.7/200.8	**0.031**	0.19	<0.02	<0.06	<0.06	<0.2	<0.0025	**0.72**	**0.054**	<0.05	0.0026	0.042
	08/29/16	200.7/200.8	**0.028**	0.19	<0.002	0.012	<0.006	0.046	<0.005	**0.38**	0.037	<0.005	0.0039	0.24
	03/02/16	200.7/200.8	**0.02**	0.16	<0.002	0.0099	<0.006	0.57	0.00059	**0.46**	0.019	<0.005	0.0037	0.015
	09/01/15	200.7/200.8	**0.03**	0.13	<0.01	0.014	<0.03	0.028	<0.005	**0.33**	0.035	<0.005	<0.005	0.014
	03/25/15	200.7/200.8	<0.2	0.12	<0.002	0.0079	<0.006	0.4	<0.2	**0.39**	<0.2	<0.005	<0.01	0.011
	11/12/14	200.7/200.8	**0.027**	0.14	<0.01	<0.03	<0.03	0.2	<0.02	**0.53**	0.025	<0.025	<0.02	<0.05
	03/05/14	200.7/200.8	**0.015**	0.11	<0.002	0.0091	<0.006	0.45	<0.01	**0.6**	0.024	<0.005	<0.01	0.011
	10/15/13	200.7/200.8	<0.05	0.098	<0.002	0.0086	<0.006	0.077	<0.005	**0.22**	<0.05	<0.05	<0.05	<0.01
	05/28/13	200.7/200.8	**0.021**	0.096	<0.01	<0.03	<0.03	<0.1	<0.01	0.15	0.02	<0.025	<0.01	0.069
	11/06/12	200.7/200.8	**0.022**	0.11	<0.02	<0.06	<0.06	0.053	<0.05	0.1	0.014	<0.05	<0.005	<0.1
	05/29/12	200.7/200.8	**0.02**	0.094	<0.002	0.011	<0.006	0.11	<0.005	**0.41**	0.017	<0.005	<0.01	0.019
	11/01/11	200.7/200.8	**0.02**	0.11	<0.002	0.014	<0.006	0.076	<0.005	0.19	0.011	<0.005	<0.01	0.011
	05/23/11	200.7/200.8	**0.016**	0.11	<0.01	<0.03	<0.03	0.13	<0.025	0.13	<0.25	<0.025	<0.005	<0.05
	11/16/10	6010B	<0.1	0.12	<0.01	<0.03	<0.03	0.18	<0.025	**0.3**	<0.25	<0.025	0.001	<0.25
	08/02/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.033	<0.025	0.045	<0.25	<0.025	0.002	<0.25
	04/20/10	6010B	<0.02	0.068	<0.002	<0.006	<0.006	0.38	<0.005	**0.43**	<0.05	<0.005	0.00169	0.5

8.15.3 EVAPORATION PONDS (EP-1 thru EP-12B)

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-7	10/24/17	200.7/200.8	**0.13**	0.26	<0.01	0.026	<0.03	<0.1	<0.025	**1.1**	<0.2	<0.025	0.0079	<0.05
	03/30/17	200.7/200.8	**0.16**	0.18	<0.02	0.015	<0.06	<0.2	<0.025	0.19	**0.28**	<0.05	0.0053	0.053
	08/30/16	200.7/200.8	**0.16**	0.2	<0.01	0.014	<0.03	<0.1	<0.025	**1.3**	**0.18**	<0.025	0.0088	0.03
	03/02/16	200.7/200.8	**0.078**	0.18	<0.01	0.009	<0.03	0.52	0.0016	**0.42**	**0.066**	<0.025	0.006	0.02
	09/01/15	200.7/200.8	**0.15**	0.17	<0.01	**0.062**	<0.03	<0.1	<0.05	**0.38**	**0.18**	<0.025	<0.05	<0.05
	03/25/15	200.7/200.8	<0.2	0.15	<0.01	<0.03	<0.03	<0.1	<0.2	**0.53**	<0.2	<0.025	<0.01	<0.05
	11/12/14	200.7/200.8	**0.11**	0.19	<0.01	<0.03	<0.03	0.35	<0.02	**0.8**	<0.2	<0.025	<0.02	<0.05
	03/05/14	200.7/200.8	**0.11**	0.11	<0.01	<0.03	<0.03	0.15	<0.1	**2.1**	**0.13**	<0.025	<0.1	<0.05
	10/15/13	200.7/200.8	**0.13**	0.096	<0.01	<0.03	<0.03	<0.1	<0.025	**0.38**	**0.19**	<0.025	<0.05	<0.05
	05/28/13	200.7/200.8	**0.11**	0.11	<0.01	<0.03	<0.03	<0.1	<0.02	**2.9**	**0.11**	<0.025	<0.02	<0.05
	11/06/12	200.7/200.8	**0.12**	0.14	<0.02	<0.06	<0.06	<0.2	<0.05	**0.72**	<0.5	<0.05	<0.02	<0.1
	05/29/12	200.7/200.8	**0.081**	0.14	<0.02	<0.06	<0.06	<0.2	<0.05	**0.74**	**0.086**	<0.05	<0.02	<0.1
	11/01/11	200.7/200.8	<0.05	0.09	<0.01	<0.03	<0.03	<0.1	<0.025	**0.6**	<0.05	<0.025	<0.05	<0.05
	05/23/11	200.7/200.8	**0.068**	0.13	<0.01	<0.03	<0.03	<0.1	<0.025	**1.9**	<0.25	<0.025	<0.01	<0.05
	11/16/10	6010B	<0.2	<0.2	<0.02	<0.06	<0.06	0.19	<0.05	**2.3**	<0.5	<0.05	0.003	<0 .5
	08/02/10	6010B	<0.4	<0.4	<0.04	<0.12	<0.12	<0.2	<0.1	**3.4**	<1.0	<0.1	0.003	<1.0
	04/20/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	<0.1	<0.025	**2.5**	<0.25	<0.025	0.00228	<0.25
EP-8	10/24/17	200.7/200.8	**0.11**	0.26	<0.01	0.031	<0.03	<0.1	<0.025	**1.1**	<0.2	<0.025	0.0077	<0.05
	03/30/17	200.7/200.8	**0.12**	0.2	<0.02	0.017	<0.06	<0.2	<0.0041	0.13	**0.31**	<0.05	<0.025	0.071
	08/30/16	200.7/200.8	**0.18**	0.2	<0.01	0.014	<0.03	<0.1	<0.025	**1.4**	**0.22**	<0.025	0.0096	0.027
	09/01/15	200.7/200.8	**0.15**	0.17	<0.01	0.035	<0.03	<0.1	<0.05	**0.38**	**0.18**	<0.025	<0.05	0.051
	03/25/15	200.7/200.8	<0.2	0.15	<0.01	<0.03	<0.03	<0.1	<0.2	**0.53**	<0.2	<0.025	<0.01	<0.05
	11/12/14	200.7/200.8	**0.11**	0.17	<0.01	<0.03	<0.03	0.23	<0.02	**0.77**	<0.2	<0.025	<0.02	<0.05
	03/05/14	200.7/200.8	**0.11**	0.11	<0.01	<0.03	<0.03	0.14	<0.1	**2.1**	**0.12**	<0.025	<0.1	<0.05
	10/15/13	200.7/200.8	**0.37**	0.22	<0.01	0.039	<0.03	<0.1	**0.064**	**18**	**0.47**	<0.1	<0.05	<0.05
	05/28/13	200.7/200.8	**0.11**	0.12	<0.01	<0.03	<0.03	<0.1	<0.02	**3**	**0.088**	<0.025	<0.02	<0.05
	11/06/12	200.7/200.8	**0.47**	0.26	<0.04	<0.12	<0.12	<0.4	<0.1	**36**	<1.0	<0.1	0.0011	<0.2
	05/29/12	200.7/200.8	**0.16**	0.18	<0.02	<0.06	<0.06	<0.2	<0.05	**7.3**	**0.13**	<0.05	<0.02	<0.1
	11/01/11	200.7/200.8	**0.05**	0.13	<0.01	<0.03	<0.03	<0.1	<0.025	**1.1**	0.03	<0.025	<0.02	<0.05
	05/23/11	200.7/200.8	**0.38**	0.25	<0.02	<0.06	<0.06	<0.1	<0.05	**20**	<0.5	<0.05	<0.05	<0.1
	11/16/10	6010B	<0.4	<0.4	<0.04	<0.12	<0.12	0.11	<0.1	**9.1**	<1.0	<0.1	0.003	1
	08/02/10	6010B	**0.77**	<0.4	<0.04	<0.12	<0.12	<0.2	<0.1	**22**	<1.0	<0.1	0.001	1
	04/20/10	6010B	<0.2	<0.2	<0.02	<0.06	<0.06	0.26	<0.05	**10**	<0.05	<0.05	0.00166	<0.5

8.15.3 EVAPORATION PONDS (EP-1 thru EP-12B)

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-9	10/24/17	200.7/200.8	**0.21**	0.26	<0.02	0.026	<0.06	<0.2	<0.05	**4.5**	<1	<0.05	<0.05	0.043
	03/30/17	200.7/200.8	**0.1**	0.27	<0.02	<0.06	<0.06	<0.2	<0.025	**1.1**	**0.12**	<0.05	0.0025	0.081
	08/30/16	200.7/200.8	**0.27**	0.31	<0.02	<0.06	<0.06	<0.2	<0.05	**1.9**	**0.29**	<0.025	0.008	0.048
	03/02/16	200.7/200.8	**0.12**	0.22	<0.01	<0.03	<0.03	0.048	<0.05	0.068	**0.094**	<0.025	0.0063	0.03
	09/01/15	200.7/200.8	**0.12**	0.2	<0.01	**0.064**	<0.03	<0.1	<0.05	**0.35**	**0.15**	<0.025	<0.05	<0.05
	03/25/15	200.7/200.8	<0.2	0.17	<0.01	<0.03	<0.03	<0.1	<0.2	**0.52**	<0.2	<0.025	<0.01	0.079
	11/13/14	200.7/200.8	**0.16**	0.25	<0.01	<0.03	<0.03	<0.1	<0.05	0.18	<0.5	<0.025	<0.05	0.051
	03/05/14	200.7/200.8	**0.1**	0.19	<0.01	<0.03	<0.03	0.14	<0.1	**2.8**	**0.13**	<0.025	<0.1	<0.05
	10/15/13	200.7/200.8	**0.1**	0.19	<0.01	<0.03	<0.03	<0.1	<0.025	**3.3**	**0.15**	<0.025	<0.05	<0.05
	05/28/13	200.7/200.8	**0.07**	0.19	<0.01	<0.03	<0.03	<0.01	<0.02	**3**	**0.091**	<0.05	<0.02	<0.05
	11/06/12	200.7/200.8	**0.048**	0.17	<0.02	<0.06	<0.06	<0.2	<0.05	**0.92**	<0.5	<0.05	<0.01	<0.1
	05/29/11	200.7/200.8	**0.086**	0.18	<0.02	<0.06	<0.06	<0.2	<0.05	**4.8**	**0.084**	<0.05	<0.02	<0.1
	11/01/11	200.7/200.8	**0.089**	0.2	<0.01	<0.03	<0.03	<0.1	<0.025	**1.3**	**0.057**	<0.025	<0.05	<0.05
	05/23/11	200.7/200.8	**0.083**	0.21	<0.01	<0.03	<0.03	<0.1	<0.025	**6.8**	<0.25	<0.025	<0.02	<0.05
	11/16/10	6010B	<0.4	<0.4	<0.04	<0.12	<0.12	<0.4	<0.1	**5.3**	<1.0	<0.1	0.003	<1.0
	04/20/10	6010B	<0.2	0.14	<0.01	<0.03	<0.03	0.17	<0.025	**2.6**	<0.25	<0.025	0.00221	<0.25
EP-11	10/24/17	200.7/200.8	**0.25**	0.21	<0.02	**0.058**	<0.06	0.38	<0.05	**2.3**	<1	<0.05	0.011	<0.1
	03/30/17	200.7/200.8	**0.15**	0.2	<0.02	0.014	<0.060	<0.20	<0.025	**0.37**	**0.27**	<0.05	0.0053	0.055
	08/30/16	200.7/200.8	**0.16**	0.19	<0.01	0.016	<0.03	<0.1	<0.025	**1.4**	**0.21**	<0.025	0.0091	0.045
	03/02/16	200.7/200.8	**0.076**	0.2	<0.01	<0.03	<0.03	0.22	0.0023	**0.42**	**0.088**	<0.025	0.0057	0.028
	09/01/15	200.7/200.8	**0.15**	0.16	<0.01	0.042	<0.03	<0.1	<0.05	**0.44**	**0.17**	<0.025	<0.05	<0.05
	03/25/15	200.7/200.8	<0.2	0.15	<0.01	<0.03	<0.03	<0.2	<0.2	**0.45**	<0.2	<0.025	<0.01	<0.05
	11/12/14	200.7/200.8	**0.1**	0.16	<0.01	<0.03	<0.03	0.31	<0.02	**1**	<0.5	<0.025	<0.05	0.061
	03/05/14	200.7/200.8	**0.04**	0.074	<0.002	0.011	<0.006	0.48	<0.01	**0.99**	0.039	<0.025	<0.01	0.013
	10/15/13	200.7/200.8	<0.05	0.067	<0.002	0.0096	<0.006	0.21	<0.005	**0.41**	<0.05	<0.05	<0.05	<0.01
	05/28/13	200.7/200.8	**0.04**	0.068	<0.01	<0.03	<0.03	<0.1	<0.01	**0.48**	0.022	<0.025	<0.01	<0.05
	11/06/12	200.7/200.8	**0.013**	0.056	<0.002	<0.006	<0.006	0.79	<0.005	**0.4**	0.011	<0.005	0.0012	0.043
	05/29/11	200.7/200.8	**0.03**	0.081	<0.002	0.011	<0.006	0.16	<0.005	**0.78**	0.019	<0.005	<0.01	0.023
	11/01/11	200.7/200.8	0.008	0.068	<0.002	<0.006	<0.006	0.89	<0.005	0.19	0.0079	<0.005	<0.005	0.015
	05/23/11	200.7/200.8	**0.055**	0.087	<0.01	<0.03	<0.03	0.066	<0.025	**0.89**	<0.25	<0.025	<0.01	<0.05
	11/16/10	6010B	<0.1	0.12	<0.01	<0.03	<0.03	0.48	<0.025	**0.64**	<0.25	<0.025	0.002	<0.25
	04/20/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.15	<0.025	**1.6**	<0.25	<0.025	0.00211	<0.25

8.15.3 EVAPORATION PONDS (EP-1 thru EP-12B)

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
SAMPLE ID	**DATE SAMPLED**	**METHOD**												
EP-12A	10/24/17	200.7/200.8	**0.036**	0.19	<0.002	0.013	<0.006	0.22	<0.005	**0.19**	<0.5	<0.005	0.0023	0.013
	03/30/17	200.7/200.8	**0.023**	0.12	<0.002	0.01	<0.006	0.3	<0.0025	**0.36**	0.042	<0.005	0.0012	0.0076
	08/30/16	200.7/200.8	**0.018**	0.12	<0.002	0.01	<0.006	1	<0.005	**0.41**	0.03	<0.005	0.002	0.042
	03/02/16	200.7/200.8	**0.019**	0.14	<0.002	0.0098	<0.006	0.79	0.0011	**0.39**	0.01	<0.005	0.0035	0.018
	09/01/15	200.7/200.8	**0.026**	0.09	<0.002	0.017	<0.006	0.17	<0.0025	0.14	0.031	<0.005	0.0025	<0.01
	03/25/15	200.7/200.8	<0.2	0.076	<0.002	0.01	<0.006	0.48	<0.2	0.088	<0.2	<0.005	<0.01	0.01
	11/12/14	200.7/200.8	**0.021**	0.11	<0.02	<0.06	<0.06	**2.2**	<0.02	**0.43**	<0.02	<0.05	<0.02	<0.1
	03/05/14	200.7/200.8	**0.016**	0.055	<0.002	0.011	<0.006	**1.4**	<0.01	**1**	0.017	<0.005	<0.01	0.015
	10/15/13	200.7/200.8	<0.05	0.066	<0.002	0.0098	<0.006	0.53	<0.005	**0.37**	<0.05	<0.025	<0.05	0.013
	05/28/13	200.7/200.8	**0.015**	0.057	<0.01	<0.03	<0.03	0.49	<0.01	**0.25**	0.018	<0.025	<0.01	0.069
	11/06/12	200.7/200.8	**0.012**	0.057	<0.002	<0.006	<0.006	0.7	<0.005	**0.38**	0.01	<0.005	0.0012	0.05
	05/29/12	200.7/200.8	**0.026**	0.075	<0.002	0.011	<0.006	0.16	<0.005	**0.73**	0.018	<0.005	<0.01	0.08
	11/01/11	200.7/200.8	0.0072	0.058	<0.002	<0.006	<0.006	1	<0.005	0.13	0.0059	<0.005	<0.005	0.022
	05/23/11	200.7/200.8	**0.025**	0.063	<0.002	0.021	<0.006	0.098	<0.005	**0.31**	<0.05	<0.005	<0.005	0.017
	11/16/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.4	<0.025	**0.27**	<0.25	<0.025	0.002	<0.25
	04/20/10	6010B	<0.2	0.074	<0.002	<0.006	<0.006	0.55	<0.005	**0.28**	<0.05	<0.005	0.00166	<0.05
EP-12B	10/24/17	200.7/200.8	**0.011**	0.16	<0.002	0.0044	<0.006	0.63	<0.0025	**0.3**	0.014	<0.005	<0.0025	0.0098
	03/30/17	200.7/200.8	**0.017**	0.19	<0.002	0.0086	<0.006	0.49	<0.0025	**0.38**	0.03	<0.005	0.0021	0.017
	08/30/16	200.7/200.8	**0.016**	0.13	<0.002	0.013	<0.006	**2.6**	<0.01	**0.43**	0.031	<0.005	0.0013	0.045
	03/02/16	200.7/200.8	**0.013**	0.16	<0.002	0.0087	<0.006	**1.1**	0.0012	**0.3**	0.02	<0.005	0.0041	0.016
	09/01/15	200.7/200.8	0.01	0.12	<0.002	0.0092	<0.006	0.35	<0.01	**0.27**	0.014	<0.005	<0.01	0.015
	03/25/15	200.7/200.8	<0.2	0.11	<0.005	0.011	<0.006	**1.1**	<0.2	**0.22**	<0.2	<0.005	<0.01	0.016
	11/12/14	200.7/200.8	<0.02	0.076	<0.002	0.01	<0.006	**1.3**	<0.02	**0.24**	<0.02	<0.005	<0.02	0.023
	03/05/14	200.7/200.8	**0.012**	0.073	<0.002	0.013	<0.006	0.61	<0.01	**0.57**	0.017	<0.005	<0.01	<0.01
	10/15/13	200.7/200.8	<0.05	0.074	<0.002	0.0083	<0.006	0.26	<0.005	0.2	<0.05	<0.005	<0.05	0.016
	05/28/13	200.7/200.8	<0.01	0.052	<0.01	<0.03	<0.03	0.78	<0.01	**0.27**	0.014	<0.025	<0.01	<0.05
	11/06/12	200.7/200.8	**0.013**	0.042	<0.002	0.0068	<0.006	**1.1**	<0.005	**0.52**	0.012	<0.005	0.0082	0.072
	05/29/12	200.7/200.8	**0.019**	0.067	<0.002	0.0071	<0.006	0.18	<0.005	0.11	0.024	<0.005	<0.01	0.015
	11/01/11	200.7/200.8	0.0065	0.055	<0.002	<0.006	<0.006	0.98	<0.005	0.12	0.0058	<0.005	<0.005	0.024
	05/23/11	200.7/200.8	**0.015**	0.05	<0.002	0.022	<0.006	0.27	<0.005	**0.27**	<0.05	<0.005	<0.005	0.019
	11/16/10	6010B	<0.1	<0.1	<0.01	<0.03	<0.03	0.84	<0.025	0.15	<0.25	<0.025	<0.001	<0.25
	04/20/10	6010B	<0.2	0.064	<0.002	<0.006	<0.006	**1.8**	<0.005	**0.35**	<0.05	<0.005	0.00297	<0.05

8.15.3 EVAPORATION PONDS (EP-1 thru EP-12B)

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0987	0.0812	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.004	6
SAMPLE ID	DATE SAMPLED	METHOD												

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.15.4 EVAPORATION PONDS (EP-1 thru EP-12B)

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS												
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	2-Butanone (mg/L)	Carbon disulfide (mg/L)	Chloroform (mg/L)	Chloro methane (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Methylene Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	NE	NE	0.1
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	NE	NE	**0.005**
NMED Tap Water (MARCH 2017)			NE	NE	**0.00165**	0.0114	0.035	**14.1**	**0.00754**	**5.56**	**0.81**	0.00229	**0.0203**	NE	NE	0.106
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	**0.0011**	**0.036**	14.0	0.0075	5.6	0.81	0.00022	0.19	**1**	**0.66**	0.011
SAMPLE ID	**DATE SAMPLED**	**METHOD**														
EP-1	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.41		<0.1	0.32	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.61		0.11	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	1.4		0.18	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	1.8		0.2	<0.1	<0.01	<0.03	<0.01		
	08/02/10	8260B	0.016	<0.005	**0.016**	**0.044**	**0.07**	0.73		0.086	<0.05	<0.005	<0.005	<0.005		
	04/20/10	8260B	0.0055	0.0018	**0.011**	**0.027**	**0.045**	1.7		0.1	<0.01	<0.01	<0.01	<0.01		
EP-2	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.082	<0.015	<0.05	0.013	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	0.0085	0.0031	<0.01	**0.0061**	0.0079	0.14	**0.014**	<0.05	0.027	<0.005	<0.015	0.0035	0.0033	<0.015
	08/29/16	8260B	0.00019	<0.001	<0.002	<0.004	0.00024	0.14		0.0081	0.017	<0.001	<0.003	<0.003	<0.001	
	03/02/16	8260B	0.0071	0.0018	0.001	**0.0016**	0.0016	0.13		0.0061	0.064	<0.005	<0.015	<0.015	0.0008	
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.01		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/24/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.52		<0.1	<0.1	<0.1	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.01		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.67		<0.1	0.11	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.6		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	4.6		0.47	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	2.4		0.38	<0.1	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.43		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.51		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	0.12	<0.01	<0.03	<0.01		
	08/02/10	8260B	<0.005	<0.0058	<0.01	<0.02	<0.02	0.27		<0.05	<0.05	<0.005	<0.005	<0.005		
	04/20/10	8260B	0.0046	0.0014	**0.01**	**0.032**	**0.052**	0.15		<0.01	0.021	<0.01	<0.01	<0.01		
EP-3	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.091	<0.015	<0.05	0.014	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	0.0041	0.0016	<0.01	<0.02	<0.02	0.12	<0.015	0.027	0.023	<0.005	<0.015	<0.015	<0.005	<0.015
	08/29/16	8260B	0.00028	<0.001	<0.002	<0.004	0.00024	0.05	<0.003	0.004	0.021	<0.001	<0.003	<0.003		
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.032	**0.016**	0.0037	0.12	<0.005	0.0014	<0.015		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.3		<0.1	<0.01	<0.01	<0.03	<0.03		
	03/24/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.01	0.28		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.3		<0.1	<0.01	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.3		<0.1	0.14	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.16		<0.1	<0.01	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.2		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.24		<0.1	0.38	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.21		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.11		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8206B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	0.13	<0.01	<0.03	<0.01		
	08/02/10	8260B	<0.005	<0.005	<0.1	<0.02	<0.02	0.22		<0.05	<0.05	<0.005	<0.005	<0.005		
	04/20/10	8260B	<0.001	<0.001	**0.0023**	**0.0076**	0.012	0.21		0.014	0.043	<0.001	<0.001	<0.001		

8.15.4 EVAPORATION PONDS (EP-1 thru EP-12B)

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS												
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	2-Butanone (mg/L)	Carbon disulfide (mg/L)	Chloroform (mg/L)	Chloro methane (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Methylene Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	NE	NE	0.1
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	NE	NE	**0.005**
NMED Tap Water (MARCH 2017)			NE	NE	**0.00165**	0.0114	0.035	**14.1**	**0.00754**	**5.56**	**0.81**	0.00229	**0.0203**	NE	NE	0.106
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	**0.0011**	**0.036**	14.0	0.0075	5.6	0.81	0.00022	0.19	**1**	**0.66**	0.011
SAMPLE ID	**DATE SAMPLED**	**METHOD**														
EP-4	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.094	<0.015	<0.05	0.013	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	0.0057	0.0023	<0.01	<0.02	<0.02	0.13	<0.015	0.026	0.023	<0.005	<0.015	<0.015	<0.005	<0.015
	08/29/16	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.022		0.0017	0.014	<0.001	<0.003	<0.003		
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.02		0.0027	0.023	<0.005	<0.015	<0.015		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/24/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.31		<0.1	0.15	<0.01	<0.03	<0.01		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.12		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.12		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.13		<0.1	0.78	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.11		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.12		<0.1	0.14	<0.01	<0.03	<0.01		
	08/02/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.1		0.011	<0.01	<0.001	<0.001	<0.001		
	04/20/10	8260B	<0.001	<0.001	<0.002	**0.005**	0.0073	0.19		0.014	0.041	<0.001	<0.001	<0.001		
EP-5	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.017	<0.015	0.017	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	08/29/16	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.013		<0.01	<0.01	<0.001	0.00025	<0.003		
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.014		0.0017	0.01	<0.005	<0.015	<0.015		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/24/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.28		<0.1	0.12	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.11		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	**1.3**	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	0.15	<0.01	<0.03	<0.01		
	08/02/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.045		<0.1	<0.1	<0.01	<0.01	<0.01		
	04/20/10	8260B	<0.001	<0.001	<0.002	<0.004	0.0046	0.13		0.011	0.047	<0.001	<0.001	<0.001		

8.15.4 EVAPORATION PONDS (EP-1 thru EP-12B)

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS												
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	2-Butanone (mg/L)	Carbon disulfide (mg/L)	Chloroform (mg/L)	Chloro methane (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Methylene Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	NE	NE	0.1
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	NE	NE	**0.005**
NMED Tap Water (MARCH 2017)			NE	NE	**0.00165**	0.0114	0.035	**14.1**	**0.00754**	**5.56**	**0.81**	0.00229	**0.0203**	NE	NE	0.106
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	**0.0011**	**0.036**	14.0	0.0075	5.6	0.81	0.00022	0.19	**1**	**0.66**	0.011
SAMPLE ID	**DATE SAMPLED**	**METHOD**														
EP-6	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.017	<0.015	0.017	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	08/29/16	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.009		<0.01	<0.01	<0.001	0.00038	<0.003		<0.003
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.015		<0.05	0.0035	<0.005	<0.015	<0.015		0.0011
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/25/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.14		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	0.11	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01	<0.01	<0.001	<0.003	<0.001		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	08/02/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.02		<0.1	<0.1	<0.01	<0.01	<0.01		
	04/20/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.044		<0.1	<0.1	<0.001	<0.001	<0.001		
EP-7	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	0.0023	<0.005	<0.01	<0.02	<0.02	0.0095	<0.015	0.016	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	08/30/16	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.018		<0.05	<0.05	<0.005	0.0063	<0.03		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/25/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	08/02/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.061		<0.01	<0.01	<0.001	<0.001	<0.001		
	04/20/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.023		<0.01	<0.01	<0.001	<0.001	<0.001		

8.15.4 EVAPORATION PONDS (EP-1 thru EP-12B)

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS													
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	2-Butanone (mg/L)	Carbon disulfide (mg/L)	Chloroform (mg/L)	Chloro methane (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Methylene Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	NE	NE	0.1
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	NE	NE	**0.005**
NMED Tap Water (MARCH 2017)			NE	NE	**0.00165**	0.0114	0.035	**14.1**	**0.00754**	**5.56**	**0.81**	0.00229	**0.0203**	NE	NE	0.106
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	**0.0011**	**0.036**	14.0	0.0075	5.6	0.81	0.00022	0.19	**1**	**0.66**	0.011
SAMPLE ID	**DATE SAMPLED**	**METHOD**														
EP-8	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.012	<0.015	0.017	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	08/30/16	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/25/15	8260B	<0.01	<0.01	<0.02	<0.01	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.1	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.1	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.1	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	08/02/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.066		<0.01	<0.01	<0.001	<0.001	<0.001		
	04/20/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.038		<0.01	<0.01	<0.001	<0.001	<0.001		
EP-9	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.012	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	08/30/16	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/02/16	8260B	0.00055	<0.001	<0.002	<0.002	0.00029	0.016		0.0015	<0.01	<0.001	<0.003	<0.003		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/25/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	04/20/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.015		<0.01	<0.01	<0.001	<0.001	<0.001		
EP-11	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	0.0025	<0.005	<0.01	<0.02	<0.02	0.0092	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	08/30/16	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.012		0.002	<0.05	<0.005	0.0065	<0.015		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/25/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.12		<0.1	0.59	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.03	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	04/20/10	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.039		<0.01	<0.01	<0.001	<0.001	<0.001		

8.15.4 EVAPORATION PONDS (EP-1 thru EP-12B)

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS												
			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	Naphthalene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	2-Butanone (mg/L)	Carbon disulfide (mg/L)	Chloroform (mg/L)	Chloro methane (mg/L)	n-Butyl benzene (mg/L)	n-Propyl benzene (mg/L)	Methylene Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	NE	NE	0.1
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	NE	NE	**0.005**
NMED Tap Water (MARCH 2017)			NE	NE	**0.00165**	0.0114	0.035	**14.1**	**0.00754**	**5.56**	**0.81**	0.00229	**0.0203**	NE	NE	0.106
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	**0.0011**	**0.036**	14.0	0.0075	5.6	0.81	0.00022	0.19	**1**	**0.66**	0.011
SAMPLE ID	**DATE SAMPLED**	**METHOD**														
EP-12A	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.011	<0.015	<0.05	<0.05	<0.005	<0.015	<0.015	<0.005	<0.015
	08/30/16	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1	<0.03	<0.1	<0.1	<0.01	<0.03	<0.03		
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.0065	**0.04**	0.0024	0.055	<0.005	<0.015	<0.015		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/25/15	8260B	<0.10	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.1	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.17		<0.1	0.14	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.15		<0.1	0.61	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.16		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	0.1	<0.01	<0.03	<0.01		
	04/20/11	8260B	<0.001	<0.001	<0.002	<0.004	<0.004	0.13		0.011	0.034	<0.001	<0.001	<0.001		
EP-12B	10/24/17	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.13	<0.015	<0.05	0.012	<0.005	<0.015	<0.015	<0.005	<0.015
	03/30/17	8260B	0.0055	<0.005	<0.01	<0.02	<0.02	0.087	**0.0091**	0.025	0.023	<0.005	<0.015	<0.015	<0.005	<0.015
	08/30/16	8260B	0.0017	<0.01	<0.02	<0.04	<0.04	0.17	<0.03	<0.1	0.016	<0.01	<0.03	<0.03		
	03/02/16	8260B	<0.005	<0.005	<0.01	<0.02	<0.02	0.031	**0.038**	0.0031	0.063	<0.01	0.0016	<0.015		
	09/01/15	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/25/15	8260B	<0.01	<0.1	<0.02	<0.04	<0.04	0.13		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/12/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	03/05/14	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1	<0.1	<0.01	<0.03	<0.03		
	10/15/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.28		<0.1	<0.1	<0.01	<0.03	<0.03		
	05/28/13	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.53		<0.1	<0.1	<0.01	<0.03	<0.03		
	11/06/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.24		<0.1	0.47	<0.01	<0.03	<0.03		
	05/29/12	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.1		<0.1	<0.1	<0.01	<0.03	<0.01		
	11/01/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.16		<0.1	<0.1	<0.01	<0.03	<0.01		
	05/23/11	8260B	<0.01	<0.01	<0.02	<0.04	<0.04	0.18		<0.1	0.17	<0.01	<0.03	<0.01		
	04/20/11	8260B	0.0016	<0.001	**0.0034**	**0.012**	0.019	0.3		0.025	0.035	<0.001	<0.001	<0.001		

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.15.5 EVAPORATION PONDS (EP-1 thru EP-12B)

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS																						
			Aniline (mg/L)	Benzoic acid (mg/L)	Benzyl alcohol (mg/L)	Bis (2-ethyl hexyl) phthalate (mg/L)	Carbazole (mg/L)	Chrysene (mg/L)	Di-n-octyl phthalate (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluor anthene (mg/L)	Fluorene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphtha lene (mg/L)	2-Nitro phenol (mg/L)	Phenan threne (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)	Benz (a) anthra cene (mg/L)	Benzo (a) pyrene (mg/L)	Benzo (b) fluor anthene (mg/L)	Benzo (g,h,i) perylene (mg/L)	Indeno (1,2,3-cd) pyrene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	0.006	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.002	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	0.0556	NE	0.0343	NE	0.612	0.354	0.802	0.288	0.035	NE	NE	0.00165	NE	0.17	5.76	0.117	NE	0.0001	0.00025	0.000343	NE	0.000343
EPA RSL for Tap Water (MAY 2018)			0.013	75	2	0.0056	NE	0.0034	0.2	NE	0.36	0.8	0.29	0.036	0.93	0.93	0.00017	NE	NE	5.8	0.12	0.02	0.000012	0.000025	0.000034	NE	0.00025
SAMPLE ID	SAMPLE DATE	METHOD																									
EP-1	11/12/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.062	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					
	03/05/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					
	10/15/13	8270C	<0.01	<0.04	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					
	05/28/13	8270C	<0.03	<0.06	<0.03	<0.03	<0.03				<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					
	11/06/12	8270C	0.072	<0.1	<0.05	<0.05	<0.05				0.09		<0.05	<0.05	0.41	0.7	<0.05	<0.05	<0.05	1.4	<0.05	<0.05					
	05/29/12	8270C	0.07	<0.1	<0.05	<0.05	<0.05				0.07		<0.05	<0.05	0.31	0.7	<0.05	<0.05	0.051	1.1	<0.05	<0.05					
	11/01/11	8270C	0.82	<0.1	<0.05	<0.05	<0.05				0.43		<0.05	<0.05	2.5	5.0	<0.05	<0.05	<0.05	9.7	<0.5	<0.05					
	05/23/11	8270C	0.42	<0.1	<0.05	<0.05	<0.05				0.26		<0.05	<0.05	2.0	3.6	<0.05	<0.05	<0.05	6.4	<0.5	<0.05					
	08/02/10	8270C	0.6	<0.02	<0.01	<0.01	0.017				0.36		0.017	0.18	2.1	4.2	0.025	<0.1	0.11	8.5	0.012	<0.01					
	04/20/10	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				0.063		<0.05	0.075	<0.05	<0.05	<0.05	<0.05	0.11	0.091	<0.05	<0.05					
EP-2	10/24/17	8270C	<0.05	0.044	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.031	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.05	0.051	<0.05	0.039	<0.05	<0.05	<0.05	<0.05	0.026	<0.05	<0.05	<0.05	<0.05	0.036	<0.01	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/29/16	8270C	<0.05	0.041	<0.05	0.015	<0.05		0.019	0.023	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	0.014	0.064	<0.01	<0.01	<0.01	0.094	<0.01	<0.01					
	09/01/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	0.068	<0.01	<0.01	<0.01	0.22	<0.01	<0.01					
	03/24/15	8270C	<0.1	<0.2	<0.1	<0.1	<0.1				<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					
	11/12/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.058	<0.05	<0.05					
	03/05/14	8270C	0.044	0.097	<0.01	<0.01	<0.01				0.029		<0.01	<0.01	0.14	0.35	<0.01	<0.01	<0.01	0.87	<0.01	<0.01					
	10/15/13	8270C	<0.01	0.057	<0.01	<0.01	<0.01				0.015		<0.01	<0.01	0.082	0.2	<0.01	<0.01	<0.01	0.42	<0.01	<0.01					
	05/28/13	8270C	0.16	<0.04	<0.02	<0.02	<0.02				0.38		<0.02	<0.02	2.2	4.3	<0.02	<0.02	<0.02	7.4	<0.02	<0.02					
	11/06/12	8270C	0.11	<0.1	<0.05	<0.05	<0.05				0.16		<0.05	<0.05	0.92	1.3	<0.05	<0.05	<0.05	2.3	<0.05	<0.05					
	05/29/12	8270C	0.11	<0.1	<0.05	<0.05	<0.05				0.11		<0.05	<0.05	0.58	0.81	<0.05	<0.05	<0.05	1.7	<0.05	<0.05					
	11/01/11	8270C	0.25	<0.1	<0.05	<0.05	<0.05				0.16		<0.05	<0.05	1.1	2.0	<0.05	<0.05	<0.05	3.6	<0.05	<0.05					
	05/23/11	8270C	0.27	<0.02	0.02	0.013	<0.01				0.18		<0.01	<0.01	1.2	2.5	<0.01	<0.01	<0.01	2.7	<0.01	<0.01					
	08/02/10	8270C	0.48	<0.02	0.011	<0.05	0.01				0.24		<0.05	0.089	1.5	2.1	0.027	<0.01	0.014	3.3	<0.01	0.011					
	04/20/10	8270C	<0.05	0.16	<0.05	<0.05	<0.05				0.06		<0.05	0.075	0.88	1.4	<0.05	0.073	0.1	2.8	<0.05	<0.05					
EP-3	10/24/17	8270C	<0.05	0.037	<0.05	0.047	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.05	0.037	<0.05	0.032	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.034	<0.01	<0.05	<0.05	0.022	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/29/16	8270C	<0.05	0.036	<0.05	0.018	<0.05		0.025	0.023	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	03/02/16	8270C	<0.01	0.019	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	0.014	0.095	<0.01	<0.10	<0.01	0.091							
	09/01/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.01	<0.01							
	03/24/15	8270C	<0.01	<0.02	<0.01	0.019	<0.01				<0.01		<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	0.34							
	11/12/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	03/05/14	8270c	0.045	<0.02	<0.01	<0.01	<0.01				0.026		<0.01	<0.01	0.11	0.29	<0.01	<0.01	<0.01	0.79							
	10/15/13	8270C	<0.05	<0.2	<0.05	<0.05	<0.05				0.059		<0.05	<0.05	0.25	0.45	<0.05	<0.05	<0.05	1.0							
	05/28/13	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				0.11		<0.05	<0.05	0.96	1.9	<0.05	<0.05	<0.05	3.7							
	11/06/12	8270C	0.12	<0.04	0.026	<0.02	<0.02				0.1		<0.02	<0.02	0.52	0.96	<0.02	<0.02	<0.02	2.0							
	05/29/12	8270C	<0.1	<0.02	<0.1	<0.1	<0.1				0.13		<0.1	<0.1	0.87	1.6	<0.1	<0.1	<0.1	3.3							
	11/01/11	8270C	0.21	<0.1	<0.05	<0.05	<0.05				0.16		<0.05	<0.05	1.1	1.5	<0.05	.<0.05	<0.5	2.9							
	05/23/11	8270C	0.083	<0.02	<0.01	<0.01	<0.01				0.092		<0.01	<0.01	0.63	1.6	<0.01	<0.01	<0.01	1.6							
	08/02/10	8270C	0.26	<0.02	<0.01	<0.01	<0.01				0.14		<0.05	0.026	0.91	1.9	<0.01	<0.01	<0.01	2.4							
	04/20/10	8270C	0.22	<0.1	<0.05	<0.05	<0.05				0.094		<0.05	<0.05	0.77	1.2	<0.05	<0.05	<0.05	2.8							

8.15.5 EVAPORATION PONDS (EP-1 thru EP-12B)

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS																						
			Aniline (mg/L)	Benzoic acid (mg/L)	Benzyl alcohol (mg/L)	Bis (2-ethyl hexyl) phthalate (mg/L)	Carbazole (mg/L)	Chrysene (mg/L)	Di-n-octyl phthalate (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluor anthene (mg/L)	Fluorene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphtha lene (mg/L)	2-Nitro phenol (mg/L)	Phenan threne (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)	Benz (a) anthra cene (mg/L)	Benzo (a) pyrene (mg/L)	Benzo (b) fluor anthene (mg/L)	Benzo (g,h,i) perylene (mg/L)	Indeno (1,2,3-cd) pyrene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	0.006	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.002	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	0.0556	NE	0.0343	NE	0.612	0.354	0.802	0.288	0.035	NE	NE	0.00165	NE	0.17	5.76	0.117	NE	0.0001	0.00025	0.000343	NE	0.000343
EPA RSL for Tap Water (MAY 2018)			0.013	75	2	0.0056	NE	0.0034	0.2	NE	0.36	0.8	0.29	0.036	0.93	0.93	0.00017	NE	NE	5.8	0.12	0.02	0.000012	0.000025	0.000034	NE	0.00025
SAMPLE ID	SAMPLE DATE	METHOD																									
EP-4	10/24/17	8270C	<0.05	0.039	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.026	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.05	0.04	<0.05	0.031	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.036	<0.01	<0.05	<0.05	0.032	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/29/16	8270C	<0.1	0.078	<0.1	0.031	<0.1	0.029	0.036	0.045	<0.1	0.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	0.042	<0.01	<0.01	<0.01	0.026							
	09/01/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	0.045	<0.01	<0.01	<0.01	<0.01							
	03/24/15	8270C	<0.1	<0.2	<0.1	<0.1	<0.1				<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
	11/12/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	03/05/14	8270C	0.04	<0.02	<0.01	<0.01	<0.01				0.022		<0.01	<0.01	0.08	0.21	<0.01	<0.01	<0.01	0.42							
	10/15/13	8270C	<0.05	<0.2	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.18	0.34	<0.05	<0.05	<0.05	0.67							
	05/28/13	8270C	0.029	<0.04	<0.02	<0.02	<0.02				0.071		<0.02	<0.02	0.48	1.0	<0.02	<0.02	<0.02	1.4							
	11/06/12	8270C	0.06	<0.1	<0.05	<0.05	<0.05				0.072		<0.05	<0.05	0.29	0.53	<0.05	<0.05	<0.05	1.1							
	05/29/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				0.11		<0.05	<0.05	0.78	1.2	<0.05	<0.05	<0.05	2.9							
	11/01/11	8270C	0.067	<0.1	<0.05	<0.05	<0.05				0.11		<0.05	<0.05	0.64	0.84	<0.05	<0.05	<0.05	1.1							
	05/23/11	8270C	0.22	<0.02	<0.01	<0.01	<0.01				0.28		<0.01	<0.01	1.2	2.8	<0.01	<0.01	<0.01	2.3							
	08/02/10	8270C	0.21	<0.02	<0.01	0.015	<0.01				0.11		<0.05	<0.01	0.55	1.3	<0.01	<0.01	<0.01	1.6							
	04/20/10	8270C	0.18	<0.1	<0.05	<0.05	<0.05				0.073		<0.05	<0.05	0.62	0.96	<0.05	<0.05	<0.05	2.1							
EP-5	10/24/17	8270C	<0.1	<0.2	<0.1	4.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	03/30/17	8270C	<0.05	0.031	<0.05	0.033	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/29/16	8270C	<0.02	0.012	<0.02	0.0059	<0.02		0.0068	0.0089	<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	0.034	<0.01	<0.01	<0.01	0.018							
	09/01/15	8270C	<0.012	<0.024	<0.012	<0.012	<0.012				<0.012		<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012							
	03/24/15	8270C	<0.01	<0.02	<0.01	0.016	<0.01				<0.1		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	11/12/14	8270C	<0.01	<0.02	<0.01	0.013	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/05/14	8270C	0.023	<0.02	<0.01	<0.01	<0.01				0.018		<0.01	<0.01	0.082	0.2	<0.01	<0.01	<0.01	0.26							
	10/15/13	8270C	<0.05	<0.2	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.16	0.26	<0.05	<0.05	<0.05	0.54							
	05/28/13	8270C	0.032	<0.04	<0.02	<0.02	<0.02				0.084		<0.02	<0.02	0.46	0.93	<0.02	<0.02	<0.02	1.2							
	11/06/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				0.074		<0.05	<0.05	0.27	0.4	<0.05	<0.05	<0.05	0.9							
	05/29/12	8270C	0.057	<0.1	<0.05	<005	<0.05				<0.05		<0.05	<0.05	0.82	1.1	<0.05	<0.05	<0.05	2.7							
	11/01/11	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.1	0.089	<0.05	<0.05	<0.05	0.052							
	05/23/11	8270C	0.11	<0.02	<0.01	<0.01	<0.01				0.22		<0.01	<0.01	1.1	2.6	<0.01	<0.01	<0.01	1.8							
	08/02/10	8270C	0.12	<0.1	<0.05	<0.05	<0.05				0.09		<0.05	<0.05	0.6	1.1	<0.05	<0.05	<0.05	1.2							
	04/20/10	8270C	0.17	<0.1	<0.05	<0.05	<0.05				0.074		<0.05	<0.05	0.64	1.0	<0.05	<0.05	<0.05	2.2							
EP-6	10/24/17	8270C	<0.05	<0.1	<0.05	1.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.05	0.031	<0.05	0.033	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/29/16	8270C	<0.01	0.0062	<0.01	0.0034	<0.01		0.0033	0.0043	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.012	0.0	<0.01	<0.01	<0.01	0.014							
	09/01/15	8270C	<0.012	<0.024	<0.012	<0.012	<0.012				<0.012		<0.012	<0.012	<0.012	<0.012	<0.012	<0.01	<0.012	<0.012							
	03/25/15	8270C	<0.1	<0.2	<0.1	<0.1	<0.1				<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
	11/12/14	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/05/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	0.088	<0.05	<0.05	<0.05	0.28							
	10/15/13	8270C	<0.01	<0.04	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	05/28/13	8270C	<0.1	<0.1	<0.2	<0.1	<0.1				<0.1		<0.1	<0.1	0.26	0.23	<0.1	<0.1	<0.1	0.14							
	11/06/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	05/29/12	8270C	0.036	<0.02	<0.01	<0.01	<0.01				0.034		<0.01	<0.01	0.43	0.41	<0.01	<0.01	<0.01	0.72							
	11/01/11	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	05/23/11	8270C	0.069	<0.02	<0.01	0.019	<0.01				0.11		<0.01	<0.01	0.56	1.1	<0.01	<0.01	<0.01	1.3							
	08/02/10	8270C	<0.01	<0.02	<0.01	0.011	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.032							
	04/20/10	8270C	0.081	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.3	0.44	<0.05	<0.05	<0.05	0.38							

8.15.5 EVAPORATION PONDS (EP-1 thru EP-12B)

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS																						
			Aniline (mg/L)	Benzoic acid (mg/L)	Benzyl alcohol (mg/L)	Bis (2-ethyl hexyl) phthalate (mg/L)	Carbazole (mg/L)	Chrysene (mg/L)	Di-n-octyl phthalate (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluor anthene (mg/L)	Fluorene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphtha lene (mg/L)	2-Nitro phenol (mg/L)	Phenan threne (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)	Benz (a) anthra cene (mg/L)	Benzo (a) pyrene (mg/L)	Benzo (b) fluor anthene (mg/L)	Benzo (g,h,i) perylene (mg/L)	Indeno (1,2,3-cd) pyrene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	**0.006**	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.002**	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	0.0556	NE	**0.0343**	NE	**0.612**	**0.354**	**0.802**	**0.288**	0.035	NE	NE	**0.00165**	NE	**0.17**	5.76	**0.117**	NE	**0.0001**	0.00025	**0.000343**	NE	**0.000343**
EPA RSL for Tap Water (MAY 2018)			**0.013**	**75**	**2**	0.0056	NE	0.0034	**0.2**	NE	0.36	0.8	0.29	**0.036**	**0.93**	**0.93**	0.00017	NE	NE	5.8	0.12	**0.02**	0.000012	0.000025	0.000034	NE	0.00025
SAMPLE ID	SAMPLE DATE	METHOD																									
EP-7	10/24/17	8270C	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.05	0.036	<0.05	**0.028**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/30/16	8270C	<0.1	<0.02	<0.01	0.0037	<0.01		0.0046	0.0041	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	09/01/15	8270C	<0.012	<0.024	<0.012	<0.012	<0.012				<0.012		<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.012							
	03/25/15	8270C0	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.01	<0.01							
	11/12/14	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/05/14	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	10/15/13	8270C	<0.01	<0.04	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	05/28/13	8270C	<0.03	<0.06	<0.03	<0.03	<0.03				<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03							
	11/06/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	05/29/12	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	11/01/11	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	0.018	<0.01	<0.01	<0.01	**0.04**							
	05/23/11	8270C	<0.01	<0.02	<0.01	**0.019**	<0.01				<0.01		<0.01	<0.01	<0.01	0.045	<0.01	<0.01	<0.01	**0.17**							
	08/02/10	8270C	<0.01	<0.02	<0.01	**0.011**	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	04/20/10	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
EP-8	10/24/17	8270C	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.05	0.031	<0.05	**0.033**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/30/16	8270C	<0.1	<0.01	<0.01	0.0037	0.0028	0.0071	0.0036	0.004	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0044	<0.01	0.012		**0.0068**	**0.004**	**0.0078**	0.0038	**0.0033**
	09/01/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/25/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	11/12/14	8270C	<0.011	<0.022	<0.011	**0.018**	<0.011				<0.01		<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011	<0.011							
	03/05/14	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	10/15/13	8270C	<0.01	<0.04	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	05/28/13	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	11/06/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	05/29/12	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	11/01/11	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	05/23/11	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	08/02/10	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	04/20/10	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
EP-9	10/24/17	8270C	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.01	0.0061	<0.01	**0.0062**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	08/30/16	8270C	<0.01	<0.02	<0.01	0.004	<0.01		0.0034	0.0042	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	09/01/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/25/15	8270C	<0.01	<0.02	<0.01	**0.014**	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	11/13/14	8270C	<0.01	<0.02	<0.01	**0.018**	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/05/14	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	10/15/13	8270C	<0.01	<0.04	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	05/28/13	8270C	<0.03	<0.06	<0.03	<0.03	<0.03				<0.03		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03							
	11/06/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	05/29/12	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	0.07	0.12	<0.01	<0.01	<0.01	**0.23**							
	11/01/11	8270C	<0.02	<0.04	<0.02	<0.02	<0.02				<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02							
	05/23/11	8270C	<0.02	<0.04	<0.02	**0.022**	<0.02				<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02							
	11/16/10	8270C	<0.01	<0.02	<0.01	**0.013**	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	04/20/10	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							

8.15.5 EVAPORATION PONDS (EP-1 thru EP-12B)

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS																							
			Aniline (mg/L)	Benzoic acid (mg/L)	Benzyl alcohol (mg/L)	Bis (2-ethyl hexyl) phthalate (mg/L)	Carbazole (mg/L)	Chrysene (mg/L)	Di-n-octyl phthalate (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluor anthene (mg/L)	Fluorene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphtha lene (mg/L)	2-Nitro phenol (mg/L)	Phenan threne (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)	Benz (a) anthra cene (mg/L)	Benzo (a) pyrene (mg/L)	Benzo (b) fluor anthene (mg/L)	Benzo (g,h,i) perylene (mg/L)	Indeno (1,2,3-cd) pyrene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	0.006	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.002	NE	NE	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	0.0556	NE	0.0343	NE	0.612	0.354	0.802	0.288	0.035	NE	NE	0.00165	NE	0.17	5.76	0.117	NE	0.0001	0.00025	0.000343	NE	0.000343
EPA RSL for Tap Water (MAY 2018)			0.013	75	2	0.0056	NE	0.0034	0.2	NE	0.36	0.8	0.29	0.036	0.93	0.93	0.00017	NE	NE	5.8	0.12	0.02	0.000012	0.000025	0.000034	NE	0.00025
SAMPLE ID	SAMPLE DATE	METHOD																									
EP-11	10/24/17	8270C	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	03/30/17	8270C	<0.05	0.033	<0.05	0.03	<0.05	<0.05	0.031	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/30/16	8270C	<0.01	0.0076	<0.01	0.0041	<0.01		0.0052	0.0044	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	09/01/15	8270C	<0.01	<0.02	<0.01	0.013	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/25/15	8270C	<0.01	<0.01	<0.01	0.011	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	11/12/14	8270C	<0.01	<0.02	<0.01	0.013	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/05/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	10/15/13	8270C	<0.01	<0.04	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	05/28/13	8270C	<0.02	<0.04	<0.02	<0.02	<0.02				<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02							
	11/06/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.2	0.33	<0.05	<0.05	<0.05	0.68							
	05/29/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	11/01/11	8270C	0.067	<0.1	<0.05	<0.05	<0.05				0.055		<0.05	<0.05	0.46	0.75	<0.05	<0.05	<0.05	1.3							
	05/23/11	8270C	<0.01	<0.02	<0.01	0.017	<0.01				0.065		<0.01	<0.01	0.42	1.1	<0.01	<0.01	<0.01	2.1							
	11/16/10	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	04/20/10	8270C	<0.01	<0.02	<0.05	<0.05	<0.05				<0.01		<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
EP-12A	10/24/17	8270C	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	03/30/17	8270C	<0.05	0.032	<0.05	0.027	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/30/16	8270C	<0.02	<0.04	<0.02	0.0062	<0.02		0.007	0.0084	<0.02		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	09/01/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/25/15	8270C	<0.1	<0.2	<0.1	<0.1	<0.1				<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1							
	11/12/14	8270C	<0.01	<0.02	<0.01	0.012	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/05/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2							
	10/15/13	8270C	<0.05	<0.2	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.1	0.16	<0.05	<0.05	<0.05	0.35							
	05/28/13	8270C	0.031	<0.01	<0.01	<0.01	<0.01				0.11		<0.01	<0.01	0.56	1.3	<0.01	<0.01	<0.01	2.0							
	11/06/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.15	0.21	<0.05	<0.05	<0.05	0.46							
	05/29/12	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	11/01/11	8270C	0.16	<0.1	<0.05	<0.05	<0.05				0.15		<0.05	<0.05	0.94	1.3	<0.05	<0.05	<0.05	2.7							
	05/23/11	8270C	0.14	<0.02	<0.01	<0.01	<0.01				0.19		<0.01	<0.01	1.2	2.7	<0.01	<0.01	<0.01	3.6							
	11/16/10	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	04/20/10	8270C	0.067	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	0.12	0.17	<0.05	<0.05	<0.05	0.016							
EP-12B	10/24/17	8270C	<0.05	0.041	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.026	<0.01	<0.05	<0.05	<0.05	0.026	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/30/17	8270C	<0.05	0.044	<0.05	0.031	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.041	<0.01	<0.05	<0.05	0.045	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	08/30/16	8270C	<0.05	0.031	<0.05	0.017	<0.05		0.019	0.021	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05							
	03/02/16	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	0.0097	0.053	<0.01	<0.01	<0.01	0.055							
	09/01/15	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	0.034	<0.01	<0.01	<0.01	0.086							
	03/25/14	8270C	<0.10	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	<0.01	<0.10	<0.01	<0.01	<0.01	0.21							
	11/12/14	8270C	<0.01	<0.02	<0.01	0.012	<0.01				<0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01							
	03/05/14	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				<0.05		<0.05	<0.05	<0.05	0.079	<0.05	<0.05	<0.05	0.6							
	10/15/13	8270C	<0.05	<0.2	<0.05	<0.05	<0.05				0.068		<0.05	<0.05	0.34	0.73	<0.05	<0.05	<0.05	1.5							
	05/28/13	8270C	0.11	<0.04	<0.02	<0.02	<0.02				0.2		<0.02	<0.02	1.4	3.5	<0.02	<0.02	<0.02	5.5							
	11/06/12	8270C	0.093	<0.1	<0.05	<0.05	<0.05				0.089		<0.05	<0.05	0.46	0.96	<0.05	<0.05	<0.05	1.8							
	05/29/12	8270C	<0.1	<0.02	<0.1	<0.1	<0.1				<0.1		<0.1	<0.1	0.33	0.56	<0.1	<0.1	<0.1	1.1							
	11/01/11	8270C	0.023	<0.02	<0.01	<0.01	<0.01				0.021		<0.01	<0.01	0.13	0.19	<0.01	<0.01	<0.01	0.34							
	05/23/11	8270C	0.15	<0.02	<0.01	<0.01	<0.01				0.19		<0.01	<0.01	1.1	2.1	<0.01	<0.01	<0.01	2.1							
	11/16/10	8270C	<0.01	<0.02	<0.01	<0.01	<0.01				<0.01		<0.01	<0.01	0.066	0.078	<0.01	<0.01	<0.01	0.2							
	04/20/10	8270C	<0.05	<0.1	<0.05	<0.05	<0.05				0.11		<0.05	<0.05	0.92	1.2	<0.05	<0.05	<0.05	2.7							

8.15.5 EVAPORATION PONDS (EP-1 thru EP-12B)

Semi-Volatile Organic Compound Analytical Result Summary

	PARAMETERS																							
STANDARDS	**Aniline (mg/L)**	**Benzoic acid (mg/L)**	**Benzyl alcohol (mg/L)**	**Bis (2-ethyl hexyl) phthalate (mg/L)**	**Carbazole (mg/L)**	**Chrysene (mg/L)**	**Di-n-octyl phthalate (mg/L)**	**Dimethyl phthalate (mg/L)**	**2,4-Dimethyl phenol (mg/L)**	**Fluor anthene (mg/L)**	**Fluorene (mg/L)**	**2-Methyl naphthalene (mg/L)**	**2-Methyl phenol (mg/L)**	**3+4-Methyl phenol (mg/L)**	**Naphtha lene (mg/L)**	**2-Nitro phenol (mg/L)**	**Phenan threne (mg/L)**	**Phenol (mg/L)**	**Pyrene (mg/L)**	**Pyridine (mg/L)**	**Benz (a) anthra cene (mg/L)**	**Benzo (a) pyrene (mg/L)**	**Benzo (b) fluor anthene (mg/L)**	**Benzo (g,h,i) perylene (mg/L)**	**Indeno (1,2,3-cd) pyrene (mg/L)**
WQCC 20NMAC 6.2.3103	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE	NE	NE	NE	NE
40 CFR 141.62 MCL	NE	NE	NE	**0.006**	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.002**	NE	NE
NMED Tap Water (MARCH 2017)	NE	NE	NE	0.0556	NE	**0.0343**	NE	**0.612**	**0.354**	**0.802**	**0.288**	0.035	NE	NE	**0.00165**	NE	**0.17**	5.76	**0.117**	NE	**0.0001**	0.00025	**0.000343**	NE	**0.000343**
EPA RSL for Tap Water (MAY 2018)	**0.013**	**75**	**2**	0.0056	NE	0.0034	**0.2**	NE	0.36	0.8	0.29	**0.036**	**0.93**	**0.93**	0.00017	NE	NE	5.8	0.12	**0.02**	0.000012	0.000025	0.000034	NE	0.00025
SAMPLE ID **SAMPLE DATE** **METHOD**																								

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.15.6 EVAPORATION PONDS (EP-1 thru EP-12B)

General Chemistry Analytical Result Summary

			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE
40 CFR 141.62 MCL (APR 2014)			4.0	NE	**10.0**	10	NE	NE
NMED Tap Water (DEC 2014)			1.2	NE	1.97	31.6	NE	NE
EPA RSL for Tap Water (NOV 2015)			0.8	NE	2	32	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**						
EP-1	11/12/2014	300.0	**24**	**4200**	<10	<1.0	**5800**	17000
	3/5/2014	300.0	**18**	**1500**	<1.0	<1.0	**2100**	7600
	10/15/2013	300.0	**21**	**1300**	<2.0	<2.0	**2000**	6900
	5/28/2013	300.0	**20**	**1000**	<1.0	<1.0	**1200**	6200
	11/6/2012	300.0	**72**	**570**	<2.0	<2.0	**980**	5500
	5/29/2012	300.0	**34**	**3400**	<0.5	<0.5	**1300**	8800
	11/1/2011	300.0	**240**	**3000**	<10	<10	**1200**	12000
	5/23/2011	300.0	**590**	200	<1.0	3.2	**980**	6200
	11/16/2010	300.0	**350**	140	4.8	4.8	**1000**	4300
	8/2/2010	300.0	**99**	**310**	<4.0	<4.0	**870**	3700
	4/20/2010	300.0	**340**	**330**	<1.0	<1.0	**1500**	5400
EP-2	9/1/2015	300.0	<1.0	**2900**	<1.0	<1.0	**960**	14000
	3/24/2015	300.0	**35**	**1700**	<1.0	<1.0	**1200**	8200
	9/1/2015	300.0	<1.0	**2900**	<1.0	<1.0	**960**	14000
	3/24/2015	300.0	**35**	**1700**	<1.0	<1.0	**1200**	8200
	11/12/2014	300.0	**40**	**2400**	<10	<1.0	**1300**	8900
	3/5/2014	300.0	**37**	**1900**	<1.0	<1.0	**680**	7600
	10/15/2013	300.0	**70**	**1100**	<2.0	<2.0	**680**	6500
	5/28/2013	300.0	**42**	**310**	<1.0	<1.0	**1700**	6000
	11/6/2012	300.0	**84**	**290**	<2.0	<2.0	**820**	6900
	5/29/2012	300.0	**55**	**6600**	<2.0	<0.5	**1300**	20000
	11/1/2011	300.0	**46**	**2700**	<20	<20	**1700**	15000
	5/23/2011	300.0	**65**	**3700**	<20	<20	**990**	18000
	11/16/2010	300.0	**41**	**3500**	<10	<10	**970**	14000
	8/2/2010	300.0	**43**	**1600**	<4.0	<4.0	**970**	6400
	4/20/2010	300.0	**170**	**1100**	<2.0	<0.5	**1200**	5800

8.15.6 EVAPORATION PONDS (EP-1 thru EP-12B)

General Chemistry Analytical Result Summary

			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE
40 CFR 141.62 MCL (APR 2014)			4.0	NE	**10.0**	10	NE	NE
NMED Tap Water (DEC 2014)			1.2	NE	1.97	31.6	NE	NE
EPA RSL for Tap Water (NOV 2015)			0.8	NE	2	32	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**						
EP-3	9/1/2015	300.0	**23**	**5300**	<1.0	<1.0	**650**	19000
	3/24/2015	300.0	**17**	**4000**	<1.0	<1.0	**900**	20000
	9/1/2015	300.0	**23**	**5300**	<1.0	<1.0	**650**	19000
	3/24/2015	300.0	**17**	**4000**	<1.0	<1.0	**900**	20000
	11/12/2014	300.0	**34**	**4000**	<10	<1.0	**1300**	12000
	3/5/2014	300.0	**23**	**3700**	<1.0	<1.0	**670**	12000
	10/15/2013	300.0	**39**	**5200**	<4.0	<4.0	**730**	18000
	5/28/2013	300.0	**21**	**6500**	<10	<1.0	**1400**	29000
	11/6/2012	300.0	**77**	**2000**	<2.0	<2.0	**1200**	12000
	5/29/2012	300.0	**22**	**9500**	<4.0	<4.0	**1400**	27000
	11/1/2011	300.0	**43**	**6400**	<20	<20	**1600**	17000
	5/23/2011	300.0	**54**	**3700**	<5.0	<1.0	**1100**	19000
	11/16/2010	300.0	**11**	**5100**	<200	<200	**1000**	16000
	8/2/2010	300.0	**41**	**2800**	<10	<10	**1100**	9000
	4/20/2010	300.0	**63**	**8400**	<40	<40	**1100**	32000
EP-4	9/1/2015	300.0	**24**	**5300**	<10	<1.0	**690**	19000
	3/24/2015	300.0	**20**	**7200**	<10	<1.0	**1700**	29000
	9/1/2015	300.0	**24**	**5300**	<10	<1.0	**690**	19000
	3/24/2015	300.0	**20**	**7200**	<10	<1.0	**1700**	29000
	11/12/2014	300.0	**33**	**4200**	<10	<1.0	**1300**	13000
	3/5/2014	300.0	**18**	**4300**	<1.0	<1.0	**650**	14000
	10/15/2013	300.0	**33**	**6000**	<4.0	<4.0	**830**	20000
	5/28/2013	300.0	**19**	**7700**	<10	<1.0	**1500**	32000
	11/6/2012	300.0	**46**	**4000**	<10	<10	**980**	19000
	5/29/2012	300.0	**20**	**6500**	<2.0	<0.5	**1400**	22000
	11/1/2011	300.0	**39**	**4300**	<20	<20	**1600**	18000
	5/23/2011	300.0	**35**	**5300**	<5.0	<1.0	**1100**	24000
	11/16/2010	300.0	**22**	**4500**	<20	<20	**1100**	18000
	8/2/2010	300.0	**35**	**2500**	<10	<10	**1100**	8700
	4/20/2010	300.0	**67**	**8000**	<40	<40	**1000**	26000

8.15.6 EVAPORATION PONDS (EP-1 thru EP-12B)

General Chemistry Analytical Result Summary

			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE
40 CFR 141.62 MCL (APR 2014)			4.0	NE	**10.0**	10	NE	NE
NMED Tap Water (DEC 2014)			1.2	NE	1.97	31.6	NE	NE
EPA RSL for Tap Water (NOV 2015)			0.8	NE	2	32	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**						
EP-5	9/1/2015	300.0	**20**	**8500**	<10	<1.0	**1600**	32000
	3/24/2015	300.0	**17**	**7500**	<10	<1.0	**1600**	31000
	9/1/2015	300.0	**20**	**8500**	<10	<1.0	**1600**	32000
	3/24/2015	300.0	**17**	**7500**	<10	<1.0	**1600**	31000
	11/12/2014	300.0	**27**	**13000**	<10	<1.0	**2100**	44000
	3/5/2014	300.0	**12**	**5200**	<1.0	<1.0	**740**	16000
	10/15/2013	300.0	**29**	**6500**	<4.0	<4.0	**950**	21000
	5/28/2013	300.0	**17**	**8400**	<10	<1.0	**1400**	32000
	11/6/2012	300.0	**16**	**5600**	<50	<2.0	**870**	23000
	5/29/2012	300.0	**21**	**6100**	<4.0	<4.0	**1300**	22000
	11/1/2011	300.0	**26**	**4300**	<20	<20	**1600**	21000
	5/23/2011	300.0	**27**	**6700**	<5.0	<1.0	**1200**	26000
	11/16/2010	300.0	**20**	**4200**	<20	<20	**1200**	18000
	8/2/2010	300.0	**39**	**4800**	<10	<10	**1300**	20000
	4/20/2010	300.0	**53**	**12000**	<40	<40	**1100**	40000
EP-6	9/1/2015	300.0	**21**	**11000**	<10	<1.0	**2000**	39000
	3/25/2015	300.0	**15**	**7900**	<10	<10	**1700**	30000
	9/1/2015	300.0	**21**	**11000**	<10	<1.0	**2000**	39000
	3/25/2015	300.0	**15**	**7900**	<10	<10	**1700**	30000
	11/12/2014	300.0	**26**	**15000**	<10	<1.0	**2200**	48000
	3/5/2014	300.0	**18**	**6900**	<1.0	<1.0	**1500**	23000
	10/15/2013	300.0	**17**	**11000**	<10	<10	**2200**	38000
	5/28/2013	300.0	**15**	**11000**	<10	<1.0	**1900**	41000
	11/6/2012	300.0	**21**	**11000**	<0.5	<2.0	**2500**	42000
	5/29/2012	300.0	**20**	**8800**	<4.0	<4.0	**2100**	27000
	11/1/2011	300.0	**24**	**6900**	<20	<20	**2300**	26000
	5/23/2011	300.0	**18**	**6500**	<20	<20	**1300**	23000
	11/16/2010	300.0	**25**	**6300**	<20	<20	**1500**	21000
	8/2/2010	300.0	**21**	**7400**	<40	<40	**1500**	27000
	4/20/2010	300.0	**29**	**4000**	<2.0	<2.0	**1100**	8400

8.15.6 EVAPORATION PONDS (EP-1 thru EP-12B)

General Chemistry Analytical Result Summary

			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE
40 CFR 141.62 MCL (APR 2014)			4.0	NE	**10.0**	10	NE	NE
NMED Tap Water (DEC 2014)			1.2	NE	1.97	31.6	NE	NE
EPA RSL for Tap Water (NOV 2015)			0.8	NE	2	32	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**						
EP-7	9/1/2015	300.0	**27**	**59000**	<10	<1.0	**12000**	180000
	3/25/2015	300.0	**25**	**50000**	<40	<40	**11000**	140000
	9/1/2015	300.0	**27**	**59000**	<10	<1.0	**12000**	180000
	3/25/2015	300.0	**25**	**50000**	<40	<40	**11000**	140000
	11/12/2014	300.0	**44**	**61000**	<40	<40	**12000**	160000
	3/8/2014	300.0	**28**	**41000**	<10	<1.0	**8500**	130000
	10/15/2013	300.0	**24**	**52000**	<40	<40	**11000**	170000
	5/28/2013	300.0	**28**	**55000**	<10	<1.0	**11000**	190000
	11/6/2012	300.0	**37**	**81000**	<500	<2.0	**15000**	210000
	5/29/2011	300.0	**24**	**50000**	<20	<20	**9500**	150000
	11/1/2011	300.0	**22**	**46000**	<40	<40	**8100**	120000
	5/23/2011	300.0	**27**	**28000**	<100	<100	**8400**	120000
	11/16/2010	300.0	**35**	**35000**	<200	<200	**8400**	84000
	8/2/2010	300.0	**18**	**62000**	<200	<200	**11000**	180000
	4/20/2010	300.0	**16**	**27000**	<200	<50	**6900**	150000
EP-8	9/1/2015	300.0	**27**	**64000**	<10	<1.0	**13000**	180000
	3/25/2015	300.0	**27**	**65000**	<40	<40	**14000**	130000
	9/1/2015	300.0	**27**	**64000**	<10	<1.0	**13000**	180000
	3/25/2015	300.0	**27**	**65000**	<40	<40	**14000**	130000
	11/12/2014	300.0	**41**	**61000**	<40	<40	**11000**	170000
	3/5/2014	300.0	**27**	**39000**	<10	<1.0	**7900**	130000
	10/15/2013	300.0	**33**	**110000**	<40	<40	**18000**	370000
	5/28/2013	300.0	**29**	**47000**	<10	<1.0	**8600**	170000
	11/6/2012	300.0	**71**	**250000**	<500	<500	**31000**	550000
	5/29/2012	300.0	**33**	**67000**	<20	<20	**9700**	180000
	11/1/2011	300.0	**27**	**27000**	<20	<20	**3600**	66000
	5/23/2011	300.0	**43**	**170000**	<100	<100	**18000**	370000
	11/16/2010	300.0	**44**	**81000**	<200	<200	**12000**	190000
	8/2/2010	300.0	**43**	**110000**	<100	<100	**22000**	300000
	4/20/2010	300.0	**46**	**49000**	<200	<200	**6900**	150000

8.15.6 EVAPORATION PONDS (EP-1 thru EP-12B)

General Chemistry Analytical Result Summary

			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE
40 CFR 141.62 MCL (APR 2014)			4.0	NE	**10.0**	10	NE	NE
NMED Tap Water (DEC 2014)			1.2	NE	1.97	31.6	NE	NE
EPA RSL for Tap Water (NOV 2015)			0.8	NE	2	32	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**						
EP-9[2]	9/1/2015	300.0	**20**	**59000**	<20	<1.0	**7200**	180000
	3/25/2015	300.0	**22**	**30000**	<20	<20	**4500**	110000
	9/1/2015	300.0	**20**	**59000**	<20	<1.0	**7200**	180000
	3/25/2015	300.0	**22**	**30000**	<20	<20	**4500**	110000
	11/13/2014	300.0	**22**	**98000**	<100	<100	**12000**	300000
	3/5/2014	300.0	**18**	**56000**	<10	8.1	**7800**	160000
	10/15/2013	300.0	**15**	**55000**	<40	<40	**8100**	180000
	5/28/2013	300.0	**19**	**62000**	<10	3.0	**8400**	200000
	11/6/2012	300.0	**13**	**46000**	<40	<40	**6400**	150000
	5/29/2012	300.0	**21**	**63000**	<20	<20	**7500**	160000
	11/1/2011	300.0	**20**	**76000**	<100	<100	**9400**	210000
	5/23/2011	300.0	**19**	**57000**	<200	<200	**7100**	190000
	11/16/2010	300.0	**21**	**76000**	<200	<200	**8700**	200000
	4/20/2010	300.0	**20**	**38000**	<200	<200	**5000**	120000
EP-11[2]	9/1/2015	300.0	**25**	**66000**	<10	<1.0	**13000**	170000
	3/25/2015	300.0	**34**	**38000**	<40	<40	**8200**	130000
	9/1/2015	300.0	**25**	**66000**	<10	<1.0	**13000**	170000
	3/25/2015	300.0	**34**	**38000**	<40	<40	**8200**	130000
	11/12/2014	300.0	**32**	**63000**	<40	<40	**17000**	180000
	3/5/2014	300.0	**22**	**10000**	<10	<1.0	**4300**	36000
	10/15/2013	300.0	**22**	**11000**	<10	<10	**4500**	81000
	5/28/2013	300.0	**23**	**8900**	<10	<1.0	**4000**	39000
	11/6/2012	300.0	**40**	**3500**	<2.0	<2.0	**1300**	18000
	5/29/2012	300.0	**22**	**8200**	<4.0	<4.0	**3700**	30000
	11/1/2011	300.0	**29**	**5700**	<20	<20	**1800**	19000
	5/23/2011	300.0	**23**	**16000**	<40	<40	**3900**	62000
	11/16/2010	300.0	**28**	**14000**	<40	<40	**3300**	47000
	4/20/2010	300.0	**18**	**17000**	<100	<100	**4400**	62000

8.15.6 EVAPORATION PONDS (EP-1 thru EP-12B)

General Chemistry Analytical Result Summary

			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE
40 CFR 141.62 MCL (APR 2014)			4.0	NE	**10.0**	10	NE	NE
NMED Tap Water (DEC 2014)			1.2	NE	1.97	31.6	NE	NE
EPA RSL for Tap Water (NOV 2015)			0.8	NE	2	32	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**						
EP-12A[2]	9/1/2015	300.0	**31**	**4900**	<10	<1.0	**1700**	20000
	3/25/2015	300.0	**20**	**2500**	<2.0	<2.0	**1000**	13000
	9/1/2015	300.0	**31**	**4900**	<10	<1.0	**1700**	20000
	3/25/2015	300.0	**20**	**2500**	<2.0	<2.0	**1000**	13000
	11/12/2014	300.0	**43**	**3000**	2.5	2.5	**1600**	12000
	3/5/2014	300.0	**34**	**1800**	<1.0	<1.0	**1100**	8000
	10/15/2013	300.0	**43**	**1900**	<2.0	<2.0	**1300**	8600
	5/28/2013	300.0	**29**	**3800**	<1.0	<1.0	**1700**	17000
	11/6/2012	300.0	**35**	**4000**	<2.0	<2.0	**1400**	19000
	5/29/2012	300.0	**23**	**7600**	<4.0	<4.0	**2300**	25000
	11/1/2011	300.0	**36**	**5400**	<20	<20	**1500**	18000
	5/23/2011	300.0	**28**	**6400**	<5.0	<1.0	**1400**	26000
	11/16/2010	300.0	**21**	**11000**	<40	<40	**3100**	39000
	4/20/2010	300.0	**29**	**6400**	<20	<20	**1300**	20000
EP-12B[2]	9/1/2015	300.0	**51**	**3200**	<10	<1.0	**900**	15000
	3/25/2015	300.0	**11**	**2800**	<2.0	<2.0	**980**	13000
	9/1/2015	300.0	**51**	**3200**	<10	<1.0	**900**	15000
	3/25/2015	300.0	**11**	**2800**	<2.0	<2.0	**980**	13000
	11/12/2014	300.0	**38**	**1900**	<2.0	<2.0	**1200**	7600
	3/5/2014	300.0	**38**	**1800**	<1.0	<1.0	**710**	7800
	10/15/2013	300.0	**14**	**1300**	<2.0	<2.0	**770**	6800
	5/28/2013	300.0	**32**	**3100**	<1.0	<1.0	**1500**	14000
	11/6/2012	300.0	**71**	**1900**	<2.0	<2.0	**1100**	12000
	5/29/2012	300.0	**19**	**7000**	<4.0	<10	**1500**	25000
	11/1/2011	300.0	**39**	**3600**	<20	<20	**1500**	18000
	5/23/2011	300.0	**37**	**4800**	<5.0	<1.0	**1100**	22000
	11/16/2010	300.0	**22**	**6100**	<20	<20	**1700**	22000
	4/20/2010	300.0	**80**	**5000**	<5.0	<5.0	**950**	9400

8.15.6 EVAPORATION PONDS (EP-1 thru EP-12B)

General Chemistry Analytical Result Summary

			Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Specific Conductance (µS/cm)
WQCC 20NMAC 6.2.3103			**1.6**	**250.0**	NE	**10**	**600.0**	NE
40 CFR 141.62 MCL (APR 2014)			4.0	NE	**10.0**	10	NE	NE
NMED Tap Water (DEC 2014)			1.2	NE	1.97	31.6	NE	NE
EPA RSL for Tap Water (NOV 2015)			0.8	NE	2	32	NE	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**						

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1 (Dec 2014)

NOTES

8.16 STP-1 TO EP-2 (EP-2 INLET)

BTEX, MTBE, DRO/GRO/MRO and TDS Analytical Result Summary

STANDARDS			PARAMETERS								
			Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	TDS (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE	NE	NE	NE	**1000**
40 CFR 141.61 MCL			**0.005**	1	**0.7**	10	NE	NE	NE	NE	NE
NMED TAP WATER (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**	NE	NE	NE	NE
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014	NE	NE	NE	NE
NMED SSG 2017			NE	NE	NE	NE	NE	**0.0452**	**0.055**	**0.0902**	NE
SAMPLE ID	**DATE SAMPLED**	**METHOD**									
STP-1 TO EP-2	12/12/17	8260B/8015D	**0.0071**	0.002	<0.01	<0.015	<0.01	**3.8**	0.24	<5.0	**2550**
(EP-2 Inlet)	09/07/17	8260B/8015D	0.0026	0.0014	<0.01	<0.015	<0.01	**30**	<0.25	<5.0	**3520**
	06/02/17	8260B/8015D	0.00071	<0.01	<0.01	<0.015	<0.01	**1.5**	<0.25	<5.0	**3680**
	03/30/17	8260B/8015B	0.0019	0.0022	<0.005	0.0035	<0.005	**11**	**1.2**	<5.0	**3760**
	11/14/16	8260B/8015D	<0.01	<0.01	<0.01	<0.015	<0.01	**0.95**	<0.5	<5.0	**4810**
	08/30/16	8260B/8015D	<0.01	<0.01	<0.01	<0.015	<0.01	**5.1**	**0.22**	<5.0	**5100**
	06/08/16 [2]	8260B/8015D	<0.005	<0.005	<0.005	<0.0075	<0.005	**2**	<0.25	<5.0	**4400**
	08/24/15	8260B/8015B	<0.002	<0.002	<0.002	<0.003	<0.002	**2.3**	**0.13**	<5.0	**2420**
	09/10/14	8260B/8015B	**0.018**	<0.002	<0.002	<0.003	<0.002	**2.4**	<0.5	<5.0	**2590**
	09/05/13	8260B/8015B	**0.033**	0.013	<0.01	<0.015	<0.01	**3.3**	<0.5	<5.0	**2340**
	08/21/12 [1]	8260B/8015B	<0.001	<0.001	<0.001	<0.0015	<0.001	<1.0	<0.05	<5.0	**3720**
	10/31/11	8260B/8015B	<0.005	0.0063	<0.005	<0.0075	<0.005	**39**	**1.7**	**6.9**	**6730**
	07/21/10	8260B/8015B	<0.005	<0.005	<0.005	<0.0075	<0.005	**21**	**0.83**		**4120**

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) Sample taken from inlet from STP-1. No flow to aeration lagoons - diverted to Waste Water Treatment Plant.

2) Switched to quarterly per NMED directive "Approval with Modifications", dated May 18, 2016.

8.16.1 STP-1 TO EP-2 (EP-2 INLET)

BOD/COD Analytical Result Summary

STANDARDS			PARAMETERS	
			BOD (mg/L)	COD (mg/L)
WQCC 20NMAC 6.2.3103			<30	<125
SAMPLE ID	DATE SAMPLED	METHOD		
STP-1 TO EP-2	12/12/17	SM5210B/5220C	**1400**	**2100**
(EP-2 Inlet)	09/07/17	SM5210B/5220C	**640**	**1100**
	06/02/17	SM5210B/5220C	**1200**	**1400**
	03/30/17	SM5210B/5220C	**470**	**1300**
	11/17/16	SM5210B/5220C	**1000**	**1620**
	08/30/16	SM5210B/5220C	**310**	**661**
	06/08/16	SM5210B/5220C	**160**	**408**
	08/24/15	SM5210B/5220C	**380**	**80.6**
	11/12/14	SM5210B/5220C	**630**	**1300**
	09/10/14	SM5210B/5220C	**270**	**1500**
	09/05/13	SM5210B/5220C	**670**	**1200**
	08/21/12 [1]	SM5210B/5220C	<2.0	<10.0
	10/31/11	SM5210B/5220C	**410**	**1520**
	07/21/10	SM5210B/5220C	**1400**	**3200**
	06/18/09	SM5210B/5220C	**191**	**1149**
	08/22/08	SM5210B/5220C	**348**	**1540**
	03/26/08	SM5210B/5220C	**649**	**1430**
	03/20/08	SM5210B/5220C	**344**	**829**
	03/11/08	SM5210B/5220C	**651**	**1150**
	03/06/08	SM5210B/5220C	**947**	**1520**
	02/28/08	SM5210B/5220C	**46.1**	**2440**
	02/21/08	SM5210B/5220C	**>394**	**1950**
	02/14/08	SM5210B/5220C	**570**	**2290**
	02/07/08	SM5210B/5220C	**671**	**2570**
	01/31/08	SM5210B/5220C	**414**	**1290**
	01/25/08	SM5210B/5220C	**520**	**1200**
	01/18/08	SM5210B/5220C	**462**	**1460**
	01/11/08	SM5210B/5220C	**449**	**1350**

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

NOTES

1) Sample taken from inlet from STP-1. No flow to aeration lagoons - diverted to Waste Water Treatment Plant.

8.16.2 STP-1 TO EP-2 (EP-2 INLET)

Volatile Organic Compound Analytical Result Summary

STANDARDS			PARAMETERS		
			Acetone (mg/L)	2-Butanone (mg/L)	Carbon Disulfide (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE
40 CFR 141.61 MCL			NE	NE	NE
NMED TAP WATER (MARCH 2017)			**14.1**	**5.56**	**0.81**
EPA RSL for Tap Water (MAY 2018)			14	5.6	0.81
SAMPLE ID	**DATE SAMPLED**	**METHOD**			
STP-1 TO EP-2	12/12/17	8260B	1.6	0.054	<0.1
	09/07/17	8260B/8270C	1.1	<0.1	<0.1
	06/02/17	8260B	1.6	0.14	0.012
	03/30/17	8260B	1.2	0.058	0.02
	11/17/16	8260B	2.4	0.076	0.013
	08/30/16	8260B/8270C	1.1	<0.1	<0.1
	06/08/16 [1]	8260B	0.87	0.024	0.039
	08/24/15	8260B	0.25	<0.02	<0.02
	09/10/14	8260B/8270C	1.3	0.16	0.058
	09/05/13	8260B	2.2	0.26	<0.1
	08/21/12 [1]	8260B	<0.01	<0.01	<0.01
	10/31/11	8260B	0.86	0.14	<0.05
	07/21/10	8260B	0.49	<0.05	<0.05

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Sample taken from inlet from STP-1. No flow to aeration lagoons - diverted to Waste Water Treatment Plant.

8.16.3 STP-1 TO EP-2 (EP-2 INLET)
TOTAL METALS ANALYSIS

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.61 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	0.002	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000513	3.28	0.00624	0.00559	0.79	**13.8**	NE	**2.02**	0.0987	0.0000626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.00063	0.06	6
Well ID	**DATE SAMPLED**	**METHOD**												
STP-1 TO EP-2	11/12/2014	200.7/200.8	**0.011**	0.071	<0.002	0.013	0.0066	1.6	<0.001	0.18	<0.025	<0.0002	0.0022	0.044
(EP-2 Inlet)	9/10/2014	200.7/200.8	**0.014**	0.098	<0.002	0.017	<0.006	3.7	<0.001	0.18	0.021	<0.0002	0.0045	0.12

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

1) Method 200.7/200.8 analysis requested as part of the annual sampling

8.16.4 STP-1 TO EP-2 (EP-2 INLET)
DISSOLVED METALS ANALYSIS

			PARAMETERS									
STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL (NOV 2015)			**0.01**	2	**NE**	NE	NE	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (DEC 2014)			0.000513	3.28	0.00624	0.00559	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (NOV 2015)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.06	6
Well ID	**DATE SAMPLED**	**METHOD**											
STP-1 TO EP-2 (EP-2 Inlet)	9/10/2014	200.7/200.8	0.011	0.087	<0.002	0.018	<0.006	3.5	<0.001	0.18	0.022	0.0028	0.087

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.16.4 STP-1 TO EP-2 (EP-2 INLET)
DISSOLVED METALS ANALYSIS

STANDARDS			PARAMETERS									
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**NE**	NE	NE	NE	**0.015**	NE	0.05	0.03	NE
NMED TAP WATER (MARCH 2017)			0.000513	3.28	0.00624	0.00559	0.79	13.8	NE	2.02	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.06	6
Well ID	**DATE SAMPLED**	**METHOD**											
STP-1 TO EP-2 (EP-2 Inlet)	9/10/2014	200.7/200.8	**0.011**	0.087	<0.002	0.018	<0.006	3.5	<0.001	0.18	0.022	0.0028	0.087

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.17 MKTF Wells

BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-1	02/24/16	8260B	**9.5**	**1.8**	**0.85**	**1**	**0.33**
	11/04/15	8260B	**10**	**1.4**	**0.79**	**1.2**	**0.39**
	08/21/15	8260B	**9.1**	**1**	0.7	**0.87**	**0.44**
	06/09/15	8260B	**9.3**	**1.5**	**0.74**	**1.8**	**0.41**
	03/11/15	8260B	**9.3**	**2**	**0.74**	**1.9**	**0.37**
	06/06/14	8260B	**8.7**	**7.1**	**0.92**	**4.3**	**0.42**
MKTF-2	11/20/17	8260B	**2.9**	0.05	0.28	0.069	0.13
	10/03/17	8260B	**2.7**	0.028	0.15	0.037	0.13
	03/16/17	8260B	**4**	0.056	0.51	0.23	**0.15**
	10/28/16	8260B	**1.6**	0.02	0.095	0.0099	**0.15**
	09/07/16	8260B	**1.8**	0.017	0.16	0.028	0.11
	06/10/16	8260B	**1.2**	0.026	0.21	0.16	0.087
	02/24/16	8260B	**0.11**	0.00095	0.0011	<0.0075	0.036
	11/04/15	8260B	**0.44**	0.013	0.072	0.0063	0.058
	08/21/15	8260B	**0.37**	0.0056	0.011	0.0033	0.044
	06/09/15	8260B	**0.47**	0.011	0.062	0.039	0.037
	03/11/15	8260B	**0.2**	<0.002	0.0041	0.0076	0.044
	11/14/14	8260B	**0.2**	0.0022	0.0029	0.0016	0.059
	09/18/14	8260B	**2.1**	0.044	0.34	<0.0075	0.1
	06/06/14	8260B	**0.23**	0.0036	0.022	0.034	0.042
	04/08/14	8260B	**0.11**	<0.002	0.0035	0.008	0.036
	10/28/13	8021B	**0.69**	<0.02	0.055	0.16	<0.05
MKTF-4	11/28/17	8260B	**1.2**	0.019	**0.82**	**1.1**	**2.3**
	09/26/17	8260B	**1.1**	0.019	**0.82**	**1.1**	**2.3**
	06/08/17	8260B	**0.92**	0.016	0.59	**0.89**	**2**
	03/02/17	8260B	**0.98**	0.015	0.68	**0.88**	**2.5**
	11/02/16	8260B	**0.88**	0.018	0.64	**0.85**	**2.1**
	09/11/16	8260B	**0.88**	0.015	0.67	**0.76**	**2.4**
	06/09/16	8260B	**0.63**	0.015	0.58	**0.72**	**1.8**
	02/29/16	8260B	**0.8**	0.017	**0.73**	**0.8**	**2.2**
	11/03/15	8260B	**0.38**	0.015	0.7	**0.78**	**1.5**
	08/18/15	8260B	**0.32**	0.011	0.43	0.55	**1.4**
	06/04/15	8260B	**0.31**	0.013	0.45	0.56	**1.3**
	03/16/15	8260B	**0.22**	<0.01	0.26	0.34	**1.2**
	11/13/14	8260B	**0.18**	<0.01	0.28	0.26	**1.4**
	09/15/14	8260B	**0.15**	<0.005	0.14	0.14	**1.4**
	06/04/14	8260B	**0.67**	0.019	0.57	**0.68**	**1.8**
	04/11/14	8260B	**1**	0.025	**0.8**	**1**	**2.4**
MKTF-9	11/28/17	8260B	**3.2**	0.027	0.26	0.086	**0.51**
	09/28/17	8260B	**3**	0.03	0.3	0.097	**0.53**
	06/12/17	8260B	**3**	0.032	0.3	0.086	**0.68**
	03/15/17	8260B	**2.4**	0.032	0.3	0.083	**0.61**
	11/02/16	8260B	**1.6**	0.026	0.21	0.052	**0.5**
	09/11/16	8260B	**2**	0.03	0.22	0.059	**0.62**
	06/09/16	8260B	**1.4**	0.029	0.21	0.056	**0.53**
	02/29/16	8260B	**1.6**	0.029	0.24	0.064	**0.69**
	11/03/15	8260B	**1.5**	0.036	0.23	0.07	**0.63**
	08/18/15	8260B	**1.2**	0.035	0.2	0.063	**0.6**
	06/04/15	8260B	**0.89**	0.025	0.15	0.039	**0.43**
	03/16/15	8260B	**0.49**	0.013	0.08	0.018	**0.5**
	11/14/14	8260B	**0.81**	0.033	0.15	0.11	**0.77**
	09/18/14	8260B	**0.75**	0.027	0.096	0.043	**0.76**
	06/05/14	8260B	**1.3**	0.052	0.2	0.098	**1.2**
	04/14/14	8260B	**1.1**	0.038	0.14	0.075	**1.2**

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-10	11/28/17	8260B	**9.8**	**4.7**	**1.8**	**8.3**	0.035
	09/28/17	8260B	**9.5**	**8.8**	**1.8**	**8.7**	<0.1
	06/08/17	8260b	**12**	**20**	**1.8**	**8.2**	<0.1
	03/02/17	8260B	**18**	**21**	**1.6**	**7.8**	0.028
	11/02/16	8260B	**17**	**22**	**1.7**	**8**	<0.1
	09/11/16	8260b	**16**	**20**	**1.6**	**7.3**	<0.1
	06/09/16	8260B	**15**	**22**	**1.7**	**8.9**	0.018
	02/29/16	8260B	**11**	**23**	**1.7**	**7.7**	<0.1
	11/03/15	8260B	**12**	**22**	**1.6**	**6.8**	<0.05
	08/18/15	8260B	**9.2**	**19**	**1.5**	**6.5**	<0.5
	06/04/15	8260B	**10**	**20**	**1.5**	**6.5**	<0.05
	03/16/15	8260B	**11**	**21**	**1.6**	**6.8**	<0.05
	11/14/14	8260B	**11**	**20**	**1.7**	**7.6**	<0.02
	09/18/14	8260B	**11**	**15**	**0.93**	**4**	<0.05
	06/06/14	8260B	**12**	**14**	**0.74**	**3.4**	0.019
	04/11/14	8260B	**14**	**19**	**1.5**	**6.9**	<0.05
MKTF-11	11/28/17	8260B	**9.9**	**8.8**	**0.84**	**2.6**	0.068
	09/26/17	8260B	**10**	**10**	**0.81**	**2.8**	0.054
	06/08/17	8260B	**4.5**	**4.7**	0.47	**1.5**	0.05
	03/02/17	8260B	**3.9**	**3.4**	0.59	**1.6**	0.065
	11/02/16	8260B	**3.9**	**4.5**	0.52	**1.6**	0.071
	09/11/16	8260B	**4.5**	**4.8**	0.53	**1.6**	0.081
	06/09/16	8260B	**4.5**	**5.8**	0.57	**1.8**	0.078
	02/29/16	8260B	**5.1**	**6.4**	0.67	**2.2**	0.12
	11/03/15	8260B	**11**	**13**	**0.96**	**3.9**	0.056
	08/18/15	8260B	**3.7**	**4.2**	0.5	**1.5**	0.082
	06/04/15	8260B	**12**	**13**	**1.2**	**4.9**	0.041
	03/16/15	8260B	**10**	**11**	**0.93**	**3.7**	0.048
	11/13/14	8260B	**9.5**	**8.2**	**0.77**	**2.3**	0.08
	09/15/14	8260B	**9.5**	**7.1**	**0.72**	**2**	0.083
	06/05/14	8260B	**12**	**7.8**	**0.75**	**2.2**	0.096
	04/11/14	8260B	**15**	**7.6**	**0.93**	**2.2**	**0.15**
MKTF-13	03/15/17	8260B	**3**	0.21	**0.87**	**4**	**2.3**
MKTF-15	11/28/17	8260B	**18**	**15**	**2.2**	**7.7**	**0.16**
	06/08/17	8260B	**23**	**22**	**2.6**	**8.7**	0.13
	03/02/17	8260B	**24**	**17**	**2.1**	**7.7**	**0.16**
	11/02/16	8260B	**20**	**16**	**2.1**	**7.6**	0.099
	09/11/16	8260B	**24**	**16**	**2**	**7.3**	0.096
	6/4/15 , 3/16/15	8260B	SPH DETECTED				
	09/17/14	8260B	**11**	**7**	**1.4**	**4.3**	**0.38**
	06/05/14	8260B	**12**	**8.8**	**1.3**	**3.7**	**0.27**
	04/10/14	8260B	**16**	**2.4**	**1.2**	**6.1**	**0.27**
	11/01/13	8021B	**12**	**12**	**1.5**	**4.8**	NA

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-16	11/29/17	8260B	**21**	0.21	**1.4**	**3.2**	**0.8**
	09/26/17	8260B	**23**	0.24	**1.6**	**3.9**	**0.92**
	06/08/17	8260B	**19**	0.22	**0.71**	**2.8**	**0.82**
	03/14/17	8260B	**22**	0.34	**1.7**	**4.9**	**0.72**
	11/03/16	8260B	**19**	0.22	**0.88**	**3.4**	**0.97**
	09/12/16	8260B	**23**	0.24	**1.3**	**4.3**	**1.7**
	06/09/16	8260B	**16**	0.34	**1.1**	**3.6**	**1.4**
	02/29/16	8260B	**19**	0.28	**1**	**3.9**	**1.4**
	11/03/15	8260B	**28**	0.62	**1.7**	**6.6**	**1.7**
	08/23/15	8260B	**24**	0.64	**1.4**	**5.6**	**2.1**
	06/08/15	8260B	**23**	**1.3**	**1.4**	**5.3**	**2**
	03/16/15	8260B	**19**	0.45	**1.4**	**5.4**	**1.6**
	11/18/14	8260B	**20**	**1.2**	**1.3**	**5.8**	**1.4**
	09/17/14	8260B	**17**	**1.4**	**1.2**	**5.3**	**2.1**
	06/05/14	8260B	**18**	**3.7**	**1.7**	**8.1**	**2**
	04/10/14	8260B	**11**	**7.5**	**1.1**	**3.6**	**0.27**
	11/19/13	8021B	**9.9**	**8.2**	**1.9**	**9.8**	NA
MKTF-17	12/01/17	8260B	**0.14**	0.0008	0.17	<0.0075	**1.5**
	09/26/17	8260B	**0.047**	0.0011	0.68	<0.0075	**0.94**
	06/14/17	8260B	**0.26**	0.0017	0.58	0.0048	**0.39**
	03/15/17	8260B	**0.29**	0.0022	0.23	0.07	**0.28**
	11/08/16	8260B	**0.76**	0.0019	0.39	0.0043	**0.36**
	09/13/16	8260B	**1.3**	0.0021	0.55	<0.015	**0.38**
	06/10/16	8260B	**1.9**	0.006	0.52	0.24	**0.49**
	02/26/16	8260B	**0.26**	<0.005	0.018	0.023	**0.64**
	11/03/15	8260B	**0.029**	<0.002	0.31	<0.003	**0.77**
	08/18/15	8260B	**0.036**	0.0011	0.3	0.0018	**0.64**
	06/08/15	8260B	**0.011**	<0.001	0.018	<0.0015	**0.5**
	03/12/15	8260B	0.0028	<0.001	0.0059	<0.0015	**0.59**
	11/18/14	8260B	**0.14**	<0.001	0.078	<0.0015	**0.57**
	09/18/14	8260B	**0.55**	<0.01	0.24	<0.015	**0.69**
	06/06/14	8260B	**2.6**	<0.01	0.48	0.068	**1.1**
	04/09/14	8260B	**3.5**	<0.01	0.58	0.27	**1.3**
	11/13/13	8021B	**1.8**	**1.6**	**0.71**	**2.7**	NA
MKTF-18	06/14/17	8260B	**0.03**	<0.002	0.022	<0.003	0.1
	03/01/17	8260B	**0.027**	0.00033	0.026	0.00085	0.093
	11/08/16	8260B	**0.016**	0.0003	0.014	0.00076	0.081
	09/13/16	8260B	**0.016**	0.000377	0.015	0.0013	0.074
	06/10/16	8260B	**0.016**	0.00048	0.021	0.0025	0.092
	02/26/16	8260B	**0.017**	0.00059	0.034	0.0056	0.071
	11/03/15	8260B	**0.019**	<0.002	0.041	0.017	0.083
	08/18/15	8260B	**0.032**	0.0016	0.054	0.019	0.1
	06/08/15	8260B	**0.05**	0.0033	0.049	0.031	0.082
	03/17/15	8260B	**0.058**	<0.005	0.017	0.029	0.091
	11/18/14	8260B	**0.096**	0.0076	0.09	0.047	0.1
	09/18/14	8260B	**0.12**	0.013	0.069	0.042	0.12
	06/06/14	8260B	**0.29**	0.014	0.036	0.055	0.14
	04/14/14	8260B	**0.29**	0.015	0.058	0.044	**0.15**
	11/19/13	8021B	**0.33**	0.37	0.13	0.47	NA

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-19	12/01/17	8260B	**1.9**	0.0059	**0.75**	**0.75**	**11**
	09/26/17	8260B	**3.2**	0.014	**0.8**	**0.87**	**12**
	06/14/17	8260B	**2.3**	0.0084	**0.78**	**0.9**	**10**
	03/15/17	8260B	**1.8**	0.0098	0.6	**0.92**	**9**
	11/08/16	8260B	**1.3**	0.0068	0.7	**1**	**10**
	09/13/16	8260B	**1.4**	0.0075	0.69	**0.92**	**8.9**
	06/10/16	8260B	**1.5**	0.0064	0.69	**0.66**	**7.9**
	02/25/16	8260B	**1.5**	0.005	**0.79**	**0.67**	**8.6**
	11/03/15	8260B	**2.8**	0.022	**0.76**	**0.93**	**8.4**
	08/18/15	8260B	**2.4**	0.015	**0.74**	0.45	**8.8**
	06/08/15	8260B	**1.8**	0.013	0.59	0.31	**9.1**
	03/12/15	8260B	**1.4**	<0.01	0.43	0.15	**9.7**
	11/18/14	8260B	**2.3**	<0.05	**0.74**	0.36	**9.7**
	09/24/14	8260B	**1.8**	<0.05	**0.73**	**0.76**	**11**
	04/09/14	8260B	**1.4**	<0.05	0.68	0.61	**9.7**
	11/05/13	8021B	**0.64**	0.14	0.47	**1.1**	NA
MKTF-20 [1]	11/29/17	8260B	**17**	0.24	**0.8**	**11**	0.1
	09/26/17	8260B	**16**	0.34	0.58	**11**	**0.17**
	06/12/17	8260B	**21**	**3.5**	**0.7**	**14**	**0.16**
	03/14/17	8260B	**17**	**2.2**	0.26	**9.8**	**0.23**
	11/03/16	8260B	**13**	0.4	**1.1**	**9.2**	**0.19**
	09/12/16	8260B	**18**	0.48	**1.3**	**8.8**	**0.16**
	06/09/16	8260B	**11**	0.39	**0.85**	**7.9**	**0.16**
	03/01/16	8260B	**13**	0.47	**1.1**	**9.2**	0.13
	03/16/15	8260B	**7**	**2.3**	0.089	**9.6**	<0.05
	11/18/14	8260B	**4.4**	**1.3**	0.48	**10**	0.083
	04/11/14	8260B	**25**	**17**	**2.8**	**14**	**0.38**
MKTF-21 [1]	11/28/17	8260B	**4.9**	0.018	0.52	**1.4**	**0.52**
	09/26/17	8260B	**6.3**	0.016	0.61	**0.83**	**0.63**
	06/21/17	8260B	**10**	0.041	0.69	**2.6**	**1.2**
	03/14/17	8260B	**8**	0.038	0.46	**2**	**0.61**
	11/03/16	8260B	**7.6**	0.068	0.4	**2.3**	**0.77**
	09/12/16	8260B	**9.3**	0.059	0.48	**2**	**0.68**
	06/09/16	8260B	**7.5**	0.17	0.25	**1.3**	**0.55**
	03/01/16	8260B	**4.6**	0.34	0.15	**1.3**	**0.48**
	06/10/15	8260B	**6.2**	0.48	0.18	**0.81**	**0.82**
	03/16/15	8260B	**3.7**	0.26	0.013	0.27	**0.63**
	04/11/14	8260B	**7.2**	**13**	**2.1**	**11**	**0.58**
MKTF-22	11/28/17	8260B	**2.5**	0.013	0.18	0.025	**6**
	10/03/17	8260B	**2.4**	0.018	0.28	0.037	**4.9**
	06/08/17	8260B	**2.9**	0.014	0.18	0.022	**5.9**
	03/08/17	8260B	**3.5**	0.03	0.42	0.046	**6.5**
	11/01/16	8260B	**3.7**	0.032	0.46	<0.03	**8**
	09/10/16	8260B	**4.2**	0.03	0.43	0.049	**8.8**
	06/10/16	8260B	**3.8**	0.035	0.5	0.062	**6.5**
	02/25/16	8260B	**4**	0.032	0.57	0.07	**7.2**
	11/09/15	8260B	**2.7**	<0.02	0.35	<0.03	**5.5**
	08/20/15	8260B	**1.2**	<0.02	0.097	<0.03	**4.8**
	06/09/15	8260B	**2.9**	0.022	0.32	0.047	**5.7**
	03/12/15	8260B	**2.6**	<0.02	0.25	<0.03	**5.1**
	11/17/14	8260B	**1.6**	<0.01	0.09	<0.0015	**3.9**
	09/23/14	8260B			DRY		
	04/10/14	8260B	**2.3**	0.021	0.28	0.032	**3.7**
	11/19/13	8021B	**1.3**	0.0075	0.072	0.016	NA

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-23	06/10/16	8260B	**3.2**	**0.98**	0.3	**6.1**	**1.4**
	02/25/16	8260B	**3.1**	**1.2**	0.31	**6.7**	**1.6**
	11/09/15	8260B	**2.6**	**3**	0.57	**7.8**	**1.4**
	08/21/15	8260B	**3**	**2.7**	0.42	**6.2**	**1.2**
	06/09/15	8260B	**2.9**	**3**	0.51	**6.5**	**1.1**
	03/12/15	8260B	**3.3**	**4.8**	0.6	**8.1**	**1.1**
	11/17/14	8260B	**3.6**	**3**	0.47	**4.5**	**0.57**
	09/23/14	8260B	**2.7**	**1.4**	0.34	**1.6**	**0.48**
	04/10/14	--	SPH DETECTED				
	11/05/13	8021B	**0.92**	**1**	0.23	**0.66**	NA
MKTF-24	11/20/17	8260B	**5.5**	0.023	0.32	0.018	**0.16**
	10/03/17	8260B	**2.6**	0.019	0.071	<0.03	**0.16**
	06/05/17	8260B	**6**	0.024	0.3	0.0083	**0.2**
	03/29/17	8260B	**3**	0.015	0.042	<0.03	**0.19**
	10/28/16	8260B	**6.1**	0.025	0.3	0.015	**0.23**
	09/07/16	8260B	**5.3**	0.021	0.21	0.011	**0.17**
	06/08/16	8260B	**3**	0.018	0.074	0.006	**0.21**
	02/22/16	8260B	**5.6**	0.027	0.31	0.0088	**0.21**
	11/04/15	8260B	**2.8**	<0.02	0.054	<0.03	**0.21**
	08/20/15	8260B	**2.7**	<0.02	0.056	<0.03	**0.2**
	06/10/15	8260B	**2.9**	0.015	0.046	<0.0075	**0.17**
	03/11/15	8260B	**2.6**	0.012	0.031	<0.0075	**0.17**
	11/14/14	8260B	**1.6**	0.0095	0.049	0.0029	0.063
	09/24/14	8260B	**1.6**	0.0087	0.058	<0.003	**0.17**
	04/08/14	8260B	**0.45**	0.0067	0.065	0.0023	**0.18**
	11/01/13	8021B	**1.2**	<0.02	0.23	<0.04	NA
MKTF-25	11/21/17	8260B	**1.6**	0.011	0.14	0.013	**0.2**
	09/25/17	8260B	**1.6**	0.01	0.13	0.014	**0.23**
	06/05/17	8260B	**0.62**	0.0028	0.021	0.003	**0.12**
	03/29/17	8260B	**0.78**	0.0045	0.024	0.0043	**0.12**
	11/01/16	8260B	**0.96**	0.006	0.046	0.0046	**0.19**
	09/09/16	8260B	**0.92**	0.005	0.018	<0.015	**0.15**
	06/09/16	8260B	**0.99**	0.013	0.19	0.018	**0.48**
	02/23/16	8260B	**1.2**	0.011	0.19	0.0064	**0.2**
	11/05/15	8260B	**1.1**	0.0087	0.14	0.016	**0.25**
	08/21/15	8260B	**1.2**	0.0099	0.13	0.0089	**0.24**
	06/10/15	8260B	**1**	0.0066	0.099	0.016	**0.21**
	03/11/15	8260B	**0.97**	0.012	0.17	<0.0075	**0.27**
	11/14/14	8260B	**0.58**	<0.005	0.023	<0.0075	**0.18**
	09/23/14	8260B	**0.53**	<0.01	0.012	<0.015	**0.23**
	04/08/14	8260B	**1**	0.0092	0.13	0.013	**0.27**
	11/01/13	8021B	**1.4**	<0.02	0.16	<0.04	NA
MKTF-26	06/09/16	8260B	**0.33**	0.019	0.0036	0.0077	0.082
	02/22/16	8260B	**0.15**	0.0014	<0.005	<0.0075	0.055
	11/04/15	8260B	**0.76**	0.0072	0.0069	<0.0075	0.094
	08/20/15	8260B	**0.38**	0.005	<0.005	<0.0075	0.065
	06/10/15	8260B	**0.8**	0.0087	0.0069	<0.0075	0.079
	03/11/15	8260B	**0.8**	0.0078	0.0071	<0.0075	0.099
	11/14/14	8260B	**0.97**	0.011	<0.005	<0.0075	0.094
	09/24/14	8260B	**1.6**	0.019	0.012	0.0016	0.084
	04/08/14	8260B	**0.017**	<0.001	<0.001	<0.0015	0.049
	11/01/13	8021B	**0.57**	0.008	0.15	0.002	NA

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-27	11/20/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.023
	10/03/17	8260B	0.00013	<0.001	<0.001	<0.0015	0.025
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.031
	03/29/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.022
	10/28/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.021
	09/07/16	8260B	0.00031	0.00021	<0.001	<0.0015	0.026
	06/08/16	8260B	0.00015	0.0004	0.00015	0.00091	0.042
	02/22/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.015
	11/04/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.031
	08/20/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.033
	06/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.034
	03/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.0089
	11/14/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.019
	09/24/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.011
	04/08/14	8260B	<0.002	<0.002	<0.002	<0.003	0.038
	11/19/13	8021B	<0.001	<0.001	<0.001	<0.002	NA
MKTF-28	11/20/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0033
	10/03/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00035
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00044
	03/29/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00097
	10/28/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00052
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0021
	06/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00054
	02/23/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/04/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.01
	08/20/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.0014
	06/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/14/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.013
	09/24/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.016
MKTF-29	11/20/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0095
	10/03/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0072
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0058
	03/29/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0094
	10/28/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.005
	09/07/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0024
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0088
	02/23/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.012
	11/04/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.01
	08/20/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.011
	06/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.014
	03/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.017
	09/24/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.013
	04/08/14	8260B	<0.001	<0.001	<0.001	<0.015	0.012
MKTF-30	11/20/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0014
	10/03/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0011
	06/05/17	8260B	<0.002	<0.002	<0.002	<0.003	0.002
	03/29/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0028
	10/28/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.002
	09/07/16	8260B	0.0006	<0.001	0.00019	<0.0015	0.00084
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0036
	02/23/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.0023
	11/04/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.0025
	08/20/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.0019
	06/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.0027
	03/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.0019
	11/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.0037
	09/24/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.0059
	04/09/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.021

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-31	11/21/17	8260B	0.00062	<0.001	<0.001	<0.0015	0.066
	09/25/17	8260B	0.00085	<0.001	<0.001	<0.0015	0.076
	06/05/17	8260B	0.00066	<0.001	<0.001	<0.0015	0.072
	03/07/17	8260B	0.00062	<0.001	<0.001	<0.0015	0.074
	10/31/16	8260B	0.00048	0.00015	<0.001	<0.0015	0.07
	09/08/16	8260B	0.00077	<0.001	<0.001	<0.0015	0.063
	06/09/16	8260B	0.00075	<0.001	<0.001	<0.0015	0.08
	02/23/16	8260B	0.00062	<0.001	<0.001	<0.0015	0.061
	11/04/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.079
	08/21/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.064
	06/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.056
	03/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	0.054
	11/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.058
	09/23/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.055
	04/08/14	8260B	<0.001	<0.001	<0.001	<0.0015	0.055
MKTF-32	11/27/17	8260B	0.00028	<0.001	<0.001	<0.0015	**0.6**
	09/25/17	8260B	0.00038	<0.001	<0.001	<0.0015	**0.69**
	06/06/17	8260B	0.00042	<0.001	<0.001	<0.0015	**0.64**
	03/07/17	8260B	0.00045	<0.001	<0.001	<0.0015	**0.66**
	10/31/16	8260B	0.00049	<0.001	<0.001	<0.0015	**0.63**
	09/09/16	8260B	0.00047	<0.002	<0.002	<0.003	**0.75**
	06/09/16	8260B	0.00081	<0.002	<0.002	<0.003	**0.64**
	02/24/16	8260B	0.0004	<0.001	<0.001	<0.0015	**0.62**
	11/05/15	8260B	<0.001	<0.001	<0.001	<0.0015	**0.59**
	08/21/15	8260B	<0.002	<0.002	<0.002	<0.003	**0.49**
	06/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	**0.59**
	03/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	**0.54**
	11/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	**0.4**
	09/23/14	8260B	<0.005	<0.005	<0.005	<0.0075	**0.32**
	04/09/14	8260B	<0.001	<0.001	<0.001	<0.0015	**0.15**
MKTF-33	11/28/17	8260B	0.00011	<0.001	<0.001	<0.0015	**0.53**
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.0015	**0.25**
	06/08/17	8260B	<0.001	<0.001	<0.001	<0.0015	**0.22**
	03/08/17	8260B	<0.001	<0.001	<0.001	<0.0015	**0.23**
	11/01/16	8260B	<0.001	0.00015	0.00019	<0.0015	**0.2**
	09/10/16	8260B	<0.001	<0.001	<0.001	<0.0015	**0.27**
	06/10/16	8260B	<0.001	<0.001	<0.001	<0.0015	**0.4**
	02/25/16	8260B	0.00016	<0.001	<0.001	<0.0015	**0.31**
	11/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	**0.58**
	08/21/15	8260B	<0.001	<0.001	<0.001	<0.0015	**0.63**
	06/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	**0.49**
	03/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	**0.48**
	11/17/14	8260B	<0.001	<0.001	<0.001	<0.0015	**0.41**
	09/23/14	8260B	<0.005	<0.005	<0.005	<0.0075	**0.45**
	04/10/14	8260B	**0.028**	<0.001	<0.001	<0.0015	**0.36**
MKTF-34	12/01/17	8260B	0.000096	<0.001	<0.001	<0.0015	0.00075
	09/26/17	8260B	0.0003	<0.001	0.00014	<0.0015	0.00078
	06/14/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00038
	03/01/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00058
	11/08/16	8260B	0.00014	<0.001	0.00016	<0.0015	0.00097
	09/13/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00035
	06/10/16	8260B	0.00045	<0.001	0.00026	<0.0015	0.00058
	02/25/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/03/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/18/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/08/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/12/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/17/14	8260B	<0.001	<0.001	<0001	<0.0015	<0.001
	09/24/14	8260B	<0.001	<0.001	<0001	<0.0015	<0.001
	04/09/14	8260B	<0.002	<0.002	<0.002	<0.003	<0.002

8.17 MKTF Wells

BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-35	11/30/17	8260B	0.0015	0.0001	0.00029	<0.0015	0.11
	09/27/17	8260B	0.0015	<0.001	0.00015	<0.0015	0.077
	06/14/17	8260B	0.0023	<0.001	0.0011	<0.0015	0.033
	03/01/17	8260B	**0.053**	0.00011	0.0027	<0.0015	0.0079
	11/03/16	8260B	**0.065**	0.00026	0.055	0.01	0.01
	09/13/16	8260B	**0.37**	0.00052	0.025	0.011	0.012
	06/10/16	8260B	**0.067**	0.00027	0.012	0.0055	0.019
	02/26/16	8260B	**0.046**	<0.005	0.034	0.0045	0.02
	11/03/15	8260B	**0.19**	<0.001	0.039	0.0023	0.048
	08/18/15	8260B	**0.97**	<0.005	0.16	<0.0075	0.061
	06/04/15	8260B	**0.79**	0.0023	0.19	0.0021	0.027
	03/17/15	8260B	**0.47**	0.0052	0.32	0.17	0.033
	11/21/14	8260B	**0.039**	<0.001	0.052	0.073	0.066
MKTF-36	11/30/17	8260B	**9.5**	0.03	**1.7**	0.22	**2.9**
	09/27/17	8260B	**9.1**	0.023	**1.6**	0.067	**2.3**
	06/14/17	8260B	**9.4**	0.017	**1.6**	0.27	**3.9**
	03/01/17	8260B	**8.6**	0.013	**1.4**	0.032	**8**
	11/08/16	8260B	**8.4**	0.021	**1.3**	0.13	**6**
	09/13/16	8260B	SPH DETECTED				
	08/18/15	8260B	**9**	0.033	**1.6**	0.064	**8**
	06/04/15	8260B	**8.1**	0.034	**1.6**	0.14	**8.4**
	03/17/15	8260B	**8.3**	0.023	**1.4**	0.078	**8.3**
	11/21/14	8260B	**8.4**	0.032	**1.5**	0.56	**7.2**
MKTF-37	03/01/17	8260B	**2**	0.18	0.024	**0.96**	0.032
	11/03/16	8260B	**0.96**	0.012	0.014	**0.84**	0.03
	08/18/15	8260B	**0.76**	0.14	0.024	**1.6**	0.05
	06/04/15	8260B	**1.2**	0.058	0.017	**0.93**	0.054
	03/17/15	8260B	**0.82**	0.27	0.029	0.49	0.057
	11/21/14	8260B	**0.14**	0.2	0.0093	**1.3**	0.027
MKTF-38	11/30/17	8260B	0.0012	0.000074	<0.001	<0.0015	0.001
	09/28/17	8260B	0.002	<0.001	<0.001	<0.0015	0.00049
	06/21/17	8260B	0.00079	<0.001	<0.001	<0.0015	0.00068
	03/14/17	8260B	0.00017	<0.001	<0.001	<0.0015	0.00048
	11/01/16	8260B	0.00039	<0.001	<0.001	<0.0015	0.001
	09/13/16	8260B	0.00093	<0.001	<0.001	<0.0015	0.0006
	06/08/16	8260B	0.0012	<0.001	<0.001	<0.0015	0.0052
	02/29/16	8260B	0.00034	<0.001	<0.001	<0.0015	0.00059
	11/09/15	8260B	0.0013	<0.001	<0.001	<0.0015	0.0043
	08/24/15	8260B	0.0017	<0.001	<0.001	<0.0015	0.0073
	06/10/15	8260B	**0.0054**	<0.001	<0.001	<0.0015	0.0076
	03/16/15	8260B	**0.0092**	0.018	<0.001	<0.0015	0.006
	11/21/14	8260B	0.0028	<0.001	0.0029	0.0031	0.0074
MKTF-39	11/28/17	8260B	**0.013**	<0.005	0.05	<0.0075	<0.005
	09/28/17	8260B	**0.01**	<0.005	0.049	<0.0075	<0.005
	06/08/17	8260B	**0.012**	<0.005	0.057	<0.0075	<0.005
	03/14/17	8260B	**0.012**	<0.005	0.063	<0.0075	<0.005
	11/01/16	8260B	**0.013**	<0.005	0.059	<0.0075	<0.005
	09/13/16	8260B	**0.016**	<0.005	0.06	<0.0075	<0.005
	06/08/16	8260B	**0.016**	<0.001	0.061	0.0069	0.00036
	03/03/16	8260B	**0.019**	<0.001	0.064	0.00069	<0.001
	11/09/15	8260B	**0.021**	<0.001	0.064	<0.0015	<0.001
	08/23/15	8260B	**0.023**	<0.001	0.06	0.0016	<0.001
	06/10/15	8260B	**0.025**	<0.002	0.064	<0.003	<0.002
	03/16/15	8260B	**0.016**	<0.002	0.039	<0.003	<0.002
	11/18/14	8260B	**0.02**	<0.005	0.06	<0.0075	<0.005

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-40	11/21/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00046
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00046
	03/07/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00041
	10/31/16	8260B	<0.001	0.00015	<0.001	<0.0015	0.0003
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00062
	02/23/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00061
	11/04/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/21/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/21/14	8260B	<0.001	<0.001	<0.001	<0.001	<0.001
MKTF-41	11/27/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.00081
	09/25/17	8260	<0.001	<0.001	<0.001	<0.0015	0.0012
	06/06/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0012
	03/07/17	8260B	<0.001	<0.001	<0.001	<0.0015	0.0012
	10/31/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00091
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00041
	06/09/16	8260	<0.001	<0.001	<0.001	<0.0015	0.003
	02/24/16	8260B	<0.001	<0.001	<0.001	<0.0015	0.00068
	11/05/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/21/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/12/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/18/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
MKTF-42	11/27/17	8260B	**0.0071**	0.0008	0.0026	0.037	0.002
	09/25/17	8260B	**0.0093**	0.00098	0.0039	0.046	0.002
	06/06/17	8260B	0.0049	0.00037	0.0011	0.021	0.0014
	03/07/17	8260B	0.0049	0.00044	0.0011	0.024	0.0011
	10/31/16	8260B	0.0034	0.00049	0.0019	0.027	0.00067
	09/09/16	8260B	0.004	0.00033	0.0018	0.025	0.00056
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	02/24/16	8260B	0.0041	0.0022	0.0011	0.026	<0.001
	11/05/15	8260B	0.0033	<0.001	0.0017	0.022	<0.001
	08/21/15	8260B	0.0028	<0.001	0.001	0.017	<0.001
	06/10/15	8260B	0.0016	<0.001	<0.001	0.011	<0.001
	03/11/15	8260B	0.0017	<0.001	<0.001	0.01	<0.001
	11/18/14	8260B	**0.012**	<0.01	<0.01	0.056	<0.01
MKTF-43	11/27/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/06/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/08/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	10/31/16	8260B	<0.001	0.00013	<0.001	<0.0015	<0.001
	09/09/16	8260B	0.00041	<0.001	<0.001	<0.0015	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	02/24/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/05/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/21/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/10/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/18/14	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001

8.17 MKTF Wells
BTEX and MTBE Analytical Results

STANDARDS			PARAMETERS				
			Benzene (mg/L)	Toluene (mg/L)	Ethyl Benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
WQCC 20NMAC 6.2.3103			0.01	**0.75**	0.75	**0.62**	NE
40 CFR 141.62 MCL			**0.005**	1	**0.7**	10	NE
NMED Tap Water (MARCH 2017)			0.00455	1.09	0.0149	0.193	**0.143**
EPA RSL for Tap Water (MAY 2018)			0.00046	1.1	0.0015	0.19	0.014
Well ID	**DATE SAMPLED**	**METHOD**					
MKTF-44	11/28/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	03/08/17	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/01/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	02/24/16	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	11/09/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	08/17/15	8260B	<0.001	<0.001	<0.001	<0.0015	<0.001
	06/10/15	8260B	<0.002	<0.002	<0.002	<0.003	<0.002
	03/12/15	8260B	<0.002	<0.002	<0.002	<0.003	<0.002
	11/21/14	8260B	<0.002	<0.002	<0.002	<0.003	<0.002

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-1	02/24/16	8015D/300.0	**3**	**51**	<5.0	<0.1	**470**	**2.6**	2.6	0.55
	11/04/15	8015D/300.0	**200**	**36**	<5.0	1.1	**450**	<1.0	<1.0	<0.5
	08/21/15	8015D/300.0	**34**	**26**	<5.0	0.78	**460**	<1.0	<1.0	<2.5
	06/09/15	8015D	**110**	**31**	<50	NA	**NA**	NA	NA	NA
	03/11/15	8015D	**370**	**31**	<50	NA	NA	NA	NA	NA
	06/06/14	8015D/300.0	**510**	**50**	<50	0.6	**400**	<1.0	<1.0	0.58
MKTF-2	11/20/17	8015D/300.0	**2.7**	**12**	<5	**2.4**	**540**	<1	<1	18
	10/03/17	8015D/300.0	**1.5**	**9.3**	<5	**1.8**	**460**	<2	<2	20
	03/16/17	8015D/300.0	**2.7**	**14**	<5	**2.7**	**400**	<0.5	<0.5	16
	10/28/16	8015D/300.0	**1.4**	**6.1**	<5.0	**2.7**	**380**	<1.0	<1.0	40
	09/07/16	8015D/300.0	**1.5**	**6.2**	<5.0	**2.3**	**410**	<1.0	<1.0	48
	06/10/16	8015D/300.0	**1.2**	**5.2**	<5.0	**2.7**	**390**	<1.0	<1.0	50
	02/24/16	8015D/300.0	**1**	**1.2**	<5.0	**1.8**	**520**	**8.8**	8.8	160
	11/04/15	8015D/300.0	**1**	**2.5**	<5.0	**2.5**	**360**	<1.0	<1.0	49
	08/21/15	8015D/300.0	<1.0	**2**	<5.0	1.2	**550**	**6.2**	6.2	130
	06/09/15	8015D	<1.0	**3.5**	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	**1.3**	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	<1.0	**0.61**	<5.0	<1.0	**830**	<1.0	<1.0	230
	09/18/14	8015D	1.7	**6.8**	<5.0	NA	NA	NA	NA	NA
	06/06/14	8015D/300.0	<1.0	**1.5**	<5.0	0.76	**750**	<1.0	<1.0	200
	04/08/14	8015D	<1.0	**0.67**	<5.0	NA	NA	NA	NA	NA
	10/28/13	8015D	<1.0	**3.8**	<5.0	NA	NA	NA	NA	NA
MKTF-4	11/28/17	8015D/300.0	**5.6**	**16**	<5	1.1	210	<1	<1	2.3
	09/26/17	8015D/300.0	**6.6**	**13**	<5	0.87	200	<1	<1	0.7
	06/08/17	8015D/300.0	**5.7**	**10**	<5	0.67	210	<1	<1	5.3
	03/02/17	8015D/300.0	**5.7**	**12**	<5	0.99	220	<1	<1	2.8
	11/02/16	8015D/300.0	**4.1**	**9.8**	<5.0	1	180	<0.5	<0.5	6.1
	09/11/16	8015D/300.0	**5.3**	**10**	<5.0	0.74	220	<1.0	<1.0	4.1
	06/09/16	8015D/300.0	**3.9**	**9**	<5.0	0.79	250	<1.0	<1.0	7
	02/29/16	8015D/300.0	**3.6**	**9.2**	<5.0	0.97	250	<1.0	<1.0	3.2
	11/03/15	8015D/300.0	**3**	**8.6**	<5.0	0.96	**300**	<1.0	<1.0	3
	08/18/15	8015D	**3.7**	**6.8**	<5.0	0.86	**300**	<0.1	<0.1	4.2
	06/04/15	8015D	**2.3**	**6.2**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	**1.9**	**4.8**	<5.0	NA	NA	NA	NA	NA
	11/13/14	8015D/300.0	**2**	**4.2**	<5.0	<1.0	250	<1.0	<1.0	26
	09/15/14	8015D	**1.5**	**3.4**	<5.0	NA	NA	NA	NA	NA
	06/04/14	300.0/8015D	**2.9**	**8.2**	<5.0	0.7	0.19	<1.0	<1.0	6.8
	04/11/14	8015D	**4.5**	**9.4**	<5.0	NA	NA	NA	NA	NA
MKTF-9	11/28/17	300.0/8015D	**2.6**	**11**	<5	0.45	220	<1	<1	27
	09/28/17	300.0/8015D	**4.2**	**13**	<5	0.35	180	<0.5	<0.5	14
	06/12/17	8015D/300.0	**2.4**	**11**	<5	<0.5	180	<1	<1	14
	03/15/17	300.0/8015D	**3.9**	**12**	<5	0.33	180	<0.1	<0.1	28
	11/02/16	300.0/8015D	**1.6**	**7.8**	<5.0	0.46	150	<0.5	<0.5	71
	09/11/16	8015D/300.0	**2.3**	**6.7**	<5.0	0.26	160	<1.0	<1.0	57
	06/09/16	300.0/8015D	**1.7**	**7.8**	<5.0	0.35	170	<1.0	<1.0	81
	02/29/16	300.0/8015D	**2.5**	**7.4**	<5.0	0.47	170	<1.0	<1.0	70
	11/03/15	300.0/8015D	**5.3**	**9.8**	<5.0	0.46	170	<0.1	<0.1	110
	08/18/15	8015D/300.0	**4.7**	**7.1**	<5.0	0.43	170	<0.1	<0.1	130
	06/04/15	8015D	**1.8**	**4.1**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	<1.0	**3.3**	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	**2.1**	**4.4**	<5.0	<1.0	180	<1.0	<1.0	140
	09/18/14	8015D	**1.4**	**5.6**	<5.0	NA	NA	NA	NA	NA
	06/05/14	8015D/300.0	**2.7**	**6.2**	<5.0	0.43	180	<1.0	<1.0	78
	04/14/14	8015D	**3.6**	**5.7**	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-10	11/28/17	300.0/8015D	**3.5**	**83**	<5	1.1	**370**	<1	<1	<2.5
	09/28/17	300.0/8015D	**3.6**	**74**	<5	<0.5	**330**	<0.5	<0.5	0.55
	06/08/17	8015D/300.0	**3.5**	**100**	<5	0.49	**310**	<1	<1	0.25
	03/02/17	300.0/8015D	**5.3**	**110**	<5	0.35	**350**	<1	<1	0.3
	11/02/16	300.0/8015D	**3.8**	**100**	<5.0	<0.05	**230**	<0.5	<0.5	<2.5
	09/11/16	8015D/300.0	**6**	**110**	<5.0	<2.0	**240**	<1.0	<1.0	<2.5
	06/09/16	300.0/8015D	**8**	**110**	<5.0	<2.0	**260**	<1.0	<1.0	0.4
	02/29/16	300.0/8015D	**14**	**110**	<5.0	<2.0	**280**	<1.0	<1.0	<2.5
	11/03/15	300.0/8015D	**8**	**100**	<5.0	<2.0	**380**	<0.5	<0.5	<2.5
	08/18/15	8015D/300.0	**55**	**130**	<5.0	<5.0	**390**	<0.5	<0.5	<2.5
	06/04/15	8015D	**23**	**79**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	**32**	**80**	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	**74**	**84**	<50	**270**	**260**	<2.0	<2.0	<5.0
	09/18/14	8015D	**7.7**	**88**	<5.0	NA	NA	NA	NA	NA
	6/6/2014 [1]	300.0/8015D	**5.5**	**64**	<5.0	NA	NA	NA	NA	NA
	04/11/14	8015D	**5.9**	**88**	<5.0	NA	NA	NA	NA	NA
MKTF-11	11/28/17	300.0/8015D	**2.1**	**59**	<5	<0.5	**860**	0.27	0.27	1.2
	09/26/17	300.0/8015D	**2.8**	**63**	<5	<0.5	**820**	<1	<1	<2.5
	06/08/17	8015D/300.0	**1.8**	**30**	<5	<2	**630**	<1	<1	4.3
	03/02/17	300.0/8015D	**1.7**	**27**	<5	<0.5	**650**	<1	<1	3.4
	11/02/16	300.0/8015D	**1.6**	**27**	<5.0	<0.5	**900**	<0.5	<0.5	2.2
	09/11/16	8015D/300.0	**1.7**	**29**	<5.0	<2.0	**880**	<1.0	<1.0	2.2
	06/09/16	300.0/8015D	**1.4**	**39**	<5.0	<2.0	**1000**	<1.0	<1.0	2.2
	02/29/16	300.0/8015D	**1.5**	**42**	<5.0	<0.5	**1600**	<1.0	<1.0	0.58
	11/03/15	300.0/8015D	**2.9**	**71**	<5.0	<2.0	**740**	<0.5	<0.5	<2.5
	08/18/15	8015D/300.0	**1.6**	**36**	<5.0	<2.0	**1200**	<2.0	<0.1	1.2
	06/04/15	8015D	**2.8**	**71**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	**2.6**	**55**	<5.0	NA	NA	NA	NA	NA
	11/13/14	8015D/300.0	**1.8**	**35**	<5.0	**6.5**	**780**	<1.0	<1.0	<5.0
	09/15/14	8015D	**1.8**	**57**	<5.0	NA	NA	NA	NA	NA
	06/05/14	8015D/300.0	**2.6**	**48**	<5.0	**7**	**480**	<1.0	<1.0	11
	04/11/14	300.0/8015D	**2.7**	**53**	<5.0	NA	NA	NA	NA	NA
MKTF-13	03/15/17	8015D/300.0	**48**	**28**	<5	0.27	120	<0.5	<0.5	<2.5
MKTF-15	11/28/17	8015D	**5.3**	**130**	<5	<2	**6000**	**1.8**	1.8	0.56
	06/08/17	8015D/300.0	**5.9**	**150**	<5	<2	**4300**	<4	<4	0.74
	03/02/17	8015D/300.0	**8.8**	**140**	<5	<2	**3400**	<2	<2	1
	11/02/16	8015D/300.0	**6.2**	**110**	<5.0	<0.05	**2800**	<2.0	<0.5	<2.5
	09/11/16	8015D/300.0	**17**	NA	<5.0	<2.0	**3100**	<4.0	<4.0	<2.5
	09/17/14	8015D	**17**	**88**	<5.0	NA	NA	NA	NA	NA
	06/05/14	8015D/300.0	**10**	**57**	<5.0	<2.0	**5200**	<4.0	<4.0	1.2
	04/10/14	8015D	**4.1**	**71**	<5.0	NA	NA	NA	NA	NA
	11/01/13	8015D	**2.4**	**65**	<5.0	NA	NA	NA	NA	NA
MKTF-16	11/29/17	300.0/8015D	**4**	**70**	<5	0.63	**700**	<1	<1	<2.5
	09/26/17	300.0/8015D	**4.7**	**78**	<5	0.48	**810**	<1	<1	0.64
	06/08/17	300.0/8015D	**4.3**	**60**	<5	1.4	**800**	<1	<1	0.68
	03/14/17	300.0/8015D	**5.9**	**85**	<5	0.95	**580**	<2	<2	0.14
	11/03/16	300.0/8015D	**3.3**	**70**	<5.0	1.2	**380**	<0.5	<0.5	<2.5
	09/12/16	300.0/8015D	**3.5**	**62**	<5.0	1.3	**390**	<1.0	<1.0	0.36
	06/09/16	300.0/8015D	**3**	**69**	<5.0	NA	NA	NA	NA	NA
	02/29/16	300.0/8015D	**2.6**	**73**	<5.0	1	**710**	<1.0	<1.0	0.068
	11/03/15	300.0/8015D	**3.1**	**91**	<5.0	0.88	**1000**	<1.0	<1.0	<2.5
	08/23/15	8015D/300.0	**3.7**	**83**	<5.0	0.66	**1700**	<1.0	<1.0	<2.5
	06/08/15	8015D	**4.3**	**69**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	**2.9**	**61**	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D/300.0	**2.7**	**53**	<5.0	1.5	**700**	<0.5	<0.5	<2.5
	09/17/14	8015D	**4.6**	**66**	<5.0	NA	NA	NA	NA	NA
	06/05/14	8015D/300.0	**5.7**	**71**	<5.0	1.1	**540**	<1.0	<1.0	<2.5
	04/10/14	8015D	**3.5**	**67**	<5.0	NA	NA	NA	NA	NA
	11/19/13	8015D	**4.2**	**68**	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-17	12/01/17	300.0/8015D	**1.1**	**2.5**	<5	0.91	92	<1	<1	97
	09/26/17	300.0/8015d	**2**	**4.3**	<5	0.76	83	<1	<1	22
	06/14/17	300.0/8015D	**2.2**	**4**	<5	0.81	70	<1	<1	66
	03/15/17	300.0/8015D	**2.4**	**3.5**	<5	0.73	61	<0.1	<0.1	43
	11/08/16	300.0/8015D	**1.3**	**4.5**	<5.0	0.77	64	<1.0	<1.0	45
	09/13/16	300.0/8015D	**1.6**	**7.5**	<5.0	0.83	70	0.58	0.58	45
	06/10/16	300.0/8015d	**2.1**	**9.2**	<5.0	NA	NA	NA	NA	NA
	02/26/16	300.0/8015D	<1.0	**1.6**	<5.0	0.54	76	<1.0	<1.0	180
	11/03/15	300.0/8015D	**1.5**	**2.5**	<5.0	0.61	78	<0.1	<0.1	120
	08/18/15	8015D/300.0	**1.1**	**1.7**	<0.005	0.5	74	<0.1	<0.01	160
	06/08/15	8015D	**1.3**	**0.77**	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	<1.0	**0.8**	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D/300.0	**1.4**	**1.2**	<5.0	0.66	84	<0.1	<0.1	200
	09/18/14	8015D	**1.5**	**3.3**	<5.0	NA	NA	NA	NA	NA
	6/6/2014: 6/16/14	8015D/300.0	**4.2**	**8.3**	<5.0	0.61	98	<0.1	<0.1	60
	04/09/14	8015D	**2.6**	**8.6**	<5.0	NA	NA	NA	NA	NA
	11/19/13	8015D	**5.8**	**17**	<5.0	NA	NA	NA	NA	NA
MKTF-18	06/14/17	300.0/8015D	**7.1**	**0.83**	<5	<0.5	190	<1	<1	0.53
	03/01/17	300.0/8015D	**2.7**	**0.81**	<5	0.62	180	<1	<1	0.22
	11/08/16	300.0/8015D	**1.7**	**0.6**	<5.0	0.62	160	<1.0	<1.0	0.23
	09/13/16	300.0/8015D	**2.2**	**0.56**	<5.0	0.67	170	<1.0	<1.0	0.34
	06/10/16	8015D/300.0	**1.9**	**0.71**	<5.0	0.63	180	<1.0	<1.0	0.21
	02/26/16	300.0/8015D	**0.3**	**0.79**	<5.0	0.64	160	<1.0	<1.0	0.26
	11/03/15	300.0/8015D	**2.5**	**1.3**	<5.0	0.61	160	<0.1	<0.1	<0.5
	08/18/15	8015D/300.0	**34**	**1.3**	<5.0	0.55	170	<0.1	<0.1	<0.5
	06/08/15	8015D	**3.3**	**1.4**	<5.0	NA	NA	NA	NA	NA
	03/17/15	8015D	**5.4**	**1.8**	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D/300.0	**2.3**	**1.4**	<5.0	0.68	160	<0.5	<0.5	<2.5
	09/18/14	8015D	**3.1**	**1.4**	<5.0	NA	NA	NA	NA	NA
	06/06/14	8015D/300.0	**7.8**	**2.2**	<5.0	0.65	170	<1.0	<1.0	0.95
	04/14/14	8015D	**4.4**	**2.2**	<5.0	NA	NA	NA	NA	NA
	11/19/13	8015D	**11**	**4**	<5.0	NA	NA	NA	NA	NA
MKTF-19	12/01/17	300.0/8015D	**13**	**24**	<5	<0.5	120	0.14	0.14	0.67
	09/26/17	8015D/300.0	**11**	**29**	<5	<0.5	120	<1	<1	0.77
	06/14/17	300.0/8015D	**11**	**23**	<5	<0.5	130	<1	<1	0.73
	03/15/17	300.0/8015D	**14**	**25**	<5	0.098	130	<0.1	<0.1	0.52
	11/08/16	300.0/8015D	**6.7**	**26**	<5.0	0.28	110	<1.0	<1.0	0.89
	09/13/16	300.0/8015D	**7.3**	**25**	<5.0	0.34	130	<1.0	<1.0	0.57
	06/10/16	8015D/300.0	**7.2**	**21**	<5.0	0.17	150	<1.0	<1.0	0.28
	02/25/16	300.0/8015D	**7.8**	**22**	<5.0	0.24	150	<1.0	<1.0	<2.5
	11/03/15	300.0/8015D	**13**	**34**	<5.0	<0.5	130	<0.5	<0.5	<2.5
	08/18/15	8015D/300.0	**27**	**20**	<5.0	0.18	140	<0.1	0.17	<0.5
	06/08/15	8015D	**9.9**	**19**	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	**9.3**	**14**	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D/300.0	**13**	**20**	<5.0	<0.5	110	<0.5	<0.5	<2.5
	09/24/14	8015D	**61**	**16**	<5.0	NA	NA	NA	NA	NA
	04/09/14	8015D	**17**	**18**	<5.0	NA	NA	NA	NA	NA
	11/05/13	8015D	**7.2**	**10**	<5.0	NA	NA	NA	NA	NA
MKTF-20	11/29/17	8015D	**22**	**91**	<5	**2.1**	**420**	<1	<1	1
	09/26/17	8015D/300.0	**3.9**	**78**	<5	**2.2**	**590**	<1	<1	73
	06/12/17	8015D/300.0	**5.3**	**95**	<5	**2**	**580**	<1	<1	0.64
	03/14/17	8015D	**16**	**90**	<5	**1**	**1100**	<0.5	<0.5	5
	11/03/16	8015D	**9.4**	**65**	<5.0	**2.6**	**1500**	<0.5	<0.5	13
	09/12/16	8015D/300.0	**8.7**	**72**	<5.0	**2.1**	**370**	<1.0	<1.0	1.2
	06/09/16	8015D/300.0	**9**	**63**	<5.0	**3.1**	**450**	<1.0	<1.0	10
	03/01/16	8015D	**6.9**	**73**	<5.0	NA	NA	NA	NA	NA
	06/08/15	8015D	**9.9**	**30**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	**4.5**	**37**	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D/300.0	**24**	**45**	<5.0	0.87	82	<0.5	<0.5	16
	04/11/14	8015D	**16**	**120**	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-21	11/28/17	8015D	**2.6**	**25**	<5	<0.5	210	<1	<1	7
	09/26/17	8015D	**2**	**24**	<5	<0.5	230	<1	<1	2
	06/21/17	8015D/300.0	**6.2**	**30**	<5	<0.5	**310**	<1	<1	1.1
	03/14/17	8015D/300.0	**4**	**37**	<5	<0.5	**440**	<0.5	<0.5	3.4
	11/03/16	8015D/300.0	**3.4**	**34**	<5.0	0.91	110	<0.5	<0.5	3.9
	09/12/16	8015D/300.0	**3.9**	**28**	<5.0	<0.5	81	<1.0	<1.0	19
	06/09/16	8015D	**3.9**	**32**	<5.0	NA	NA	NA	NA	NA
	03/01/16	8015D	**3.6**	**24**	<5.0	NA	NA	NA	NA	NA
	06/10/15	8015D	Not enough water to collect for this set.							
	03/16/15	8015D	**3.8**	**16**	<5.0	NA	NA	NA	NA	NA
	04/11/14	8015D	**27**	**78**	<5.0	NA	NA	NA	NA	NA
MKTF-22	11/28/17	8015D	**2.4**	**13**	<5	0.34	100	<1	<1	3.3
	10/03/17	8015D/300.0	**2.5**	**13**	<5	0.28	110	<2	<2	7.6
	06/08/17	8015D/300.0	**3**	**14**	<5	0.25	100	<1	<1	6
	03/08/17	8015D	**3**	**23**	<5	0.33	100	<1	<1	2
	11/01/16	8015D	**2.1**	**26**	<5.0	0.41	100	<0.1	<0.1	3.3
	09/10/16	8015D/300.0	**2.7**	**17**	<5.0	0.23	98	<1.0	<1.0	4.1
	06/10/16	8015D/300.0	**2.5**	**27**	<5.0	0.37	99	<1.0	<1.0	4.2
	02/25/16	8015D	**2.7**	**24**	<5.0	0.37	95	<1.0	<1.0	4.7
	11/09/15	8015D	**1.6**	**14**	<5.0	0.41	100	<0.1	<0.1	17
	08/20/15	8015D/300.0	<1.0	**9.3**	<5.0	<0.5	120	<1.0	<1.0	48
	06/09/15	8015D	**2.5**	**15**	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	**2.5**	**13**	<5.0	NA	NA	NA	NA	NA
	11/17/14	8015D/300.0	**1.6**	**6.8**	<5.0	0.38	96	**7.1**	7.1	19
	04/10/14	8015D	**2.6**	**10**	<5.0	NA	NA	NA	NA	NA
	11/19/13	8015D	**2.1**	**6.5**	<5.0	NA	NA	NA	NA	NA
MKTF-23	06/10/16	8015D/300.0	**710**	**38**	<50	0.75	240	<1.0	<1.0	0.36
	02/25/16	8015D/300.0	**56**	**32**	<5.0	0.69	240	<1.0	<1.0	0.38
	11/9 & 10/2015	8015D/300.0	**71**	**34**	<5.0	1	250	<0.1	<0.1	14
	08/21/15	8015D/300.0	**35**	**29**	<5.0	0.57	**300**	<1.0	<1.0	<2.5
	06/09/15	8015D	**23**	**32**	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	**14**	**35**	<5.0	NA	NA	NA	NA	NA
	11/17/14	8015D/300.0	**7.7**	**26**	<5.0	0.43	**390**	<1.0	<1.0	5.9
	09/23/14	8015D	**14**	**23**	<5.0	NA	NA	NA	NA	NA
	11/05/13	8015D	**1.1**	**12**	<5.0	NA	NA	NA	NA	NA
MKTF-24	11/20/17	8015D/300.0	**1**	**28**	<5	<0.5	**560**	<1	<1	34
	10/03/17	8015D/300.0	**0.56**	**10**	<5	<0.5	**800**	<1	<1	64
	06/05/17	8015D/300.0	**1.8**	**23**	<5	<0.1	**620**	<1	<1	43
	03/29/17	8015D	**0.74**	**8.2**	<5	<0.1	**800**	<1	<1	59
	10/28/16	8015D	**1.1**	**30**	<5.0	0.078	**440**	<1.0	<1.0	46
	09/07/16	8015D/300.0	**1.2**	**19**	<5.0	<0.1	**630**	<1.0	<1.0	51
	06/08/16	8015D/300.0	<1.0	**14**	<5.0	0.097	**700**	<1.0	<1.0	60
	02/22/16	8015D/300.0	**1.5**	**29**	<5.0	0.058	**650**	<1.0	<1.0	50
	11/04/15	8015D	<1.0	**10**	<5.0	<0.1	**850**	<1.0	<1.0	68
	08/20/15	8015D/300.0	<1.0	**9.5**	<5.0	<0.5	**850**	<1.0	<1.0	72
	06/10/15	8015D	<1.0	**9.8**	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	**9.2**	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	<1.0	**5.7**	<5.0	<1.0	**630**	<1.0	<1.0	72
	09/24/14	8015D	<1.0	**6.3**	<5.0	NA	NA	NA	NA	NA
	04/08/14	8015D	<1.0	**4.2**	<5.0	NA	NA	NA	NA	NA
	11/01/13	8015D	**1.5**	**8.4**	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-25	11/21/17	300.0/8015D	**0.78**	**17**	<5	<0.5	**550**	<0.5	<0.5	29
	09/25/17	8015D/300.0	**1**	**16**	<5	0.25	**500**	<1	<1	31
	06/05/17	300.0/8015D	**1.2**	**8.4**	<5	0.054	**420**	<1	<1	130
	03/29/17	300.0/8015D	**0.95**	**7.8**	<5	0.095	**380**	<1	<1	100
	11/01/16	300.0/8015D	**0.88**	**10**	<5.0	0.052	**530**	<1.0	<1.0	36
	09/09/16	300.0/8015D	**0.94**	**7.1**	<5.0	0.073	**560**	<1.0	<1.0	34
	06/09/16	8015D/300.0	**0.89**	**13**	<5.0	0.18	**680**	<1.0	<1.0	35
	02/23/16	300.0/8015D	**1.1**	**14**	<5.0	0.12	**670**	<1.0	<1.0	31
	11/05/15	300.0/8015D	**1.2**	**12**	<5.0	<0.1	**750**	<1.0	<1.0	35
	08/21/15	8015D/300.0	**1.1**	**8.7**	<5.0	<0.5	**870**	<1.0	<1.0	31
	06/10/15	8015D/300.0	<1.0	**11**	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	**1.1**	**10**	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	<1.0	**4.8**	<5.0	<1.0	**880**	<1.0	<1.0	35
	09/23/14	8015D	<1.0	**5.8**	<5.0	NA	NA	NA	NA	NA
	04/08/14	8015D	**1.2**	**6.9**	<5.0	NA	NA	NA	NA	NA
MKTF-26	06/09/16	8015D/300.0	<1.0	**1.5**	<5.0	0.15	**2300**	<1.0	<1.0	230
	02/22/16	8015D/300.0	<1.0	**1.5**	<5.0	0.2	**2000**	**11**	**11**	210
	11/04/15	8015D/300.0	<1.0	**2.3**	<5.0	0.69	**1000**	<1.0	<1.0	94
	08/20/15	8015D/300.0	<1.0	**1.5**	<5.0	<0.5	**1800**	<1.0	<1.0	220
	06/10/15	8015D	<1.0	**2.5**	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	**2.5**	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	<1.0	**2**	<5.0	<1.0	**1500**	<2.0	<2.0	160
	09/24/14	8015D	<1.0	**2.8**	<5.0	NA	NA	NA	NA	NA
	04/08/14	8015D	<1.0	**0.2**	<5.0	NA	NA	NA	NA	NA
	11/01/13	8015D	<1.0	**1.7**	<5.0	NA	NA	NA	NA	NA
MKTF-27	11/20/17	8015D/300.0	<1	0.036	<5	<0.5	**3200**	0.51	0.51	290
	10/03/17	8015D/300.0	<1	0.013	<5	<0.5	**2900**	<2	<2	290
	06/05/17	8015D/300.0	<1	0.03	<5	0.27	**3800**	**2.5**	2.5	410
	03/29/17	8015D/300.0	<1	0.022	<5	<0.1	**5000**	**3.7**	3.7	600
	10/28/16	8015D/300.0	<1.0	0.034	<5.0	0.94	**2200**	**1.4**	1.4	410
	09/07/16	8015D/300.0	<1.0	**0.068**	<5.0	0.29	**2600**	<2.0	<2.0	400
	06/08/16	8015D/300.0	<0.001	**0.084**	<0.005	1.2	**2800**	**1.1**	1.1	350
	02/22/16	8015D/300.0	<1.0	<0.05	<5.0	0.8	**2400**	1	1	360
	11/04/15	8015D/300.0	<1.0	<0.05	<5.0	0.8	**2700**	<1.0	<1.0	450
	08/20/15	8015D/300.0	<1.0	**0.064**	<5.0	0.81	**2700**	<1.0	<1.0	330
	06/09/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	<1.0	<0.05	<5.0	<1.0	**2500**	<2.0	<2.0	470
	09/24/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	04/08/14	8015D	<1.0	<0.01	<5.0	NA	NA	NA	NA	NA
	11/19/13	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
MKTF-28	11/20/17	300.0/8015D	<1	<0.05	<5	1	**410**	**1.9**	1.9	180
	10/03/17	8015D/300.0	<1	<0.05	<5	0.95	**390**	**1.6**	1.6	150
	06/05/17	8015D/300.0	<1	<0.05	<5	0.85	**420**	**1.2**	1.2	160
	03/29/17	300.0/8015D	<1	<0.05	<5	0.87	**410**	1	1	160
	10/28/16	300.0/8015D	<1.0	<0.05	<5.0	1.3	**370**	**1.1**	1.1	130
	09/08/16	8015D/300.0	<1.0	0.023	<5.0	0.66	**470**	0.73	0.73	190
	06/08/16	8015D/300.0	<1.0	<0.05	<5.0	0.93	**490**	0.84	0.84	160
	02/23/16	300.0/8015D	<1.0	<0.05	<5.0	0.93	**500**	**4.9**	4.9	160
	11/04/15	300.0/8015D	<1.0	<0.05	<5.0	0.86	**510**	<1.0	<1.0	160
	08/20/15	8015D/300.0	<1.0	<0.05	<5.0	0.86	**520**	<1.0	<1.0	150
	06/09/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	11/14/14	8015D/300.0	<1.0	<0.05	<5.0	<1.0	**540**	<1.0	<1.0	260
	09/24/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-29	11/20/17	8015D/300.0	<1	<0.05	<5	0.63	150	<1	<1	**780**
	10/03/17	8015D/300.0	**0.37**	<0.05	<5	0.6	150	0.14	0.14	**880**
	06/05/17	8015D/300.0	1	<0.05	<5	0.68	150	<1	<1	**670**
	03/29/17	8015D/300.0	**0.43**	0.012	<5	0.75	100	<1	<1	**640**
	10/28/16	8015D/300.0	<1.0	<0.05	<5.0	1.1	80	<1.0	<1.0	**560**
	09/07/16	8015D/300.0	<1.0	0.029	<5.0	0.85	81	<1.0	<1.0	**590**
	06/09/16	8015D/300.0	<1.0	<0.05	<5.0	1.1	82	<1.0	<1.0	**650**
	02/02/16	8015D/300.0	<1.0	<0.05	<5.0	0.96	91	<1.0	<1.0	**640**
	11/04/15	8015D/300.0	<1.0	<0.05	<5.0	0.92	90	<1.0	<1.0	**650**
	08/20/15	8015D/300.0	<1.0	<0.05	<5.0	0.83	95	<1.0	<1.0	440
	06/10/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	09/24/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	04/09/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
MKTF-30	11/20/17	8015D/300.0	<1	**0.075**	<5	0.88	**620**	0.44	0.44	410
	10/03/17	8015D/300.0	<1	**0.1**	<5	0.79	**630**	<2	<2	510
	06/05/17	8015D/300.0	<1	0.048	<5	1	**620**	0.3	0.3	560
	03/29/17	8015D/300.0	<1	**0.14**	<5	0.8	**740**	0.24	0.24	360
	10/28/16	8015D/300.0	<1.0	**0.14**	<5.0	1.1	**810**	<1.0	<1.0	400
	09/07/16	8015D/300.0	<1.0	**0.23**	<5.0	0.79	**970**	<1.0	<1.0	330
	06/09/16	8015D/300.0	<1.0	**0.095**	<5.0	1.3	**890**	<1.0	<1.0	330
	02/23/16	8015D/300.0	<1.0	**0.13**	<5.0	1.1	**1100**	<1.0	<1.0	320
	11/04/15	8015D/300.0	<1.0	**0.11**	<5.0	0.99	**1300**	<1.0	<1.0	380
	08/20/15	8015D/300.0	<1.0	**0.17**	<5.0	0.79	**1300**	<1.0	<1.0	450
	06/10/15	8015D	<1.0	**0.071**	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	0.053	<5.0	NA	NA	NA	NA	NA
	11/17/14	8015D/300.0	<1.0	0.054	<5.0	0.56	**1400**	<1.0	<1.0	**730**
	09/24/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	04/09/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
MKTF-31	11/21/17	8015D/300.0	<1	**0.23**	<5	<0.5	**890**	<0.5	<0.5	76
	09/25/17	8015D/300.0	<1	**0.2**	<5	<0.5	**770**	<1	<1	76
	06/05/17	8015D/300.0	**0.47**	**0.15**	<5	<0.1	**1200**	<1	<1	98
	03/07/17	8015D/300.0	<1	**0.19**	<5	<0.1	**1100**	<1	<1	87
	10/31/16	8015D/300.0	<1.0	**0.16**	<5.0	<0.1	**720**	<2.0	<2.0	70
	09/08/16	8015D/300.0	<1.0	**0.23**	<5.0	<0.1	**940**	<1.0	<1.0	70
	06/09/16	8015D/300.0	<1.0	**0.16**	<5.0	<0.1	**770**	<1.0	<1.0	69
	02/23/16	8015D/300.0	<1.0	**0.1**	<5.0	<0.1	**830**	<1.0	<1.0	68
	11/04/15	8015D/300.0	**1.3**	**0.086**	<5.0	<0.1	**850**	<1.0	<1.0	69
	08/21/15	8015D/300.0	<1.0	**0.1**	<5.0	<0.5	**890**	<1.0	<1.0	71
	06/10/15	8015D	<1.0	**0.11**	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	**0.077**	<5.0	NA	NA	NA	NA	NA
	11/17/14	8015D/300.0	<1.0	**0.068**	<5.0	<0.1	**920**	<1.0	<1.0	82
	09/23/14	8015D	<1.0	**0.061**	<5.0	NA	NA	NA	NA	NA
	04/08/14	8015D	<1.0	**0.11**	<5.0	NA	NA	NA	NA	NA
MKTF-32	11/27/17	8015D/300.0	<1	**0.86**	<5	<5	**420**	<1	<1	99
	09/25/17	8015D/300.0	<1	**0.73**	<5	0.32	**420**	<1	<1	100
	06/06/17	8015D/300.0	<1	**0.71**	<5	0.31	**480**	<1	<1	92
	03/07/17	8015D/300.0	<1	**0.92**	<5	0.17	**400**	<1	<1	91
	10/31/16	8015D/300.0	<1.0	**0.92**	<50	0.16	**420**	<1.0	<1.0	95
	09/09/16	8015D/300.0	<1.0	**0.79**	<5.0	0.18	**460**	<1.0	<1.0	91
	06/09/16	8015D/300.0	<1.0	**0.81**	<5.0	0.28	**520**	<1.0	<1.0	100
	02/24/16	8015D/300.0	<1.0	**0.88**	<5.0	0.28	**450**	<1.0	<1.0	91
	11/05/15	8015D/300.0	<1.0	**0.57**	<5.0	0.19	**510**	<1.0	<1.0	100
	08/21/15	8015D/300.0	<1.0	**0.42**	<5.0	<0.5	**580**	<1.0	<1.0	110
	06/09/15	8015D	<1.0	**0.58**	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	<1.0	**0.46**	<5.0	NA	NA	NA	NA	NA
	11/17/14	8015D/300.0	<1.0	**0.28**	<5.0	0.27	**610**	<1.0	<1.0	100
	09/23/14	8015D	<1.0	**0.23**	<5.0	NA	NA	NA	NA	NA
	04/09/14	8015D	<1.0	**0.22**	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-33	11/28/17	8015D/300.0	<1	**0.35**	<5	0.23	96	0.32	0.32	250
	09/25/17	300.0/8015D	<1	**0.26**	<5	0.33	93	0.24	0.24	270
	06/08/17	8015D/300.0	<1	**0.25**	<5	0.17	92	0.21	0.21	290
	03/08/17	8015D/300.0	<1	**0.3**	<5	0.22	96	0.19	0.19	330
	11/01/16	8015D/300.0	<1.0	**0.31**	<5.0	0.29	87	<1.0	<1.0	320
	09/10/16	8015D/300.0	<1.0	**5.2**	<5.0	0.13	94	<1.0	<1.0	340
	06/10/16	300.0/8015D	<1.0	**0.69**	<5.0	0.3	100	<1.0	<1.0	340
	02/25/16	8015D/300.0	<1.0	**0.35**	<5.0	0.25	100	<1.0	<1.0	310
	11/09/15	8015D/300.0	<1.0	**0.53**	<5.0	0.34	99	<0.1	<0.1	290
	08/21/15	8015D/300.0	<1.0	**0.47**	<5.0	<0.5	95	<1.0	<1.0	260
	06/09/15	8015D	<1.0	**0.42**	<5.0	NA	NA	NA	NA	NA
	03/12/15	300.0/8015D	<1.0	**0.35**	<5.0	NA	NA	NA	NA	NA
	11/17/14	8015D/300.0	<1.0	**0.36**	<5.0	0.31	98	<1.0	<1.0	360
	09/23/14	8015D	<1.0	**0.25**	<5.0	NA	NA	NA	NA	NA
	04/09/14	8015D	<1.0	**0.21**	<5.0	NA	NA	NA	NA	NA
MKTF-34	12/01/17	300.0/8015D	<1	0.027	<5	0.54	**270**	**8**	8	230
	09/26/17	300.0/8015D	<1	<0.05	<5	0.29	**280**	**7.6**	7.6	220
	06/14/17	300.0/8015D	<1	<0.05	<5	<5	**280**	**8.4**	8.4	210
	03/01/17	300.0/8015D	<1	<0.05	<5	0.45	**310**	**9**	9	220
	11/08/16	300.0/8015D	<1.0	<0.05	<5.0	0.46	**240**	**8.3**	8.3	180
	09/13/16	300.0/8015D	<1.0	0.033	<5.0	0.42	**300**	**9.1**	9.1	200
	06/10/16	300.0/8015D	<1.0	<0.05	<5.0	0.52	**370**	**7.7**	7.7	130
	02/25/16	300.0/8015D	<1.0	<0.05	<5.0	0.53	**380**	**18**	**18**	110
	11/03/15	300.0/8015D	<1.0	<0.05	<5.0	0.46	**370**	<0.1	8.6	100
	08/18/15	8015D/300.0	<1.0	<0.05	<5.0	0.44	**350**	<0.1	8.6	100
	06/08/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	11/17/14	8015D/300.0	<1.0	<0.05	<5.0	0.54	**400**	**6.6**	6.6	73
	09/24/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	04/09/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
MKTF-35	11/30/17	8015D/300.0	**0.92**	**0.47**	<5	0.9	190	<1	<1	34
	09/27/17	8015D/300.0	**1.7**	**0.57**	<5	0.8	190	<1	<1	38
	06/14/17	8015D/300.0	**2.1**	**0.6**	<5	0.3	150	<1	<1	99
	03/01/17	8015D/300.0	**2.1**	**0.73**	<5	0.94	71	<1	<1	410
	11/03/16	8015D/300.0	<1.0	**1.7**	<5.0	0.82	54	<1.0	<1.0	310
	09/13/16	8015D/300.0	<1.0	**2**	<5.0	0.77	62	<1.0	<1.0	270
	06/10/16	8015D/300.0	<1.0	**1.4**	<5.0	0.79	51	<1.0	<1.0	210
	02/26/16	8015D/300.0	**0.94**	**0.87**	<5.0	0.45	65	<1.0	<1.0	99
	11/03/15	8015D/300.0	**2.8**	**1.5**	<5.0	0.79	100	<0.1	<0.1	16
	08/18/15	8015D/300.0	**2.9**	**4.7**	<5.0	0.73	110	<0.1	<0.1	20
	06/04/15	8015D	**2.3**	**2.9**	<5.0	NA	NA	NA	NA	NA
	03/17/15	8015D	**6**	**3.7**	<5.0	NA	NA	NA	NA	NA
	11/21/14	8015D	**3.3**	**1.6**	<5.0	NA	NA	NA	NA	NA
MKTF-36	11/30/17	8015D	**12**	**31**	<5	0.79	170	0.29	0.29	0.51
	09/27/17	8015D	**24**	**31**	<50	0.66	160	<1	<1	0.7
	06/14/17	8015D	**14**	**34**	<5	0.56	140	<1	<1	<2.5
	03/01/17	8015D	**13**	**35**	<5	0.6	140	<1	<1	<2.5
	11/08/16	8015D	**11**	**40**	<5.0	0.67	130	<1.0	<1.0	<2.5
	08/18/15	8015D	**14**	**39**	<5.0	0.6	140	<0.5	<0..5	<2.5
	06/04/15	8015D	**13**	**30**	<5.0	NA	NA	NA	NA	NA
	03/17/15	8015D	**10**	**38**	<5.0	NA	NA	NA	NA	NA
	11/21/14	8015D	**6.8**	**25**	<5.0	NA	NA	NA	NA	NA
MKTF-37	11/03/17	8015D/300.0	**6.2**	**15**	<5	0.16	180	<1	<1	12
	06/04/15	8015D	**5.7**	**12**	<5.0	NA	NA	NA	NA	NA
	03/17/15	8015D	**4.5**	**11**	<5.0	NA	NA	NA	NA	NA
	11/21/14	8015D	<1.0	**8.7**	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-38	11/30/17	8015D/300.0	<1	0.026	<5	0.9	210	**1.2**	1.2	250
	09/28/17	8015D/300.0	<1	0.03	<5	0.69	230	<0.5	<0.5	260
	06/21/17	8015D/300.0	<1	<0.05	<5	0.79	**280**	0.24	0.24	290
	03/14/17	8015D	<1	<0.05	<5	0.74	130	0.26	0.26	380
	11/01/16	8015D	<1.0	**0.065**	<5.0	0.82	200	0.14	8.8	320
	09/13/16	8015D/300.0	<1.0	**0.09**	<5.0	0.73	**260**	**5**	5	330
	06/08/16	8015D/300.0	<1.0	**0.06**	<5.0	0.7	**270**	**9.9**	9.9	360
	02/29/16	8015D/300.0	<1.0	**0.14**	<5.0	0.75	110	**7.2**	7.2	450
	11/09/15	8015D	<1.0	**0.12**	<5.0	0.91	210	<0.1	<0.01	400
	08/24/15	8015D/300.0	<1.0	**0.099**	<5.0	0.69	210	<0.1	3.2	390
	06/10/15	8015D	<1.0	**0.2**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	<1.0	**0.33**	<5.0	NA	NA	NA	NA	NA
	11/21/14	8015D	**3.8**	**0.12**	<5.0	NA	NA	NA	NA	NA
MKTF-39	11/28/17	8015D/300.0	**14**	**0.9**	<5	0.46	**1900**	0.36	0.36	<2.5
	09/28/17	8015D/300.0	**28**	**0.37**	<5	<0.5	**3400**	<0.5	<0.5	0.49
	06/08/17	8015D/300.0	**56**	**0.73**	<5	0.87	**790**	<1	<1	0.16
	03/14/17	8015D	**28**	**1.5**	<5	0.44	**1000**	<2	<2	0.23
	11/01/16	8015D	**17**	**0.36**	<5.0	0.97	**1300**	<0.5	<0.5	<2.5
	09/13/16	8015D/300.0	**10**	**1.1**	<5.0	0.26	**1900**	<2.0	<2.0	<10
	06/08/16	8015D/300.0	**19**	**0.67**	<5.0	0.54	**2300**	<2.0	<2.0	0.21
	03/03/16	8015D/300.0	**13**	**0.46**	<5.0	0.71	**2900**	<4.0	<4.0	4.2
	11/09/15	8015D	**23**	**0.44**	<5.0	<2.0	**6400**	<2.0	<0.1	<0.5
	08/23/15	8015D/300.0	**13**	**0.93**	<5.0	<0.5	**9100**	<4.0	<4.0	<2.5
	06/10/15	8015D	**44**	**0.44**	<5.0	NA	NA	NA	NA	NA
	03/16/15	8015D	**6.2**	**0.21**	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D	**15**	**0.39**	<5.0	NA	NA	NA	NA	NA
MKTF-40	11/21/17	8015D/300.0	<1	<0.05	<5	<0.5	**4100**	<2	<2	590
	09/25/17	8015D/300.0	<1	<0.05	<5	<0.5	**3600**	<4	<4	590
	06/05/17	8015D/300.0	<1	<0.05	<5	<2	**4400**	<4	<4	580
	03/07/17	8015D/300.0	<1	<0.05	<5	<0.1	**4200**	<4	<4	500
	10/31/16	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**3700**	<4.0	<4.0	500
	09/08/16	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**5300**	<4.0	<4.0	460
	06/09/16	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**5300**	<4.0	<4.0	390
	02/23/16	8015D/300.0	<1.0	<0.05	<5.0	<0.1	**4900**	<10	<10	520
	11/04/15	8015D/300.0	<1.0	<0.05	<5.0	<0.1	**4600**	<1.0	<1.0	540
	08/21/15	8015D/300.0	<1.0	<0.05	<5.0	<0.5	**3400**	<4.0	<4.0	**890**
	06/10/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	11/21/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
MKTF-41	11/27/17	8015D/300.0	<1	<0.05	<5	<0.5	**860**	**5.6**	5.6	65
	09/25/17	8015D/300.0	<1	0.029	<5	0.47	**810**	**5.3**	5.3	65
	06/06/17	8015D/300.0	<1	<0.05	<5	0.24	**910**	**5.4**	5.4	66
	03/07/17	8015D/300.0	<1	<0.05	<5	0.32	**800**	**3.9**	3.9	64
	10/31/16	8015D/300.0	<1.0	<0.05	<5.0	0.26	**730**	**5.4**	5.4	64
	09/09/16	8015D/300.0	<1.0	<0.05	<5.0	0.29	**910**	**5.7**	5.7	60
	06/09/16	8015D/300.0	<1.0	<0.05	<5.0	0.51	**750**	**5.6**	5.6	71
	02/24/16	8015D/300.0	<1.0	<0.05	<5.0	0.47	**790**	**4.7**	4.7	74
	11/05/15	8015D/300.0	<1.0	<0.05	<5.0	0.35	**830**	**4.2**	4.2	68
	08/21/15	8015D/300.0	<1.0	<0.05	<5.0	<0.5	**900**	**5.6**	5.6	79
	06/09/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA

8.17.1 MKTF WELLS

DRO/GRO/MRO and General Chemistry Analytical Results

STANDARDS			PARAMETERS							
			DRO (mg/L)	GRO (mg/L)	MRO (mg/L)	Fluoride (mg/L)	Chloride (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	**1.6**	**250**	NE	**10**	**600**
40 CFR 141.62 MCL			NE	NE	NE	4	NE	**1**	10	NE
NMED Tap Water (MARCH 2017)			NE	NE	NE	1.18	NE	1.97	31.59	NE
EPA RSL for Tap Water (MAY 2018)			NE	NE	NE	0.8	NE	2	32	NE
NMED SSG (MARCH 2017)			**0.0452**	**0.055**	**0.0902**	NE	NE	NE	NE	NE
Well ID	**DATE SAMPLED**	**METHOD**								
MKTF-42	11/27/17	8015D/300.0	**77**	**0.19**	<5	<0.5	**850**	<1	<1	110
	09/25/17	8015D/300.0	**72**	**0.21**	<50	0.6	**820**	<1	<1	100
	06/06/17	8015D/300.0	**72**	**0.15**	<5	0.47	**880**	<1	<1	110
	03/07/17	8015D/300.0	**79**	**0.14**	<5	0.68	**820**	<1	<1	110
	10/31/16	8015D/300.0	**62**	**0.11**	<5.0	<0.5	**900**	<2.0	<2.0	110
	09/09/16	8015D/300.0	**62**	**0.7**	<5.0	0.43	**880**	<1.0	<1.0	110
	06/09/16	8015D/300.0	**60**	**0.16**	<5.0	0.68	**890**	<1.0	<1.0	130
	02/24/16	8015D/300.0	**52**	**0.12**	<5.0	0.69	**860**	<1.0	<1.0	120
	11/05/15	8015D/300.0	**45**	**0.11**	<5.0	0.6	**870**	<1.0	<1.0	120
	08/21/15	8015D/300.0	**52**	**0.21**	<5.0	0.62	**930**	<1.0	<1.0	130
	06/09/15	8015D	**60**	**0.1**	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	**27**	<0.5	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D	**44**	<0.05	<5.0	NA	NA	NA	NA	NA
MKTF-43	11/27/17	8015D/300.0	<1	<0.05	<5	<0.5	**12000**	**14**	**14**	**1200**
	09/25/17	8015D/300.0	<1	<0.05	<5	<0.5	**9500**	**13**	**13**	**1100**
	06/06/17	8015D/300.0	<1	<0.05	<5	<2	**12000**	**23**	**23**	**980**
	03/08/17	8015D/300.0	<1	<0.05	<5	<2	**13000**	**25**	**25**	**1000**
	10/31/16	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**19000**	**62**	**62**	**1300**
	09/09/16	8015D/300.0	<1.0	0.026	<5.0	<2.0	**16000**	<10	<10	**1800**
	06/09/16	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**15000**	<10	<10	**1300**
	02/24/16	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**15000**	<10	<10	**1200**
	11/05/15	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**16000**	<10	<10	**1600**
	08/21/15	8015D/300.0	<1.0	<0.05	<5.0	<2.0	**17000**	<10	<10	**1700**
	06/10/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/11/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	11/18/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
MKTF-44	11/28/17	8015D/300.0	<1	0.017	<5	<0.5	**730**	**4.2**	4.2	91
	09/25/17	8015D/300.0	<1	<0.05	<5	<0.5	**1100**	**7**	7	85
	06/05/17	8015D/300.0	<1	<0.05	<5	<0.1	**1300**	**7.6**	7.6	80
	03/08/17	8015D/300.0	<1	<0.05	<5	<0.1	**3500**	**26**	**26**	59
	11/01/16	8015D/300.0	<1.0	<0.05	<5.0	0.32	150	0.81	0.81	100
	09/09/16	8015D/300.0	<1.0	0.023	<5.0	0.36	**310**	**1.8**	1.8	97
	06/09/16	8015D/300.0	<1.0	<0.05	<5.0	0.29	**610**	**3.6**	3.6	96
	02/24/16	8015D/300.0	<1.0	<0.05	<5.0	0.45	**270**	**1.1**	1.1	100
	11/09/15	8015D/300.0	<1.0	<0.05	<5.0	0.56	91	<0.5	0.75	110
	08/17/15	8015D/300.0	<1.0	<0.1	<5.0	0.58	110	<1.0	<1.0	120
	06/10/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	03/12/15	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA
	11/21/14	8015D	<1.0	<0.05	<5.0	NA	NA	NA	NA	NA

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NMED Soil Screening Guidance Volume 1, Table 6-4 (groundwater), (March 2017)

NOTES

1) No samples collected for General Chemistry - not enough water.

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			PARAMETERS											
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-1	02/24/16	200.7/200.8	0.002	**3.3**	<0.002	<0.006	<0.006	5.5	0.0011	**2.2**	0.0028	<0.005	<0.0002	0.00029	0.0099
	11/04/15	200.7/200.8	<0.005	**3**	<0.002	<0.006	<0.006	8.3	0.0069	**2.1**	0.0082	<0.005	<0.0002	0.00061	0.016
	08/21/15	200.7/200.8	0.0033	**2.8**	<0.002	<0.006	<0.006	8.7	0.0062	**2.1**	<0.01	<0.005	<0.0002	0.00078	0.014
	06/09/15	200.7/200.8	0.0034	**2.4**	<0.002	0.0065	<0.006	8.1	0.0042	**2.2**	0.0045	<0.005	<0.0002	<0.0005	0.015
	03/11/15	200.7/200.8	0.0032	**2.1**	<0.002	<0.006	<0.006	5.6	0.002	1.9	0.0056	<0.005	<0.0002	<0.001	<0.01
	06/06/14	200.7/200.8	0.007	**4.7**	<0.002	0.035	0.038	**35**	**0.074**	**4.1**	0.0091	<0.005	<0.0002	<0.005	0.078
MKTF-2	11/20/17	200.7/200.8	0.0034	0.26	<0.002	<0.006	<0.006	0.23	0.00062	0.6	<0.005	<0.005	<0.0002	**0.036**	<0.01
	10/03/17	200.7/200.8	0.0054	0.34	<0.002	<0.006	0.004	3	0.002	0.91	0.0056	<0.005	<0.0002	NA	0.0085
	03/16/17	200.7/200.8	0.004	0.35	<0.002	<0.006	<0.006	1.4	0.0017	0.74	0.0082	<0.005	<0.0002	0.024	0.0063
	10/28/16	200.7/200.8	0.003	0.22	<0.002	<0.006	<0.006	1.5	0.0027	0.53	0.0048	<0.005	<0.0002	0.026	0.038
	09/07/16	200.7/200.8	0.0041	0.32	<0.002	0.0054	0.0038	5.9	0.0089	0.65	0.0064	<0.005	<0.0002	**0.038**	0.018
	06/10/16	200.7/200.8	0.0024	0.19	<0.002	0.0027	<0.006	2.6	0.0034	0.4	0.0046	<0.005	<0.0002	**0.033**	0.012
	02/24/16	200.7/200.8	0.0045	0.73	<0.002	0.0098	0.018	**14**	**0.023**	1.1	0.0033	<0.005	<0.0002	**0.063**	0.057
	11/04/15	200.7/200.8	0.0043	0.17	<0.002	<0.006	<0.006	0.25	0.0038	0.44	<0.05	<0.005	<0.0002	**0.032**	0.012
	08/21/15	200.7/200.8	0.0044	0.28	<0.002	0.0073	0.0089	8.6	0.0088	0.81	0.0026	<0.005	<0.0002	**0.05**	0.033
	06/09/15	200.7/200.8	0.0035	0.14	<0.002	<0.006	<0.006	1.6	0.0023	0.55	0.0028	<0.005	<0.0002	**0.032**	<0.01
	03/11/15	200.7/200.8	0.0046	0.21	<0.002	<0.006	0.0074	4.6	0.0057	0.64	0.0043	<0.005	<0.0002	**0.048**	0.017
	11/14/14	200.7/200.8	0.0059	0.22	<0.002	<0.006	0.012	7	0.0079	0.68	<0.01	<0.005	<0.0002	**0.073**	0.03
	09/18/14	200.7/200.8	0.0017	0.15	<0.002	<0.006	<0.006	0.15	<0.001	0.57	0.0031	<0.005	<0.0002	0.013	<0.01
	06/06/14	200.7/200.8	<0.005	0.2	<0.002	<0.006	<0.006	4.2	<0.005	0.7	0.0069	<0.005	<0.0002	**0.056**	0.017
MKTF-4	11/28/17	200.7/200.8	**0.015**	**3.5**	<0.002	<0.006	<0.006	7	0.00041	1.3	0.0062	0.0013	NA	0.0019	<0.01
	09/26/17	200.7/200.8	**0.019**	**3.8**	<0.002	<0.006	<0.006	9.4	0.0018	1.4	0.011	<0.005	<0.0002	NA	0.0045
	06/08/17	200.7/200.8	**0.011**	**3**	<0.002	<0.006	<0.006	5	0.0012	1.5	0.012	<0.005	0.000067	0.0035	0.005
	03/02/17	200.7/200.8	**0.012**	**3.2**	<0.002	<0.006	<0.006	8.2	0.0019	1.5	0.01	<0.005	0.00015	NA	0.0087
	11/02/16	200.7/200.8	0.01	**2.8**	<0.002	<0.006	<0.006	4.6	0.00063	1.5	0.01	<0.005	<0.0002	0.0041	0.006
	09/11/16	200.7/200.8	0.01	**3.4**	<0.002	<0.006	<0.006	6.7	0.003	1.5	0.014	<0.005	<0.0002	0.0028	0.0072
	06/09/16	200.7/200.8	0.0089	**3.1**	<0.002	<0.006	<0.006	6.2	0.0019	1.7	0.0098	<0.005	<0.0002	0.0048	0.016
	02/29/16	200.7/200.8	0.0081	**3**	<0.002	<0.006	<0.006	5.6	0.0036	1.5	0.0043	<0.005	<0.0002	0.0042	0.022
	11/03/15	200.7/200.8	**0.014**	**3.4**	<0.002	<0.006	<0.006	**16**	0.0063	1.7	0.016	<0.005	<0.0002	0.0019	0.012
	08/18/15	200.7/200.8	0.0085	**3**	<0.002	<0.006	0.0061	**17**	**0.017**	1.9	<0.01	<0.005	<0.0002	0.0042	0.025
	06/04/15	200.7/200.8	0.0082	**2.5**	<0.002	0.0087	<0.006	13	0.0097	1.9	<0.01	<0.005	<00002	0.0053	0.017
	03/16/15	200.7/200.8	<0.01	1.8	<0.002	0.0092	0.012	11	**0.022**	**2.5**	0.016	<0.005	<0.0002	0.017	0.03
	11/13/14	200.7/200.8	0.0079	1.9	<0.002	0.0086	0.015	**15**	**0.023**	**2.5**	<0.05	<0.005	<0.0002	0.013	0.03
	09/15/14	200.7/200.8	0.006	2	<0.002	0.015	0.021	**20**	**0.036**	**2.9**	0.0078	<0.005	<0.0002	0.02	0.044
	06/04/14	200.7/200.8	0.0061	1.4	<0.002	0.0085	0.013	7.9	0.013	**2.1**	0.013	<0.005	<0.0002	0.009	0.02

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-9	11/28/17	200.7/200.8	0.0067	0.65	<0.002	<0.006	<0.006	2.4	0.0014	**3.8**	<0.01	0.0025	NA	0.005	<0.01
	09/28/17	200.7/200.8	0.004	0.61	<0.002	<0.006	0.0064	5.3	0.0043	**4.8**	0.0085	<0.005	<0.0002	NA	0.0072
	06/12/17	200.7/200.8	0.0025	0.6	<0.002	<0.006	<0.006	3.5	0.0028	**4.5**	0.0081	0.00046	<0.0002	NA	0.003
	03/15/17	200.7/200.8	0.0052	0.59	<0.002	<0.006	0.0065	5.2	0.0043	**4.4**	0.0072	<0.005	<0.0002	0.0036	0.0046
	11/02/16	200.7/200.8	0.0028	0.47	<0.002	<0.006	<0.006	1.7	0.0016	**3.6**	0.0058	<0.005	<0.0002	0.0066	0.003
	09/11/16	200.7/200.8	0.0033	0.52	<0.002	<0.006	<0.006	2.3	0.0019	**3.8**	0.0068	<0.005	<0.0002	0.0064	<0.01
	06/09/16	200.7/200.8	0.0023	0.49	<0.002	<0.006	<0.006	2.1	0.0015	**3.6**	0.0047	<0.005	<0.0002	0.0069	<0.01
	02/29/16	200.7/200.8	0.002	0.64	<0.002	<0.006	<0.006	4	0.004	**4.2**	0.0023	<0.005	<0.0002	0.0048	0.012
	11/03/15	200.7/200.8	0.0045	0.71	<0.002	<0.006	<0.006	8.8	0.011	**4.3**	<0.05	<0.005	<0.0002	0.0051	0.019
	08/18/15	200.7/200.8	0.0042	0.81	<0.002	<0.006	0.0089	7.7	0.015	**3.7**	<0.005	<0.005	<0.0002	0.0053	0.027
	06/04/15	200.7/200.8	<0.005	0.34	<0.002	<0.006	<0.006	3.1	<0.005	**3**	<0.005	<0.005	<0.0002	0.0076	<0.01
	03/16/15	200.7/200.8	0.0029	0.22	<0.002	<0.002	<0.002	2	0.0015	**2.4**	0.0053	<0.005	<0.0002	0.014	0.01
	11/14/14	200.7/200.8	<0.005	0.39	<0.002	<0.006	<0.006	4.5	0.0053	**2.7**	<0.01	<0.005	<0.0002	0.01	0.013
	09/18/14	200.7/200.8	<0.005	0.33	<0.002	<0.006	<0.006	2.4	<0.001	**2.8**	<0.005	<0.005	<0.0002	0.012	<0.01
	06/05/14	200.7/200.8	<0.005	0.58	<0.002	<0.006	<0.006	6.7	0.0058	**3.8**	0.0073	<0.005	<0.0002	0.006	0.015
MKTF-10	11/28/17	200.7/200.8	0.0099	**4.2**	<0.002	<0.006	<0.006	9.8	0.00093	**3**	<0.01	0.0017	NA	<0.005	<0.01
	09/28/17	200.7/200.8	0.007	**4.1**	<0.002	<0.006	0.0038	9	0.001	**3**	0.004	<0.005	<0.0002	NA	<0.01
	06/08/17	200.7/200.8	0.0082	**4.1**	<0.002	<0.006	<0.006	8.3	0.0021	**3.2**	0.0039	<0.005	0.000065	0.00055	0.0083
	03/02/17	200.7/200.8	**0.014**	**4.7**	<0.002	<0.006	<0.006	**15**	0.0051	**3.5**	0.0047	<0.005	0.00015	NA	0.0091
	11/02/16	200.7/200.8	0.0096	**6**	<0.002	<0.006	<0.006	10	0.0011	**5.2**	0.0049	<0.005	<0.0002	0.00086	0.0044
	09/11/16	200.7/200.8	0.0083	**11**	<0.002	<0.006	<0.006	**26**	0.0018	**12**	0.0058	<0.005	<0.0002	0.0012	0.0027
	06/09/16	200.7/200.8	0.006	**13**	<0.002	<0.006	<0.006	**36**	0.002	**15**	0.0033	<0.005	<0.0002	0.0008	0.019
	02/29/16	200.7/200.8	0.0086	**16**	<0.002	<0.006	<0.006	**57**	0.0027	**21**	0.002	<0.005	<0.0002	0.0015	0.014
	11/03/15	200.7/200.8	0.0059	**14**	<0.002	<0.006	<0.006	**61**	**0.025**	**19**	<0.05	<0.005	<0.0002	0.0019	0.032
	08/18/15	200.7/200.8	**0.038**	**15**	<0.002	0.013	<0.006	**64**	**0.58**	**22**	<0.05	<0.005	0.0003	**0.063**	0.49
	06/04/15	200.7/200.8	**0.015**	**19**	<0.002	**0.077**	0.1	**120**	**0.19**	**24**	<0.01	<0.005	<0.0002	0.014	0.15
	03/16/15	200.7/200.8	**0.019**	**22**	<0.002	0.036	0.095	**100**	**0.2**	**27**	<0.01	<0.005	<0.0002	0.019	0.14
	11/14/14	200.7/200.8	<0.04	**45**	<0.004	**0.099**	0.24	**250**	**0.58**	**49**	<0.04	<0.01	<0.0004	**0.052**	0.31
	09/18/14	200.7/200.8	<0.005	**12**	<0.002	<0.006	<0.006	**46**	0.0015	**15**	0.0032	<0.005	<0.0002	0.0013	<0.01
	06/06/14	200.7/200.8	<0.005	**7.7**	<0.002	<0.006	<0.006	**25**	<0.005	**9.5**	0.0061	<0.005	<0.0002	<0.005	<0.01

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-11	11/28/17	200.7/200.8	**0.016**	**3**	<0.002	<0.006	<0.006	7.6	<0.0025	**3.2**	<0.005	0.0019	NA	0.0054	<0.01
	09/26/17	200.7/200.8	**0.013**	**3.1**	<0.002	<0.006	<0.006	12	0.0034	**3.3**	0.0063	<0.005	<0.0002	NA	0.0086
	06/08/17	200.7/200.8	**0.014**	**2.2**	<0.002	<0.006	<0.006	6.1	0.00084	**2.7**	0.0031	<0.005	0.000065	0.003	0.0055
	03/02/17	200.7/200.8	**0.019**	**2.3**	<0.002	<0.006	<0.006	6.7	0.00063	**3.1**	0.0037	<0.005	0.00015	NA	0.0038
	11/02/16	200.7/200.8	**0.014**	**2.7**	<0.002	<0.006	<0.006	8.4	0.0011	**4**	0.005	<0.005	<0.0002	0.0065	0.017
	09/11/16	200.7/200.8	**0.013**	**2.9**	<0.002	<0.006	<0.006	7.1	0.0011	**4.1**	0.0054	<0.005	<0.0002	0.0065	0.012
	06/09/16	200.7/200.8	**0.012**	**3.4**	<0.002	<0.006	<0.006	8.1	0.0013	**4**	0.0031	<0.005	<0.0002	0.0091	0.016
	02/29/16	200.7/200.8	**0.013**	**3.9**	<0.002	<0.006	<0.006	11	0.0027	**6.4**	0.0021	<0.005	<0.0002	0.0054	0.018
	11/03/15	200.7/200.8	0.0078	**3.8**	<0.002	<0.006	<0.006	**15**	0.0031	**3.5**	0.0054	<0.005	<0.0002	0.00073	0.017
	08/18/15	200.7/200.8	0.0091	**2.4**	<0.002	<0.006	<0.006	**14**	0.0071	**4**	0.003	<0.005	<0.0002	0.0026	0.024
	06/04/15	200.7/200.8	0.0056	**2.7**	<0.002	<0.006	<0.006	0.013	0.0027	**3**	<0.005	<0.005	<0.0002	<0.0025	0.013
	03/16/15	200.7/200.8	0.0086	1.9	<0.002	<0.006	<0.006	10	0.0068	**3.1**	0.006	<0.005	<0.0002	0.0021	0.024
	11/13/14	200.7/200.8	0.0087	1.7	<0.002	<0.006	<0.006	5.8	<0.005	**3.4**	<0.005	<0.005	<0.0002	<0.005	0.012
	09/15/14	200.7/200.8	0.0072	1.4	<0.002	<0.006	<0.006	8.1	0.0062	**3.1**	0.0029	<0.005	<0.0002	0.0058	0.021
	06/05/14	200.7/200.8	0.0063	1.2	<0.002	0.0061	<0.006	8.8	0.0096	**2.8**	0.0055	<0.005	<0.0002	<0.005	0.038
MKTF-13	03/15/17	200.7/200.8	0.0056	**5**	<0.002	<0.006	<0.006	**18**	0.0021	**4.1**	0.0075	<0.005	<0.0002	0.00073	0.0048
MKTF-15	11/28/17	200.7/200.8	**0.024**	**47**	<0.002	<0.0006	<0.006	**78**	0.0037	**25**	0.0079	0.012	NA	<0.0025	<0.01
	06/08/17	200.7/200.8	0.0072	**33**	<0.002	0.0011	<0.006	**65**	0.0098	**14**	0.0081	<0.005	0.000074	0.0015	0.032
	03/02/17	200.7/200.8	0.0045	**29**	<0.002	<0.006	<0.006	**49**	0.0097	**9.6**	0.0058	<0.005	0.00015	NA	0.027
	11/02/16	200.7/200.8	0.0037	**22**	<0.002	<0.006	<0.006	**34**	0.006	**6.8**	0.0069	<0.005	<0.0002	<0.0025	0.28
	09/11/16	200.7/200.8	0.0022	**23**	<0.002	<0.006	<0.006	**35**	0.0059	**7.7**	0.0054	<0.005	<0.0002	<0.0025	0.018
	09/17/15	200.7/200.8	<0.005	**29**	<0.002	<0.006	<0.006	**18**	<0.01	**9.8**	<0.005	<0.005	<0.0002	<0.01	0.023
	06/05/14	200.7/200.8	<0.01	**25**	<0.002	0.0074	<0.006	11	0.011	**7.9**	<0.01	<0.005	<0.0002	<0.005	0.017
MKTF-16	11/29/17	200.7/200.8	**0.019**	**2.9**	<0.002	<0.006	<0.006	5.2	0.0012	**2.3**	0.011	0.0015	NA	0.0066	0.0079
	09/26/17	200.7/200.8	**0.016**	**2.7**	<0.002	<0.002	0.0021	8.6	0.002	**2.6**	0.019	<0.005	0.000058	NA	0.0096
	06/08/17	200.7/200.8	**0.019**	**2.2**	<0.002	0.0018	0.0022	3.4	0.0033	1.6	0.014	<0.005	0.000054	0.015	0.016
	03/14/17	200.7/200.8	**0.014**	1.9	<0.002	<0.006	0.0054	6.3	0.0058	1.7	0.0081	<0.005	NA	0.0024	0.025
	11/03/16	200.7/200.8	**0.015**	0.67	<0.002	<0.006	0.0038	3.6	0.0034	0.86	0.01	<0.005	<0.0002	0.0077	0.02
	09/12/16	200.7/200.8	**0.014**	0.72	<0.002	<0.006	<0.006	4.6	0.0029	0.96	0.014	<0.005	<0.0002	0.0067	0.022
	02/29/16	200.7/200.8	0.0092	1.3	<0.002	<0.006	<0.006	6.5	0.0031	1.8	0.0049	<0.005	<0.0002	0.00066	0.034
	11/03/15	200.7/200.8	**0.018**	**3**	<0.002	<0.006	<0.006	13	0.0027	**3.9**	0.021	<0.005	<0.0002	0.00053	0.023
	08/23/15	200.7/200.8	**0.014**	**3.9**	<0.002	<0.006	<0.006	**16**	0.0012	**5.5**	<0.02	<0.005	<0.0002	<0.0005	0.01
	06/08/15	200.7/200.8	0.0097	**2.2**	<0.002	<0.006	0.0091	12	<0.0025	**3.3**	0.0072	<0.025	<0.0002	<0.0025	0.023
	03/16/15	200.7/200.8	<0.01	1	<0.002	<0.006	0.023	7.2	<0.01	1.3	<0.02	<0.005	<0.0002	<0.01	0.035
	11/18/14	200.7/200.8	0.01	1.1	<0.002	<0.006	<0.006	10	0.0042	1.3	<0.05	<0.005	<0.0002	0.0016	0.05
	09/17/14	200.7/200.8	**0.012**	0.8	<0.002	<0.006	<0.006	8.6	0.0031	1.2	<0.01	<0.005	<0.0002	<0.001	0.034
	06/05/14	200.7/200.8	**0.023**	0.9	<0.002	<0.006	0.008	7.9	<0.005	1.2	0.013	<0.005	<0.0002	0.015	0.089

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-17	12/01/17	200.7/200.8	0.0041	0.62	<0.002	<0.006	<0.006	1.9	0.00065	**2.3**	<0.01	0.0013	<0.0002	0.0046	<0.01
	09/26/17	200.7/200.8	0.008	0.77	<0.002	<0.006	<0.006	4.2	0.0014	**2.9**	0.0056	<0.005	<0.0002	NA	0.0044
	06/14/17	200.7/200.8	0.008	0.56	<0.002	0.0022	<0.006	3.8	0.0032	**2.5**	0.0029	<0.005	<0.0002	NA	0.03
	03/15/17	200.7/200.8	0.0078	0.76	<0.002	<0.006	0.0052	6.5	0.0026	**2.8**	0.0035	<0.005	<0.0002	0.0057	0.0059
	11/08/16	200.7/200.8	0.0064	0.6	<0.002	<0.006	<0.006	1.9	0.0013	**2.8**	0.0034	<0.005	<0.0002	0.0077	0.0068
	09/13/16	200.7/200.8	0.007	0.58	<0.002	<0.006	<0.006	3.3	0.0031	**2.8**	0.0035	<0.005	0.000071	0.011	0.0061
	02/26/16	200.7/200.8	0.0046	0.12	<0.002	<0.006	<0.006	0.98	0.00095	**2.6**	0.0012	<0.005	<0.0002	0.018	0.0056
	11/03/15	200.7/200.8	**0.02**	**12**	<0.01	<0.006	<0.006	0.65	**0.35**	**3.5**	<0.02	<0.005	<0.0002	**0.048**	0.33
	08/18/15	200.7/200.8	0.0052	0.2	<0.002	<0.006	0.0097	1.7	0.0037	**2.9**	<0.005	<0.005	<0.0002	0.018	0.011
	06/08/15	200.7/200.8	<0.005	0.24	<0.002	<0.006	<0.006	2.6	0.0032	**3.3**	<0.005	<0.005	<0.0002	0.02	0.015
	03/12/15	200.7/200.8	0.0057	0.17	<0.002	<0.006	<0.006	1.8	0.0017	**3.1**	0.0023	<0.005	<0.0002	0.022	<0.01
	11/18/14	200.7/200.8	0.0051	0.21	<0.002	<0.006	<0.006	2	0.0031	**3**	<0.01	<0.005	<0.0002	0.025	0.019
	09/18/14	200.7/200.8	0.0055	0.21	<0.002	<0.006	<0.006	1.8	0.0016	**3.3**	0.0019	<0.005	<0.0002	0.022	0.013
	06/16/14	200.7/200.8	0.0063	0.61	<0.002	0.013	0.012	10	**0.022**	**4.1**	0.0045	<0.005	<0.0002	0.027	0.036
MKTF-18	06/14/17	200.7/200.8	<0.005	**2.4**	<0.002	0.0048	0.0032	7	0.0088	**2.3**	0.0041	<0.005	<0.0002	NA	0.02
	03/01/17	200.7/200.8	0.003	**2.2**	<0.002	<0.006	<0.006	4.9	0.0047	**2.1**	0.0039	<0.005	0.00015	NA	0.012
	11/08/16	200.7/200.8	0.0033	1.7	<0.002	<0.006	<0.006	2.2	0.00041	1.8	0.0059	<0.005	<0.0002	0.0011	<0.01
	09/13/16	200.7/200.8	0.0033	1.8	<0.002	<0.006	<0.006	3.3	0.0013	2	0.0049	<0.005	0.000064	0.0013	0.0037
	06/10/16	200.7/200.8	0.0027	1.9	<0.002	<0.006	<0.006	2.5	0.0013	1.9	0.0057	<0.005	<0.0002	0.0012	<0.01
	02/26/16	200.7/200.8	0.0022	**2.3**	<0.002	0.0043	0.0057	6.4	0.0064	**2.1**	0.0019	<0.005	<0.0002	0.0016	0.02
	11/03/15	200.7/200.8	0.0088	**12**	<0.002	0.046	0.064	**58**	**0.14**	**11**	<0.01	<0.005	<0.001	0.015	0.19
	08/18/15	200.7/200.8	**0.018**	**24**	<0.01	**0.26**	0.21	**110**	**0.37**	**22**	<0.01	<0.005	0.00025	**0.037**	0.54
	06/08/15	200.7/200.8	<0.005	**2.5**	<0.002	<0.006	<0.006	5	<0.0025	1.8	<0.005	<0.005	<0.0002	<0.0025	<0.01
	03/17/15	200.7/200.8	0.0031	**3.5**	<0.002	0.012	0.011	**14**	**0.021**	**2.7**	<0.01	<0.005	<0.0002	0.0026	0.051
	11/18/14	200.7/200.8	0.0019	**2.5**	<0.002	<0.006	<0.006	4	0.0016	1.8	<0.01	<0.005	<0.0002	<0.001	0.02
	09/18/14	200.7/200.8	0.0015	**2.6**	<0.002	<0.006	<0.006	3.2	0.0028	2	0.0025	<0.005	<0.0002	0.0015	0.018
	06/06/14	200.7/200.8	**0.013**	**19**	<0.01	**0.11**	0.12	**81**	**0.29**	**17**	0.013	<0.025	<0.0002	0.022	0.31
MKTF-19	12/01/17	200.7/200.8	0.0077	**2**	<0.002	<0.006	0.0056	**14**	0.01	**2.3**	<0.01	<0.005	<0.0002	0.0016	0.011
	09/26/17	200.7/200.8	**0.015**	**2.4**	<0.002	0.012	0.015	**20**	**0.026**	**3.4**	0.0077	<0.005	0.000042	NA	0.062
	06/14/17	200.7/200.8	**0.014**	**2.2**	<0.002	0.0059	0.01	**17**	**0.022**	**3.3**	<0.01	<0.005	0.000045	NA	0.1
	03/15/17	200.7/200.8	**0.018**	**2.3**	<0.002	0.0075	0.018	**20**	**0.033**	**3.3**	0.012	<0.005	<0.0002	0.0071	0.1
	11/08/16	200.7/200.8	**0.013**	**2.2**	<0.002	0.0088	0.015	**33**	**0.033**	**2.6**	0.0087	<0.005	<0.0002	0.0059	0.07
	09/13/16	200.7/200.8	**0.015**	**2.1**	<0.002	0.0057	0.0083	**17**	**0.023**	**2.6**	0.0079	<0.005	0.000073	0.0043	0.065
	06/10/16	200.7/200.8	**0.016**	**2.6**	<0.002	0.0082	0.012	**19**	**0.038**	**3.3**	0.011	<0.005	<0.0002	0.0079	0.077
	02/25/16	200.7/200.8	**0.022**	**2.8**	<0.002	0.012	0.018	**23**	**0.069**	**3.9**	0.019	<0.005	<0.001	0.025	0.01
	11/03/15	200.7/200.8	**0.018**	**2.7**	<0.002	<0.006	<0.006	13	**0.046**	**3.4**	0.01	<0.005	<0.0002	0.0077	0.096
	08/18/15	200.7/200.8	**0.018**	**4.4**	<0.002	0.044	0.06	**64**	**0.14**	**6.3**	0.0062	<0.005	<0.0002	0.024	0.22
	06/08/15	200.7/200.8	**0.019**	**2.5**	<0.002	0.024	0.017	**28**	**0.035**	**4.2**	<0.005	<0.005	<0.0002	0.0048	0.082
	03/12/15	200.7/200.8	**0.017**	**2.7**	<0.002	0.022	0.026	**33**	**0.052**	**4.2**	<0.01	<0.005	<0.0002	0.0065	0.078
	11/18/14	200.7/200.8	**0.022**	**3.6**	<0.002	0.035	0.043	**47**	**0.079**	**5.6**	<0.01	<0.005	<0.0002	0.014	0.11

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-20	11/29/17	200.7/200.8	**0.025**	**9.3**	<0.002	<0.006	0.045	**15**	0.0086	**2.9**	0.0096	0.0018	NA	0.0025	0.06
	09/26/17	200.7/200.8	**0.026**	**7.6**	<0.002	0.0022	0.11	**19**	0.0083	**3.9**	0.033	<0.005	<0.0002	NA	0.35
	06/12/17	200.7/200.8	**0.022**	**7.5**	<0.002	<0.006	0.02	**17**	0.012	**4.1**	0.035	<0.005	<0.0002	NA	0.02
	03/14/17	200.7/200.8	**0.025**	**11**	<0.002	<0.006	0.036	**22**	0.013	**6.3**	0.018	NA	<0.0002	0.00085	0.097
	11/03/16	200.7/200.8	**0.029**	**9.3**	<0.002	<0.006	0.019	**22**	0.009	**8.9**	0.013	<0.005	<0.0002	0.0052	0.024
	09/12/16	200.7/200.8	**0.025**	**5.2**	<0.002	<0.006	0.022	**17**	0.0072	**4.4**	0.0092	<0.005	<0.0002	0.0044	0.033
	06/09/16	200.7/200.8	**0.038**	**4.6**	<0.002	<0.006	0.09	**17**	**0.019**	**5**	0.0093	<0.005	0.000077	0.02	0.085
	03/16/15	200.7/200.8	**0.025**	2	<0.002	<0.006	0.016	**11**	0.0066	**3.2**	0.0046	<0.005	<0.0002	0.011	0.03
	11/18/14	200.7/200.8	**0.017**	**4.5**	<0.002	0.022	0.12	**45**	**0.048**	**4.9**	<0.005	<0.005	<0.0002	0.0066	0.19
MKTF-21	11/28/17	200.7/200.8	**0.023**	**4.4**	<0.002	<0.006	0.0061	**21**	0.0013	**4.9**	0.0056	<0.005	NA	0.0047	0.07
	09/26/17	200.7/200.8	0.01	**2.8**	<0.002	<0.006	0.0032	7.9	0.001	**4**	0.0098	<0.005	<0.0002	NA	0.091
	06/21/17	200.7/200.8	**0.018**	**4.1**	<0.002	<0.006	0.01	**43**	0.0065	**6.9**	0.023	<0.005	<0.0002	0.0011	0.069
	03/14/17	200.7/200.8	**0.016**	**3.6**	<0.002	<0.006	0.0052	**29**	0.0035	**5.6**	0.0064	<0.005	<0.0002	0.0013	0.045
	11/03/16	200.7/200.8	**0.021**	**4.3**	<0.002	<0.006	<0.006	**33**	0.0033	**5.1**	0.0086	<0.005	<0.0002	0.0022	0.057
	09/12/16	200.7/200.8	**0.019**	**2.7**	<0.002	<0.006	0.0064	**24**	0.0031	**4.1**	0.0085	<0.005	0.000053	0.001	0.048
	06/10/15	200.7/200.8	Not enough water to collect samples												
	03/16/15	200.7/200.8	**0.02**	**4.9**	<0.002	0.029	0.1	**55**	**0.079**	**6.4**	<0.01	<0.005	<0.0002	0.0066	0.44
MKTF-22	11/28/17	200.7/200.8	<0.02	1.5	<0.002	<0.006	0.0043	7.9	**0.0048**	**2.6**	<0.005	0.0017	NA	0.0026	0.008
	10/03/17	200.7/200.8	0.0024	1.8	<0.002	0.017	0.017	**25**	**0.027**	**3**	0.0022	<0.005	<0.0002	NA	0.034
	06/08/17	200.7/200.8	0.0016	1.3	<0.002	0.0075	0.0061	10	0.01	**2.4**	0.0019	<0.005	0.000066	0.0033	0.015
	03/08/17	200.7/200.8	0.0041	2	<0.002	0.01	0.015	**17**	**0.029**	**3.3**	0.0067	<0.005	<0.0002	NA	0.032
	11/01/16	200.7/200.8	0.0044	1.7	<0.002	0.0062	0.0096	12	**0.033**	**3.1**	0.0047	<0.005	<0.0002	0.0041	0.02
	09/10/16	200.7/200.8	0.0032	1.3	<0.002	0.0051	<0.006	8.8	0.0072	**2.6**	0.0045	<0.005	<0.0002	0.004	0.011
	06/10/16	200.7/200.8	0.0025	**2.2**	<0.002	0.0062	<0.006	**17**	**0.022**	**3.7**	0.0039	<0.005	<0.0002	0.0047	0.033
	02/25/16	200.7/200.8	0.0023	2	<0.002	0.012	0.013	**20**	**0.035**	**3.4**	0.0025	<0.005	<0.0002	0.0039	0.039
	11/09/15	200.7/200.8	0.0036	1.4	<0.002	0.0099	0.019	**18**	**0.029**	**3.1**	<0.01	<0.005	<0.0002	0.0078	0.032
	08/20/15	200.7/200.8	0.0076	**5.6**	<0.002	**0.1**	0.15	**87**	**0.24**	**9.1**	0.0074	<0.005	<0.0002	**0.031**	0.21
	06/09/15	200.7/200.8	<0.005	**2.2**	<0.002	0.018	0.026	**27**	**0.048**	**3.6**	<0.005	<0.005	<0.0002	0.0053	0.057
	03/12/15	200.7/200.8	<0.01	**2.1**	<0.002	0.018	0.015	**21**	**0.035**	**3.5**	<0.01	<0.005	<0.0002	0.0047	0.038
	11/17/14	200.7/200.8	0.0028	1.1	<0.002	<0.006	<0.006	**15**	0.014	**3**	0.004	<0.005	<0.0002	0.0041	0.025
MKTF-23	06/10/16	200.7/200.8	**0.013**	0.8	<0.002	0.0029	<0.006	4.1	0.0094	1.7	0.0094	<0.005	<0.0002	0.0056	0.016
	02/25/16	200.7/200.8	0.0094	0.67	<0.002	<0.006	<0.006	3.8	0.0025	1.6	0.0035	<0.005	<0.0002	0.0027	0.0054
	11/10/15	200.7/200.8	**0.013**	0.66	<0.002	<0.006	<0.006	0.29	0.0009	1.4	<0.02	<0.005	<0.0002	**0.037**	<0.01
	08/21/15	200.7/200.8	**0.014**	0.9	<0.002	0.0062	0.008	5.4	0.0088	1.7	<0.005	<0.005	<0.0002	**0.032**	0.022
	06/09/15	200.7/200.8	**0.011**	0.83	<0.002	<0.006	0.012	5.4	0.0093	1.6	<0.005	<0.005	<0.0002	0.011	0.027
	03/12/15	200.7/200.8	**0.013**	0.64	<0.002	<0.006	<0.006	5.2	0.0035	1.8	0.01	<0.005	<0.0002	0.0062	0.011
	11/17/14	200.7/200.8	**0.011**	0.49	<0.002	<0.006	<0.006	6.2	0.005	1.6	0.0067	<0.005	<0.0002	0.016	0.035

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-24	11/20/17	200.7/200.8	0.0028	0.26	<0.002	<0.006	0.0048	1.4	0.0031	**2.1**	<0.005	0.0017	<0.0002	0.014	<0.01
	10/03/17	200.7/200.8	0.0039	0.42	<0.002	0.009	0.0084	8.3	0.011	1.8	0.0052	<0.005	<0.0002	NA	0.019
	06/05/17	200.7/200.8	0.0029	0.27	<0.002	0.0021	0.0035	1.9	0.0037	**2.1**	0.0053	<0.005	0.000045	0.017	0.0055
	03/29/17	200.7/200.8	0.006	1.4	<0.002	0.0028	0.037	**24**	**0.043**	**3.9**	0.01	<0.005	0.00013	0.03	0.061
	10/28/16	200.7/200.8	0.0025	0.28	<0.002	<0.006	<0.006	1.3	0.0043	1.8	0.0055	<0.005	<0.0002	0.02	0.0065
	09/07/16	200.7/200.8	0.0048	0.34	<0.002	<0.006	<0.006	3.9	0.0089	2	0.0075	<0.005	<0.0002	0.023	0.0085
	06/08/16	200.7/200.8	**0.026**	**15**	<0.01	**0.19**	0.23	**120**	**0.49**	**35**	0.029	<0.025	0.0006	**0.077**	0.38
	02/22/16	200.7/200.8	0.0028	0.51	<0.002	0.0059	0.0086	5.2	0.013	**2.3**	0.0028	<0.005	0.00013	0.024	0.018
	11/04/15	200.7/200.8	0.0059	0.87	<0.002	0.017	0.023	**16**	**0.025**	**2.7**	<0.05	<0.005	<0.0002	**0.034**	0.04
	08/20/15	200.7/200.8	0.0057	1.3	<0.002	0.025	0.037	**22**	**0.04**	**3.3**	0.0067	<0.005	<0.0002	**0.042**	0.06
	06/10/15	200.7/200.8	<0.005	0.58	<0.002	0.01	0.01	8.8	0.013	**2.1**	<0.005	<0.005	<0.0002	**0.038**	0.03
	03/11/15	200.7/200.8	<0.01	0.71	<0.002	0.014	0.019	12	**0.02**	**2.2**	<0.01	<0.005	<0.0002	**0.046**	0.031
	11/14/14	200.7/200.8	<0.005	0.48	<0.002	0.0098	0.015	6.9	0.012	1.9	<0.01	<0.005	<0.0002	**0.038**	0.026
MKTF-25	11/21/17	200.7/200.8	0.004	0.34	<0.002	0.0032	0.016	4.5	0.0053	**2.7**	<0.005	<0.005	<0.0002	0.026	0.0086
	09/25/17	200.7/200.8	0.0052	0.38	<0.002	0.0048	0.0098	4.1	0.0057	**2.8**	0.0061	<0.005	0.00004	NA	0.0086
	06/05/17	200.7/200.8	0.0047	0.28	<0.002	0.0052	0.008	4.8	0.007	**2.9**	0.0034	<0.005	0.000056	**0.032**	0.0084
	03/29/17	200.7/200.8	0.0059	0.58	<0.002	0.0091	0.019	8.7	**0.02**	**3.7**	0.005	<0.005	0.00007	0.028	0.021
	11/01/16	200.7/200.8	0.0047	0.39	<0.002	0.0075	0.021	3.2	0.005	**2.8**	0.0062	<0.005	<0.0002	**0.032**	0.0072
	09/09/16	200.7/200.8	0.0044	0.45	<0.002	<0.006	0.006	4.3	0.0063	**3.4**	0.0059	<0.005	0.000054	0.027	0.012
	06/09/16	200.7/200.8	0.0041	1.6	<0.002	0.013	0.034	**15**	**0.043**	**5.6**	0.007	<0.005	0.00013	**0.034**	0.038
	02/23/16	200.7/200.8	0.0028	0.31	<0.002	<0.006	<0.006	1.4	0.0028	**3.1**	0.0024	<0.005	0.000071	0.029	0.0048
	11/05/15	200.7/200.8	0.0049	0.81	<0.002	0.0075	0.019	7.9	**0.019**	**3.9**	0.0076	<0.005	<0.0002	**0.033**	0.021
	08/21/15	200.7/200.8	0.0039	0.49	<0.002	0.0065	0.016	5.2	0.0084	**3.7**	0.0038	<0.005	<0.0002	**0.033**	0.015
	06/10/15	200.7/200.8	<0.005	0.48	<0.002	<0.006	0.0083	5.7	0.0089	**3.7**	<0.005	<0.005	<0.0002	**0.033**	0.018
	03/11/15	200.7/200.8	0.0041	0.58	<0.002	0.0064	0.014	7.5	0.013	**3.9**	0.0058	<0.005	<0.0002	**0.038**	0.017
	11/14/14	200.7/200.8	<0.005	0.37	<0.002	<0.006	0.011	2.7	0.0074	**3.6**	<0.01	<0.005	<0.0002	0.03	0.013
MKTF-26	06/09/16	200.7/200.8	0.005	0.75	<0.002	0.011	0.028	**20**	0.03	1.6	0.0061	<0.005	0.00021	**0.099**	0.073
	02/22/16	200.7/200.8	0.0025	0.23	<0.002	0.0034	0.011	**64**	0.009	1.1	0.0029	<0.005	0.00014	**0.089**	0.029
	11/04/15	200.7/200.8	0.005	0.26	<0.002	<0.006	0.016	9.8	0.013	1.3	<0.05	<0.005	<0.0002	**0.059**	0.04
	08/20/15	200.7/200.8	0.0053	0.23	<0.002	<0.006	0.01	5.4	0.0067	1.4	0.0062	<0.005	<0.0002	**0.092**	0.022
	06/10/15	200.7/200.8	<0.005	0.18	<0.002	<0.006	<0.006	2.7	0.003	1.3	<0.005	<0.005	<0.0002	**0.054**	0.015
	03/11/15	200.7/200.8	0.004	0.2	<0.002	<0.006	<0.006	3.1	0.0029	1.3	0.0047	<0.005	<0.0002	**0.045**	0.012
	11/14/14	200.7/200.8	<0.005	0.15	<0.002	<0.006	<0.006	1.3	<0.005	1.4	<0.01	<0.005	<0.0002	**0.077**	0.014

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-27	11/20/17	200.7/200.8	0.003	0.19	<0.002	<0.006	0.0084	6.1	0.0057	0.92	<0.01	0.0021	<0.0002	**0.052**	0.017
	10/03/17	200.7/200.8	0.0048	0.1	<0.002	0.0019	0.0038	2.1	0.0024	0.4	0.013	<0.005	<0.0002	NA	0.013
	06/05/17	200.7/200.8	0.0042	0.15	<0.002	0.004	0.0029	4.8	0.0053	0.63	0.011	<0.005	0.000056	**0.07**	0.017
	03/29/17	200.7/200.8	**0.015**	0.26	<0.002	0.0054	<0.006	9.8	0.0096	1.5	0.022	<0.005	0.000071	**0.097**	0.032
	10/28/16	200.7/200.8	0.0028	0.089	<0.002	<0.006	<0.006	1.5	0.0022	0.24	0.0088	<0.005	<0.0002	**0.063**	0.029
	09/07/16	200.7/200.8	0.0035	0.12	<0.002	0.0035	<0.006	3.7	0.0051	0.58	0.01	<0.005	0.000062	**0.06**	0.017
	06/08/16	200.7/200.8	0.0042	0.21	<0.002	0.0053	<0.006	9.6	0.011	0.93	0.011	<0.005	0.000086	**0.059**	0.041
	02/22/16	200.7/200.8	0.0015	0.12	<0.002	0.0025	<0.006	3.6	0.0044	0.43	0.0034	<0.005	0.000095	**0.063**	0.02
	11/04/15	200.7/200.8	<0.005	0.15	<0.002	<0.006	<0.006	7.4	0.0073	0.93	<0.02	<0.005	<0.0002	**0.064**	0.029
	08/20/15	200.7/200.8	<0.005	0.18	<0.002	<0.006	<0.006	6.2	0.0064	0.7	0.0056	<0.005	<0.0002	**0.071**	0.027
	06/09/15	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	4.1	<0.005	0.58	<0.01	<0.005	<0.0002	**0.067**	0.023
	03/11/15	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	3.3	<0.01	0.27	<0.01	<0.005	<0.0002	**0.071**	0.014
	11/14/14	200.7/200.8	<0.005	0.13	<0.002	<0.006	<0.006	3.4	<0.005	0.5	<0.01	<0.005	<0.0002	**0.087**	0.024
MKTF-28	11/20/17	200.7/200.8	<0.01	0.054	<0.002	<0.006	<0.006	0.14	<0.0005	0.091	<0.01	<0.005	NA	**0.13**	0.0045
	10/03/17	200.7/200.8	0.0051	0.07	<0.002	<0.006	0.004	1.4	0.0015	0.11	0.011	<0.005	<0.0002	NA	0.008
	06/05/17	200.7/200.8	0.0048	0.076	<0.002	<0.006	0.0032	1.6	0.0016	0.078	0.012	<0.005	<0.0002	**0.16**	0.0057
	03/29/17	200.7/200.8	0.0089	0.36	<0.002	0.0093	0.013	**21**	**0.025**	0.89	0.014	<0.005	0.000088	**0.16**	0.079
	10/28/16	200.7/200.8	0.0044	0.13	<0.002	<0.006	0.0031	3.3	0.0056	0.18	0.013	<0.005	<0.001	**0.15**	0.015
	09/08/16	200.7/200.8	0.0056	0.26	<0.002	0.0067	0.0094	11	0.014	0.44	0.013	<0.005	0.00011	**0.14**	0.049
	06/08/16	200.7/200.8	0.0059	0.14	<0.002	<0.006	<0.006	4.7	0.0054	0.21	0.013	<0.005	<0.0002	**0.15**	0.018
	02/23/16	200.7/200.8	0.0032	0.14	<0.002	0.0028	<0.006	3.7	0.0047	0.18	0.0043	<0.005	0.000069	**0.16**	0.018
	11/04/15	200.7/200.8	<0.01	0.17	<0.002	<0.006	<0.006	7.4	0.0072	0.32	0.02	<0.005	<0.001	**0.14**	0.028
	08/20/15	200.7/200.8	<0.01	0.18	<0.002	<0.006	0.0077	4.8	0.005	0.2	<0.01	<0.005	<0.0002	**0.17**	0.02
	06/09/15	200.7/200.8	<0.01	0.19	<0.002	0.0064	<0.006	5.2	0.0051	0.2	<0.01	<0.005	<0.0002	**0.16**	0.022
	03/11/15	200.7/200.8	<0.01	0.14	<0.002	<0.006	<0.006	2.5	0.0028	0.097	0.013	<0.005	<0.0002	**0.17**	0.014
	11/14/14	200.7/200.8	0.0054	0.12	<0.002	<0.006	<0.006	2	<0.005	0.38	<0.05	<0.005	<0.0002	**0.11**	0.015
MKTF-29	11/20/17	200.7/200.8	0.0023	0.32	<0.002	<0.006	0.012	8	0.006	1.1	0.0023	<0.005	<0.0002	0.0094	0.016
	10/03/17	200.7/200.8	0.002	0.11	<0.002	0.0036	0.0048	2.9	0.0021	0.73	0.0027	<0.005	<0.0002	NA	0.0085
	06/05/17	200.7/200.8	0.0022	0.22	<0.002	0.0073	0.0075	5.5	0.0038	0.74	0.0033	<0.005	0.000057	0.012	0.011
	03/29/17	200.7/200.8	0.0019	0.1	<0.002	0.004	0.0034	2.8	0.0016	0.47	0.0022	<0.005	<0.0002	0.012	0.0059
	10/28/16	200.7/200.8	0.0018	0.1	<0.002	<0.006	0.0039	1.6	0.002	0.47	0.002	<0.005	<0.0002	0.013	0.005
	09/07/16	200.7/200.8	0.0018	0.13	<0.002	<0.006	0.0044	2.6	0.0028	0.52	0.0022	<0.005	0.000066	0.011	0.0084
	06/09/16	200.7/200.8	0.0013	0.076	<0.002	<0.006	<0.006	1.5	2	0.44	0.0017	<0.005	0.000076	0.012	0.013
	02/23/16	200.7/200.8	0.0013	0.062	<0.002	<0.006	<0.006	0.9	0.0007	0.51	0.001	<0.005	0.000061	0.014	0.0044
	11/04/15	200.7/200.8	0.002	0.089	<0.002	<0.006	<0.006	1.3	0.0011	0.61	<0.005	<0.005	<0.0002	0.017	<0.01
	08/20/15	200.7/200.8	0.0021	0.17	<0.002	<0.006	0.011	3.9	0.0028	0.6	0.0022	<0.005	<0.0002	0.02	0.016
	06/10/15	200.7/200.8	<0.005	0.1	<0.002	<0.006	<0.006	2.4	<0.0025	0.41	<0.005	<0.005	<0.0002	0.02	0.011
	03/11/15	200.7/200.8	0.002	0.057	<0.002	<0.006	<0.006	0.81	<0.001	0.36	0.0023	<0.005	<0.0002	0.023	<0.01

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-30	11/20/17	200.7/200.8	0.0025	0.081	<0.002	0.002	0.006	2.5	0.0021	0.21	<0.005	<0.005	<0.0002	**0.031**	0.021
	10/03/17	200.7/200.8	0.0023	0.18	<0.002	0.0075	0.0068	7.1	0.007	0.66	0.0036	<0.005	<0.0002	NA	0.018
	06/05/17	200.7/200.8	0.0024	0.26	<0.002	0.0077	0.006	8.5	0.007	0.38	0.0035	<0.005	0.00006	**0.044**	0.017
	03/29/17	200.7/200.8	0.0035	0.33	<0.002	0.0078	0.0043	7.9	0.0093	0.5	0.0073	<0.005	0.000042	**0.033**	<0.01
	10/28/16	200.7/200.8	0.0022	0.16	<0.002	0.0031	<0.006	3	0.0045	0.32	0.0065	<0.005	<0.0002	0.03	0.0088
	09/07/16	200.7/200.8	0.0024	0.074	<0.002	<0.006	<0.006	1.7	0.0039	0.18	0.0081	<0.005	0.000068	0.027	0.0063
	06/09/16	200.7/200.8	0.0033	0.83	<0.002	0.0098	0.0066	13	**0.022**	1.1	0.0069	<0.005	0.0001	**0.035**	0.039
	02/23/16	200.7/200.8	0.0017	0.12	<0.002	0.0032	<0.006	3.3	0.0041	0.18	0.0031	<0.005	0.000069	0.029	0.013
	11/04/15	200.7/200.8	<0.005	0.24	<0.002	<0.006	<0.006	7.1	0.0097	0.54	<0.02	<0.005	<0.0002	0.026	0.021
	08/20/15	200.7/200.8	<0.005	0.29	<0.002	0.011	0.0084	8.4	0.0094	0.55	<0.01	<0.005	<0.0002	**0.032**	0.024
	06/10/15	200.7/200.8	<0.005	0.28	<0.002	0.0067	<0.006	7.7	0.0089	0.57	<0.01	<0.005	<0.0002	**0.034**	0.024
	03/11/15	200.7/200.8	<0.005	0.29	<0.002	0.0072	<0.006	8.6	0.011	0.64	0.0079	<0.005	<0.0002	**0.044**	0.021
	11/17/14	200.7/200.8	<0.005	0.26	<0.002	0.007	<0.006	8	0.009	0.72	0.01	<0.005	<0.0002	**0.039**	0.029
MKTF-31	11/21/17	200.7/200.8	0.0021	0.14	<0.002	<0.006	0.0044	2	0.0018	0.083	<0.005	0.0018	<0.0002	**0.039**	<0.01
	09/25/17	200.7/200.8	0.0025	0.17	<0.002	0.0023	<0.006	1.3	0.0023	0.14	0.0081	<0.005	<0.0002	NA	0.0043
	06/05/17	200.7/200.8	0.0026	0.16	<0.002	0.0019	<0.006	1.3	0.0014	0.053	0.0069	<0.005	0.000059	**0.051**	0.0052
	03/07/17	200.7/200.8	0.0049	0.25	<0.002	0.0027	<0.006	3.8	0.005	0.19	0.011	<0.005	<0.0002	NA	0.013
	10/31/16	200.7/200.8	0.0026	0.18	<0.002	<0.006	<0.006	1.5	0.0031	0.11	0.0064	<0.005	<0.0002	**0.041**	0.0098
	09/08/16	200.7/200.8	0.0029	0.2	<0.002	<0.006	0.0065	1.7	0.0043	0.17	<0.05	<0.005	0.00009	**0.044**	0.013
	06/09/16	200.7/200.8	0.0022	0.33	<0.002	0.0051	<0.006	4.8	0.0084	0.34	0.0076	<0.005	0.000082	**0.046**	0.017
	02/23/16	200.7/200.8	<0.005	0.18	<0.002	0.0023	<0.006	2.5	0.0036	0.13	0.0026	<0.005	0.000068	**0.045**	0.011
	11/04/15	200.7/200.8	<0.005	0.26	<0.002	<0.006	<0.006	4	0.0064	0.25	<0.02	<0.005	<0.0002	**0.041**	0.015
	08/21/15	200.7/200.8	<0.01	0.19	<0.002	<0.006	<0.006	3.1	0.0032	0.13	0.0046	<0.005	<0.0002	**0.049**	<0.01
	06/10/15	200.7/200.8	<0.005	0.17	<0.002	<0.006	<0.006	2.9	0.0029	0.11	<0.005	<0.005	<0.0002	**0.049**	0.011
	03/11/15	200.7/200.8	<0.01	0.2	<0.002	<0.006	<0.006	2.2	<0.01	0.12	<0.01	<0.005	<0.0002	**0.056**	<0.01
	11/17/14	200.7/200.8	<0.005	0.22	<0.002	<0.006	<0.006	2.9	0.0041	0.24	0.008	<0.005	<0.0002	**0.05**	0.017
MKTF-32	11/27/17	200.7/200.8	<0.005	0.067	<0.002	<0.006	0.0042	0.75	<0.0025	0.079	<0.005	<0.005	<0.0002	**0.058**	<0.01
	09/25/17	200.7/200.8	0.0035	0.1	<0.002	0.0035	<0.006	2.2	0.0021	0.15	0.0045	0.0013	0.000069	NA	<0.01
	06/06/17	200.7/200.8	0.0046	0.22	<0.002	0.0064	0.011	6.4	0.0055	0.23	0.0063	<0.005	0.000068	**0.065**	0.024
	03/07/17	200.7/200.8	0.0046	0.055	<0.002	<0.006	<0.006	0.51	0.00083	0.08	0.0091	<0.005	<0.0002	NA	0.003
	10/31/16	200.7/200.8	0.0044	0.1	<0.002	0.0028	0.0042	3	0.0033	0.13	0.006	<0.005	<0.0002	**0.059**	0.012
	09/09/16	200.7/200.8	0.0047	0.086	<0.002	<0.006	0.013	1.8	0.0023	0.12	0.0069	<0.005	<0.0002	**0.058**	0.016
	06/09/16	200.7/200.8	0.0042	0.35	<0.002	0.0072	<0.006	7	0.01	0.4	0.0072	<0.005	0.00012	**0.066**	0.036
	02/24/16	200.7/200.8	0.0034	0.097	<0.002	<0.006	<0.006	2	0.0028	0.13	0.0031	<0.005	<0.0002	**0.062**	0.013
	11/05/15	200.7/200.8	0.0052	0.16	<0.002	<0.006	<0.006	3.2	0.0046	0.22	0.0083	<0.005	<0.0002	**0.061**	0.015
	08/21/15	200.7/200.8	0.0037	0.24	<0.002	0.0072	<0.006	6.1	0.0072	0.3	<0.01	<0.005	<0.0002	**0.073**	0.029
	06/09/15	200.7/200.8	<0.005	0.24	<0.002	<0.006	0.018	5.7	0.0063	0.31	<0.005	<0.005	<0.0002	**0.066**	0.034
	03/12/15	200.7/200.8	<0.01	0.085	<0.002	<0.006	<0.006	1.6	0.0018	0.12	0.01	<0.005	<0.0002	**0.067**	<0.01
	11/17/14	200.7/200.8	<0.005	0.091	<0.002	<0.006	<0.006	2	0.0027	0.23	<0.01	<0.005	<0.0002	**0.067**	0.014

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-33	11/28/17	200.7/200.8	<0.02	0.18	<0.002	<0.006	0.0045	3	0.0036	0.39	0.0011	<0.005	NA	**0.033**	0.0095
	09/25/17	200.7/200.8	<0.005	0.22	<0.002	0.0058	<0.006	4.4	0.0046	0.6	<0.005	<0.005	<0.0002	NA	0.012
	06/08/17	200.7/200.8	0.002	0.49	<0.002	0.01	0.0062	9.8	0.013	0.83	0.003	<0.005	0.000081	**0.037**	0.028
	03/08/17	200.7/200.8	0.0024	0.13	<0.002	<0.006	<0.006	3.6	0.0027	0.41	0.0054	<0.005	<0.0002	NA	0.0067
	11/01/16	200.7/200.8	0.0021	0.11	<0.002	<0.006	<0.006	3.1	0.0025	0.25	0.0024	<0.005	<0.0002	**0.034**	0.006
	09/10/16	200.7/200.8	<0.005	0.091	<0.002	<0.006	<0.006	1.6	0.0027	0.31	0.0031	<0.005	<0.0002	**0.036**	0.0075
	06/10/16	200.7/200.8	0.0019	0.33	<0.002	0.0075	<0.006	6.2	0.0098	0.96	0.0038	<0.005	0.000056	**0.04**	0.028
	02/25/16	200.7/200.8	0.0012	1.3	<0.002	0.015	0.022	**18**	0.0067	**2.7**	0.0016	<0.005	<0.0002	**0.04**	0.016
	11/09/15	200.7/200.8	0.0036	1.3	<0.002	0.015	0.022	**18**	**0.036**	**2.7**	<0.005	<0.005	<0.0002	**0.045**	0.065
	08/21/15	200.7/200.8	0.002	0.74	<0.002	0.015	0.01	**14**	**0.022**	1.6	0.0019	<0.005	<0.0002	**0.049**	0.048
	06/09/15	200.7/200.8	<0.005	0.26	<0.002	<0.006	<0.006	4.1	0.0058	0.7	<0.005	<0.005	<0.0002	**0.044**	0.02
	03/12/15	200.7/200.8	<0.005	0.25	<0.002	0.0062	<0.006	3.7	0.0059	0.68	0.0041	<0.005	<0.0002	**0.045**	0.014
	11/17/14	200.7/200.8	0.0016	0.18	<0.002	<0.006	<0.006	3.3	0.005	0.92	0.0031	<0.005	<0.0002	**0.043**	0.018
MKTF-34	12/01/17	200.7/200.8	0.0016	0.093	<0.002	<0.006	<0.006	2.2	0.0022	0.039	0.0063	<0.005	0.000041	**0.038**	0.012
	09/26/17	200.7/200.8	0.004	0.12	<0.002	0.0032	0.0033	3.8	0.0018	0.086	0.012	<0.005	0.00012	NA	0.032
	06/14/17	200.7/200.8	0.0019	0.099	<0.002	0.0016	<0.006	1.6	0.0017	0.037	0.011	<0.005	0.00005	NA	0.015
	03/01/17	200.7/200.8	0.0034	0.11	<0.002	<0.006	<0.006	1.8	0.002	0.049	0.011	NA	0.00018	NA	0.018
	11/08/16	200.7/200.8	0.0026	0.085	<0.002	<0.006	<0.006	0.66	0.00087	0.017	0.011	<0.005	0.00024	**0.038**	0.0074
	09/13/16	200.7/200.8	0.0044	0.12	<0.002	<0.006	<0.006	0.62	0.0008	0.014	0.011	<0.005	0.00015	**0.034**	0.0078
	06/10/16	200.7/200.8	0.0047	0.15	<0.002	<0.006	<0.006	2.3	0.0026	0.054	0.014	<0.005	<0.0002	**0.032**	0.024
	02/25/16	200.7/200.8	0.003	0.15	<0.002	<0.006	<0.006	1.6	0.0016	0.044	0.0067	<0.005	<0.0002	**0.032**	0.023
	11/03/15	200.7/200.8	<0.005	0.15	<0.002	<0.006	<0.006	1	0.0012	0.03	<0.02	<0.005	<0.0002	0.027	0.012
	08/18/15	200.7/200.8	<0.005	0.17	<0.002	<0.006	<0.006	2.4	0.0027	0.074	0.0086	<0.005	<0.0002	**0.031**	0.03
	06/08/15	200.7/200.8	<0.005	0.2	<0.002	<0.006	<0.006	2.3	<0.0025	0.066	<0.01	<0.005	<0.0002	0.028	0.024
	03/12/15	200.7/200.8	<0.01	0.25	<0.002	<0.006	<0.006	5.2	0.0045	0.15	0.013	<0.005	<0.0002	0.028	0.059
	11/17/14	200.7/200.8	<0.01	0.17	<0.002	<0.006	<0.006	2.4	0.0014	0.075	<0.02	<0.005	<0.0002	0.026	0.037
MKTF-35	11/30/17	200.7/200.8	0.00075	1.6	<0.002	<0.006	<0.006	6.9	0.005	**3.6**	<0.005	0.0018	0.00004	0.0028	<0.01
	09/27/17	200.7/200.8	0.0035	**5.2**	<0.002	0.014	0.013	**14**	**0.017**	**5**	0.0057	<0.005	0.000054	NA	0.027
	06/14/17	200.7/200.8	0.0023	**3.9**	<0.002	0.0088	0.0097	11	0.013	**4.4**	0.0075	<0.005	0.000045	NA	0.022
	03/01/17	200.7/200.8	0.0021	1.9	<0.002	0.0055	<0.006	8.6	0.0087	**4.3**	0.0029	<0.005	0.00015	NA	0.016
	11/03/16	200.7/200.8	0.0035	1.2	<0.002	0.011	0.012	**22**	**0.019**	**5.5**	0.0024	<0.005	0.00011	0.0039	0.039
	09/13/16	200.7/200.8	0.0024	**2.3**	<0.002	0.0045	0.0044	8.6	0.012	**3.8**	0.002	<0.005	0.000091	0.0021	0.017
	06/10/16	200.7/200.8	0.00093	0.89	<0.002	0.0023	<0.006	4.5	0.0049	**3.3**	0.0013	<0.005	<0.0002	0.002	0.0074
	02/26/16	200.7/200.8	0.0018	**3.3**	<0.002	0.0087	<0.006	9.1	0.013	**4.1**	0.00075	<0.005	<0.0002	0.0029	0.026
	11/03/15	200.7/200.8	0.0023	**2.3**	<0.002	<0.006	<0.006	7.5	0.011	**4.5**	<0.005	<0.005	<0.0002	0.0029	0.017
	08/18/15	200.7/200.8	0.0038	**8.7**	<0.002	0.016	0.02	**17**	**0.034**	**6.5**	<0.005	<0.005	<0.0002	0.0054	0.051
	06/04/15	200.7/200.8	<0.005	**5**	<0.002	0.018	0.013	13	**0.023**	**6.4**	<0.005	<0.005	<0.0002	0.0044	0.032
	03/17/15	200.7/200.8	0.004	**8.2**	<0.002	0.013	0.025	**15**	**0.034**	**6.3**	<0.005	<0.005	<0.0002	0.0053	0.062

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-36	11/30/17	200.7/200.8	0.0097	**6.6**	<0.002	<0.006	<0.006	**17**	0.0055	1.7	<0.01	<0.005	<0.0002	<0.005	0.052
	09/27/17	200.7/200.8	**0.018**	**5.3**	<0.002	0.0053	0.012	**20**	**0.018**	2	0.0035	<0.005	0.000047	NA	0.15
	06/14/17	200.7/200.8	**0.012**	**4.7**	<0.002	<0.006	<0.006	**16**	0.0084	1.9	0.0044	<0.005	<0.0002	NA	0.076
	03/01/17	200.7/200.8	**0.013**	**5.8**	<0.002	<0.006	<0.006	**17**	0.0092	**2.1**	0.0032	<0.005	0.00015	NA	0.066
	11/08/16	200.7/200.8	**0.018**	**6.6**	<0.002	<0.006	0.0068	**18**	0.01	1.9	0.0045	<0.005	<0.0002	0.00085	0.16
	08/18/15	200.7/200.8	**0.016**	**5.7**	<0.002	<0.006	<0.006	**21**	**0.017**	**2.7**	<0.005	<0.005	<0.0002	0.0011	0.018
	06/04/15	200.7/200.8	**0.017**	**6.8**	<0.002	0.0096	0.0078	**22**	**0.016**	**2.8**	<0.005	<0.005	<0.0002	<0.0025	0.023
	03/17/15	200.7/200.8	**0.016**	**7**	<0.002	<0.006	<0.006	**22**	0.015	**2.8**	0.0057	<0.005	<0.0002	0.0016	0.028
MKTF-37	03/01/17	200.7/200.8	0.004	1.3	<0.002	<0.006	0.0038	11	**0.027**	1.5	0.0034	<0.005	0.00019	NA	0.027
	11/03/16	200.7/200.8	0.0034	0.69	<0.002	<0.006	0.005	2.2	0.0046	0.55	0.0036	<0.005	<0.0002	0.025	0.015
	08/19/15	200.7/200.9	0.0031	0.24	<0.002	<0.006	0.0092	5.7	**0.024**	1.7	<0.005	<0.005	<0.0002	0.02	0.074
	06/04/15	200.7/200.8	<0.005	0.23	<0.002	0.0063	0.0097	4.8	**0.036**	**2.6**	<0.005	<0.005	<0.0002	0.024	0.044
	03/17/15	200.7/200.8	0.0032	0.23	<0.002	<0.006	0.012	5.1	**0.03**	**2.9**	0.0036	<0.005	<0.0002	0.026	0.14
MKTF-38	11/30/17	200.7/200.8	0.00069	0.1	<0.002	<0.006	<0.006	1.7	0.0019	1.9	0.003	0.0021	<0.0002	0.027	<0.01
	09/28/17	200.7/200.8	0.0025	0.21	<0.002	0.005	0.0064	3.5	0.0039	**2.3**	0.0047	<0.005	<0.0002	NA	0.01
	06/21/17	200.7/200.8	0.0023	0.36	<0.002	0.0056	0.0067	6.6	0.0077	**2.7**	0.0032	<0.005	0.000041	0.026	0.019
	03/14/17	200.7/200.8	0.0022	0.31	<0.002	<0.006	0.0031	5.8	0.0072	**2.9**	0.0041	<0.005	<0.0002	0.017	0.018
	11/01/16	200.7/200.8	0.0022	0.12	<0.002	<0.006	<0.006	1.7	0.0033	**3.3**	0.0035	<0.005	<0.0002	0.014	0.0069
	09/13/16	200.7/200.8	0.0025	0.075	<0.002	<0.006	<0.006	0.61	0.001	**3**	0.0047	<0.005	0.000065	0.014	0.0057
	06/08/16	200.7/200.8	0.0022	0.23	<0.002	<0.006	<0.006	3	0.0035	**3.8**	0.0051	<0.005	<0.0002	0.014	0.025
	02/29/16	200.7/200.8	0.0017	0.14	<0.002	<0.006	<0.006	2.3	0.0035	**2.7**	0.0024	<0.005	<0.0002	0.014	0.014
	11/09/15	200.7/200.8	0.005	0.93	<0.002	0.0096	0.0093	11	**0.02**	**4.2**	<0.1	<0.005	<0.0002	0.02	0.035
	08/24/15	200.7/200.8	0.0028	0.49	<0.002	0.0062	0.0077	7.2	0.0096	**3.9**	0.0038	<0.005	<0.0002	0.019	0.025
	06/10/15	200.7/200.8	<0.005	0.43	<0.002	0.006	<0.006	6.4	0.008	**3.7**	<0.005	<0.005	<0.0002	0.022	0.022
	03/16/15	200.7/200.8	0.0031	0.34	<0.002	<0.006	<0.006	3.5	0.006	**3.1**	0.0058	<0.005	<0.0002	0.029	0.014
MKTF-39	11/28/17	200.7/200.8	0.0072	**13**	<0.002	<0.006	0.0066	13	0.0039	1.9	0.0061	0.0019	NA	<0.0025	0.0064
	09/28/17	200.7/200.8	0.0046	**35**	<0.002	<0.006	0.0021	**34**	0.0026	**5.5**	0.016	<0.005	<0.0002	NA	0.0065
	06/08/17	200.7/200.8	0.0042	**6.7**	<0.002	0.0043	0.0085	12	0.011	1.4	0.0098	<0.005	0.0001	0.00067	0.02
	03/14/17	200.7/200.8	0.0058	**6.4**	<0.002	0.004	0.0089	11	0.012	1.4	<0.05	<0.005	0.000067	0.0011	0.022
	11/01/16	200.7/200.8	0.0037	**6.1**	<0.002	<0.006	<0.006	8.7	0.0046	1.3	0.0084	<0.005	<0.0002	<0.0025	0.0093
	09/13/16	200.7/200.8	0.0047	**9.7**	<0.002	<0.006	<0.006	12	0.0074	1.8	0.012	<0.005	0.000074	0.00048	0.014
	06/08/16	200.7/200.8	0.0024	**8.5**	<0.002	<0.006	<0.006	12	0.012	1.8	0.0069	<0.005	0.000061	0.00092	0.028
	03/03/16	200.7/200.8	<0.01	**11**	<0.002	<0.006	<0.006	13	0.01	1.9	0.0071	<0.005	<0.0002	0.00068	0.011
	11/09/15	200.7/200.8	0.0056	**33**	<0.002	0.0088	0.037	**45**	**0.049**	**5.2**	<0.05	<0.005	0.00028	0.0038	0.076
	08/23/15	200.7/200.8	<0.005	**49**	<0.002	<0.006	0.019	**57**	**0.034**	**6.8**	<0.01	<0.005	0.00027	0.0035	0.062
	06/10/15	200.7/200.8	<0.005	**58**	<0.002	<0.006	<0.06	**59**	**0.031**	**8**	<0.005	<0.005	<0.0002	0.0029	0.042
	03/16/15	200.7/200.8	<0.01	**35**	<0.01	<0.03	<0.03	**50**	**0.034**	**8.6**	<0.01	<0.025	0.00021	0.012	0.059

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-40	11/21/17	200.7/200.8	<0.005	0.16	<0.002	<0.006	0.0074	4	0.0042	0.18	<0.005	0.0047	<0.0002	**0.053**	0.0085
	09/25/17	200.7/200.8	0.0022	0.14	<0.002	<0.006	<0.006	2.5	0.0028	0.21	0.0071	<0.005	<0.0002	NA	0.0081
	06/05/17	200.7/200.8	0.0038	0.15	<0.002	0.0018	<0.006	3.7	0.0052	0.13	0.0089	<0.005	0.000066	**0.063**	0.013
	03/07/17	200.7/200.8	0.0047	0.22	<0.002	<0.006	<0.006	5.3	0.0081	0.2	0.012	<0.005	<0.0002	NA	0.018
	10/31/16	200.7/200.8	0.0041	0.21	<0.002	0.0028	<0.006	5.3	0.0084	0.26	0.0082	<0.005	0.000055	**0.06**	0.019
	09/08/16	200.7/200.8	0.0045	0.31	<0.002	0.0053	0.0057	10	**0.029**	0.49	0.013	<0.005	0.00012	**0.059**	0.043
	06/09/16	200.7/200.8	0.0031	0.32	<0.002	<0.006	<0.006	5.5	0.0087	0.31	0.0095	<0.005	0.000096	**0.058**	0.022
	02/23/16	200.7/200.8	<0.005	0.14	<0.002	<0.006	<0.006	2	0.0026	0.17	0.0031	<0.005	0.000068	**0.064**	0.0099
	11/04/15	200.7/200.8	<0.005	0.26	<0.002	<0.006	<0.006	5.5	0.0066	0.32	<0.02	<0.005	<0.0002	**0.06**	0.024
	08/21/15	200.7/200.8	<0.01	0.19	<0.002	<0.006	<0.006	3.4	<0.005	0.24	<0.01	<0.005	<0.0002	**0.081**	0.016
	06/10/15	200.7/200.8	<0.005	0.24	<0.002	<0.006	<0.006	4	0.0052	0.21	<0.01	<0.005	<0.0002	**0.075**	0.021
	03/11/15	200.7/200.8	<0.01	0.28	<0.002	<0.006	<0.006	5.6	<0.01	0.34	0.015	<0.005	<0.0002	**0.085**	0.023
MKTF-41	11/27/17	200.7/200.8	<0.01	0.088	<0.002	<0.006	<0.006	1.3	0.0016	0.05	0.037	<0.005	<0.0002	0.015	<0.01
	09/25/17	200.7/200.8	0.0053	0.092	<0.002	0.0022	<0.006	0.99	0.001	0.031	0.044	<0.005	0.000074	NA	<0.01
	06/06/17	200.7/200.8	0.0063	0.14	<0.002	0.0038	0.004	4.6	0.0048	0.16	0.044	<0.005	0.000049	0.02	0.015
	03/07/17	200.7/200.8	0.0081	0.12	<0.002	<0.006	<0.006	2.1	0.0032	0.1	0.047	<0.005	<0.0002	NA	0.0084
	10/31/16	200.7/200.8	0.0064	0.094	<0.002	<0.006	<0.006	1.8	0.0029	0.088	0.045	<0.005	<0.0002	0.017	0.011
	09/09/16	200.7/200.8	0.0061	0.12	<0.002	0.003	0.0031	2.5	0.0037	0.12	0.045	<0.005	<0.0002	0.015	0.018
	06/09/16	200.7/200.8	0.0067	0.25	<0.002	0.0043	<0.006	7.3	0.01	0.3	0.046	<0.005	0.000094	0.021	0.029
	02/24/16	200.7/200.8	0.0049	0.12	<0.002	0.0027	<0.006	2.4	0.0035	0.12	0.044	<0.005	<0.0002	0.022	0.013
	11/05/15	200.7/200.8	<0.01	0.17	<0.002	<0.006	<0.006	4.3	0.0056	0.17	**0.052**	<0.005	<0.0002	0.025	0.019
	08/21/15	200.7/200.8	<0.01	0.27	<0.002	0.0063	<0.006	9	0.012	0.35	0.044	<0.005	<0.0002	0.029	0.034
	06/09/15	200.7/200.8	<0.005	0.16	<0.006	<0.006	<0.006	4.1	0.006	0.15	0.047	<0.005	<0.0002	**0.031**	0.016
	03/12/15	200.7/200.8	<0.01	0.19	<0.002	0.0075	<0.006	8.4	0.0061	0.22	**0.059**	<0.005	<0.0002	**0.034**	0.024
MKTF-42	11/27/17	200.7/200.8	0.0025	0.071	<0.002	<0.006	<0.006	0.44	<0.0025	0.21	<0.005	<0.005	<0.0002	0.011	<0.01
	09/25/17	200.7/200.8	0.0032	0.061	<0.002	<0.006	<0.006	0.22	0.00023	0.2	0.0068	<0.012	0.000048	NA	<0.01
	06/06/17	200.7/200.8	0.0029	0.082	<0.002	<0.006	0.0044	0.92	0.0014	0.25	0.0054	<0.005	0.000057	0.012	0.0029
	03/07/17	200.7/200.8	0.0089	0.11	<0.002	<0.006	0.005	1.2	0.0023	0.26	0.012	<0.005	<0.0002	NA	0.006
	10/31/16	200.7/200.8	0.0047	0.11	<0.002	<0.006	0.0052	1.3	0.0028	0.31	0.0095	<0.005	<0.0002	0.014	0.0078
	09/09/16	200.7/200.8	0.0042	0.11	<0.002	<0.006	0.0054	0.8	0.0018	0.32	0.011	<0.005	<0.0002	0.017	0.0074
	06/09/16	200.7/200.8	0.0038	0.12	<0.002	<0.006	<0.006	1.6	0.0032	0.43	0.0086	<0.005	0.000097	0.021	0.013
	02/24/16	200.7/200.8	0.0026	0.092	<0.002	<0.006	0.01	0.89	0.0015	0.41	0.0035	<0.005	<0.0002	0.023	0.0061
	11/05/15	200.7/200.8	<0.01	0.076	<0.002	<0.006	<0.006	0.49	0.00077	0.39	0.011	<0.005	<0.0002	0.027	<0.01
	08/21/15	200.7/200.8	<0.005	0.097	<0.002	<0.006	<0.006	0.75	0.0012	0.36	0.0045	<0.005	<0.0002	**0.032**	0.014
	06/09/15	200.7/200.8	<0.005	0.13	<0.002	<0.006	0.011	1.6	<0.0025	0.6	<0.005	<0.005	<0.0002	**0.036**	0.016
	03/11/15	200.7/200.8	0.0035	0.16	<0.002	<0.006	0.0071	2.5	0.0034	0.58	0.0075	<0.005	<0.0002	**0.039**	0.012

8.17.2 MKTF WELLS

Total Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Silver (mg/L)	Mercury (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	1	0.01	**0.05**	**1**	1	0.05	0.2	**0.05**	**0.05**	**0.002**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	**2**	**0.005**	0.1	1.3	NE	**0.015**	NE	0.05	NE	0.002	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	**13.8**	NE	**2.02**	0.0987	0.0812	0.00626	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.1	0.094	0.00063	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**													
MKTF-43	11/27/17	200.7/200.8	<0.01	0.13	<0.002	<0.006	0.011	2.4	0.0026	**6.8**	<0.05	0.022	<0.0002	**0.13**	<0.01
	09/25/17	200.7/200.8	**0.016**	0.1	<0.002	<0.006	<0.006	1.4	0.0015	**8.4**	0.045	<0.005	<0.0002	NA	<0.01
	06/06/17	200.7/200.8	**0.013**	0.16	<0.002	<0.006	<0.006	4.1	0.0048	**7.1**	0.043	<0.005	<0.0002	**0.16**	0.014
	03/08/17	200.7/200.8	**0.033**	0.12	<0.01	<0.03	<0.03	2.6	<0.025	**11**	**0.082**	<0.005	<0.0002	NA	0.016
	10/31/16	200.7/200.8	**0.03**	0.18	<0.002	<0.006	<0.006	2.2	<0.025	**18**	**0.084**	<0.005	<0.0002	**0.19**	0.032
	09/09/16	200.7/200.8	**0.022**	0.17	<0.002	<0.006	<0.006	3.6	0.0041	**21**	**0.065**	<0.005	<0.0002	**0.21**	0.032
	06/09/16	200.7/200.8	<0.1	0.24	<0.002	<0.006	<0.006	7.9	0.0098	**19**	<0.1	<0.005	0.00013	**0.26**	0.027
	02/24/16	200.7/200.8	<0.05	0.13	<0.01	<0.03	<0.03	2.4	0.0038	**12**	0.03	<0.005	<0.0002	**0.22**	0.022
	11/05/15	200.7/200.8	<0.05	0.19	<0.002	<0.006	<0.006	4.8	<0.01	**16**	<0.5	<0.005	<0.0002	**0.25**	0.021
	08/21/15	200./200.8	<0.02	0.31	<0.01	<0.03	<0.03	6.6	<0.01	**23**	**0.06**	<0.025	<0.0002	**0.28**	0.056
	06/10/15	200.7/200.8	<0.1	0.2	<0.002	<0.006	<0.006	4.8	<0.01	**14**	<0.1	<0.005	<0.0002	**0.25**	0.024
	03/11/15	200.7/200.8	<0.05	0.24	<0.01	0.031	<0.03	3.2	<0.02	**3.7**	**0.071**	<0.005	<0.0002	**0.14**	<0.05
MKTF-44	11/28/17	200.7/200.8	<0.05	0.13	<0.002	0.0098	0.0052	6.5	0.0054	0.092	0.0089	<0.005	NA	**0.15**	0.02
	09/25/17	200.7/200.8	0.0033	0.16	<0.002	0.013	<0.006	<0.02	<0.0005	0.00064	0.012	<0.005	<0.0002	NA	0.011
	06/05/17	200.7/200.8	0.0039	0.21	<0.002	0.016	0.0031	4.1	0.0052	0.14	0.011	<0.005	0.000058	**0.13**	0.014
	03/08/17	200.7/200.8	**0.012**	0.97	<0.002	0.038	<0.006	3.1	0.0042	0.08	0.025	<0.005	<0.0002	NA	0.013
	11/01/16	200.7/200.8	**0.011**	0.2	<0.002	0.022	0.015	**18**	**0.024**	0.38	0.013	<0.005	0.000083	**0.18**	0.074
	09/09/16	200.7/200.8	0.0086	0.26	<0.002	0.031	0.019	**33**	**0.031**	0.53	0.014	<0.005	0.0001	**0.17**	0.089
	06/09/16	200.7/200.8	0.0045	0.25	<0.002	0.016	<0.006	7.1	0.0092	0.28	0.013	<0.005	0.000089	**0.17**	0.03
	02/24/16	200.7/200.8	0.0061	0.1	<0.002	0.0098	<0.006	2.9	0.0037	0.056	0.016	<0.005	<0.0002	**0.18**	0.013
	11/09/15	200.7/200.8	0.0078	0.15	<0.002	0.012	0.008	9.9	0.013	0.29	<0.01	<0.005	<0.0002	**0.2**	0.037
	08/17/15	200.7/200.8	<0.01	0.43	<0.002	0.031	0.016	**26**	**0.034**	0.92	0.015	<0.005	<0.0002	**0.24**	0.1
	06/10/15	200.7/200.8	<0.01	0.18	<0.002	0.017	<0.006	11	0.014	0.26	0.014	<0.005	<0.0002	**0.21**	0.052
	03/12/15	200.7/200.8	<0.01	0.22	<0.002	0.023	0.0079	**16**	**0.016**	0.34	0.015	<0.005	<0.0002	**0.22**	0.056

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			PARAMETERS										
			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-1	02/24/16	200.7/200.8	0.0018	**3.2**	<0.002	<0.006	<0.006	**5.2**	<0.0025	**2.1**	<0.005	0.0046	0.00017	0.077
	11/04/15	200.7/200.8	<0.005	**2.7**	<0.002	<0.006	<0.006	**4.7**	<0.0005	**1.9**	<0.005	0.0072	<0.0005	<0.01
	08/21/15	200.7/200.8	<0.005	**2.4**	<0.002	<0.006	<0.006	**4**	<0.0025	**1.9**	<0.005	<0.005	<0.025	<0.01
	06/09/15	200.7/200.8	<0.005	**2.3**	<0.002	<0.006	<0.006	**4.7**	<0.005	**2.1**	<0.005	0.0056	<0.005	<0.01
	03/11/15	200.7/200.8	<0.01	**2**	<0.002	<0.006	<0.006	**4.4**	<0.001	**1.9**	<0.005	<0.02	<0.001	<0.01
	06/06/14	200.7/200.8	<0.005	**1.4**	<0.002	<0.006	<0.006	**4.7**	<0.005	**1.7**	<0.005	0.013	<0.01	0.028
MKTF-2	11/20/17	200.7/200.8	0.0028	0.28	<0.002	<0.006	<0.006	0.03	0.00035	**0.56**	<0.005	<0.005	**0.036**	0.0037
	10/03/17	200.7/200.8	0.0058	0.33	<0.002	<0.006	<0.006	**1.5**	0.00018	**0.92**	<0.005	0.0081	NA	0.034
	03/16/17	200.7/200.8	0.0016	0.31	<0.002	<0.006	<0.006	0.089	0.00025	**0.67**	<0.005	0.0029	0.024	0.015
	10/28/16	200.7/200.8	0.003	0.19	<0.002	<0.006	<0.006	0.036	0.00059	**0.47**	<0.005	0.0064	0.024	<0.01
	09/07/16	200.7/200.8	0.0029	0.16	<0.002	<0.006	<0.006	0.045	0.0015	**0.39**	<0.005	0.0061	**0.035**	0.0035
	06/10/16	200.7/200.8	0.0028	0.13	<0.002	<0.006	<0.006	0.081	0.00049	**0.33**	<0.005	0.0061	**0.033**	0.0033
	02/24/16	200.7/200.8	0.0027	0.095	<0.002	<0.006	<0.006	0.55	0.002	**0.39**	<0.005	0.0033	**0.059**	0.074
	11/04/15	200.7/200.8	0.0049	0.14	<0.002	<0.006	<0.006	0.25	0.00065	**0.44**	<0.005	<0.005	0.03	<0.01
	08/21/15	200.7/200.8	0.0043	0.13	<0.002	<0.006	<0.006	0.76	<0.0005	**0.6**	<0.005	0.0032	**0.048**	<0.01
	06/09/15	200.7/200.8	<0.005	0.12	<0.002	<0.006	<0.006	0.21	<0.005	**0.56**	<0.005	<0.005	**0.032**	<0.01
	03/11/15	200.7/200.8	0.0047	0.13	<0.002	<0.006	<0.006	0.11	<0.001	**0.56**	<0.005	0.0084	**0.049**	<0.01
	11/14/14	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	**2.2**	<0.01	**0.51**	<0.005	<0.01	**0.059**	0.027
	09/18/14	200.7/200.8	<0.005	0.15	<0.002	<0.006	<0.006	0.029	<0.001	**0.59**	<0.005	<0.005	0.012	0.041
	06/06/14	200.7/200.8	<0.005	0.13	<0.002	<0.006	<0.006	0.34	<0.005	**0.56**	<0.005	0.012	**0.056**	0.01

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-4	11/28/17	200.7/200.8	0.0098	**3.1**	<0.002	<0.006	<0.006	**3.7**	<0.0025	**1.3**	<0.005	<0.01	0.0017	<0.01
	09/26/17	200.7/200.8	**0.17**	**3.7**	<0.002	<0.006	<0.006	**7.6**	<0.0005	**1.4**	<0.005	<0.05	NA	0.034
	06/08/17	200.7/200.8	0.0097	**2.9**	<0.002	<0.006	0.0055	0.81	<0.0005	**1.4**	<0.005	0.0091	0.0034	0.011
	03/02/17	200.7/200.8	**0.012**	**3**	<0.002	<0.006	<0.006	**4.8**	<0.0005	**1.4**	<0.005	0.01	NA	0.026
	11/02/16	200.7/200.8	0.01	**2.7**	<0.002	<0.006	<0.006	**1.7**	<0.0005	**1.4**	<0.005	0.011	0.0031	0.0057
	09/11/16	200.7/200.8	**0.011**	**2.6**	<0.002	<0.006	<0.006	**1.2**	0.00033	**1.4**	<0.005	0.014	0.0037	0.003
	06/09/16	200.7/200.8	0.008	**2.4**	<0.002	<0.006	<0.006	**2**	<0.0005	**1.4**	<0.005	0.0085	0.0048	<0.01
	02/29/16	200.7/200.8	0.0085	**2.8**	<0.002	<0.006	<0.006	**5.6**	0.000044	**1.5**	<0.005	0.0061	0.0053	0.022
	11/03/15	200.7/200.8	**0.012**	**3.1**	<0.002	<0.006	<0.006	**13**	<0.0005	**1.5**	<0.005	<0.02	0.0023	<0.01
	08/18/15	200.7/200.8	<0.01	**2.5**	<0.002	<0.006	<0.006	**8.7**	<0.0025	**1.6**	<0.005	<0.01	0.0034	<0.01
	06/04/15	200.7/200.8	<0.01	**2.2**	<0.002	<0.006	<0.006	**8.6**	<0.01	**1.6**	<0.005	<0.01	<0.01	0.023
	03/16/15	200.7/200.8	0.0097	**1.1**	<0.002	<0.006	<0.006	**2**	<0.005	**1.9**	<0.005	<0.05	0.013	0.021
	11/13/14	200.7/200.8	0.006	**1.3**	<0.002	<0.006	<0.006	**4.7**	<0.005	**1.8**	<0.005	<0.005	0.013	0.01
	09/15/14	200.7/200.8	<0.01	0.78	<0.002	<0.006	<0.006	**3.6**	0.0013	**1.7**	<0.005	<0.01	0.018	<0.01
	06/04/14	200.7/200.8	0.0078	**1.9**	<0.002	<0.006	<0.006	**2.5**	<0.005	**1.4**	<0.005	0.022	<0.01	<0.01
MKTF-9	11/28/17	200.7/200.8	0.0023	0.61	<0.002	<0.006	<0.006	**1.5**	<0.0025	**3.9**	<0.005	<0.005	0.0046	<0.01
	09/28/17	200.7/200.8	0.0028	0.54	<0.002	<0.006	<0.006	**3**	<0.0005	**4.5**	<0.005	<0.02	NA	0.005
	06/12/17	200.7/200.8	0.0019	0.6	<0.002	<0.006	<0.006	**2.3**	0.00018	**4.6**	<0.005	0.0021	NA	0.015
	03/15/17	200.7/200.8	0.0035	0.57	<0.002	<0.006	<0.006	**2.1**	<0.0005	**4.1**	<0.005	0.0023	0.0033	0.051
	11/02/16	200.7/200.8	0.0028	0.4	<0.002	<0.006	<0.006	0.92	<0.0005	**3.2**	<0.005	0.0055	0.0065	0.27
	09/11/16	200.7/200.8	0.0032	0.52	<0.002	<0.006	<0.006	0.81	0.00023	**3.7**	<0.005	0.0075	0.005	<0.01
	06/09/16	200.7/200.8	0.0025	0.43	<0.002	<0.006	<0.006	**1.1**	<0.0005	**3.5**	<0.005	0.0053	0.0068	<0.01
	02/29/16	200.7/200.8	0.0022	0.55	<0.002	<0.006	<0.006	**2.8**	0.00021	**3.9**	<0.005	0.0031	0.0047	0.0087
	11/03/15	200.7/200.8	<0.005	0.5	<0.002	<0.006	<0.006	**3.2**	<0.0005	**4.2**	<0.005	<0.01	0.0036	<0.01
	08/18/15	200.7/200.8	<0.01	0.45	<0.002	<0.006	<0.006	**2.4**	<0.0025	**4**	<0.005	<0.01	0.0039	<0.01
	06/04/15	200.7/200.8	<0.01	0.31	<0.002	<0.006	<0.006	**1.9**	<0.01	**3.2**	<0.005	<0.01	<0.01	0.012
	03/16/15	200.7/200.8	<0.005	0.19	<0.002	<0.006	<0.006	**1.4**	<0.001	**2.3**	<0.005	<0.01	0.012	0.039
	11/14/14	200.7/200.8	<0.01	0.34	<0.002	<0.006	<0.006	**2.4**	<0.01	**2.8**	<0.005	<0.01	<0.01	0.017
	09/18/14	200.7/200.8	<0.01	0.32	<0.002	<0.006	<0.006	**2.2**	<0.001	**2.6**	<0.005	<0.01	0.012	<0.01
	06/05/14	200.7/200.8	<0.005	0.44	<0.002	<0.006	<0.006	**3.4**	<0.005	**3.6**	<0.005	0.014	<0.01	<0.01

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-10	11/28/17	200.7/200.8	0.0063	**3.9**	<0.002	<0.006	<0.006	**8.2**	<0.0025	**3**	<0.005	<0.005	<0.0025	<0.01
	09/28/17	200.7/200.8	0.0087	**3.7**	<0.002	<0.006	<0.006	**7.5**	<0.0005	**2.8**	<0.005	0.0074	NA	0.01
	06/08/17	200.7/200.8	0.0082	**4**	<0.002	<0.006	<0.006	**5.6**	<0.0005	**3.1**	<0.005	0.0045	0.00051	0.013
	03/02/17	200.7/200.8	**0.011**	**4.8**	<0.002	<0.006	<0.006	**13**	0.00032	**3.4**	0.0009	0.0039	NA	0.02
	11/02/16	200.7/200.8	0.008	**5.8**	<0.002	<0.006	<0.006	**9.4**	<0.005	**5.2**	<0.005	0.0046	0.00065	<0.01
	09/11/16	200.7/200.8	0.0082	**11**	<0.002	<0.006	<0.006	**26**	0.00086	**12**	<0.005	0.0066	0.00091	0.0029
	06/09/16	200.7/200.8	0.0077	**13**	<0.002	<0.006	<0.006	**41**	0.00022	**16**	<0.005	0.0041	0.00049	0.041
	02/29/16	200.7/200.8	0.0083	**14**	<0.002	<0.006	<0.006	**54**	<0.0025	**20**	<0.005	0.0042	0.0015	0.017
	11/03/15	200.7/200.8	0.0056	**13**	<0.002	<0.006	<0.006	**50**	<0.005	**18**	<0.005	0.0067	<0.0005	<0.01
	08/18/15	200.7/200.8	**0.013**	**15**	<0.002	0.013	<0.006	**64**	<0.0025	**22**	<0.005	<0.01	<0.0025	<0.01
	06/04/15	200.7/200.8	<0.01	**12**	<0.002	<0.006	<0.006	**53**	<0.01	**18**	<0.005	<0.01	<0.01	0.034
	03/16/15	200.7/200.8	<0.005	**12**	<0.002	<0.006	<0.006	**49**	<0.001	**17**	<0.005	0.0068	<0.001	<0.01
	11/14/14	200.7/200.8	<0.01	**17**	<0.002	<0.006	<0.006	**67**	<0.01	**24**	<0.005	<0.01	<0.01	0.018
	09/18/14	200.7/200.8	<0.005	**11**	<0.002	<0.006	<0.006	**33**	<0.001	**14**	<0.005	<0.005	<0.001	<0.01
	06/06/14	200.7/200.8	<0.005	**8.1**	<0.002	<0.006	<0.006	**18**	<0.005	**9.2**	<0.005	0.011	<0.01	<0.01
MKTF-11	11/28/17	200.7/200.8	**0.013**	**2.8**	<0.002	<0.006	<0.006	**5.8**	<0.0005	**3**	<0.005	<0.005	0.0056	<0.05
	09/26/17	200.7/200.8	**0.011**	**2.9**	<0.002	<0.006	<0.006	**6.8**	<0.0005	**3.1**	<0.005	0.0042	NA	0.03
	06/08/17	200.7/200.8	**0.014**	**2.1**	<0.002	<0.006	<0.006	**5.1**	<0.0005	**2.6**	<0.005	0.0046	0.003	0.011
	03/02/17	200.7/200.8	**0.018**	**2.2**	<0.002	<0.006	<0.006	**5.1**	<0.0005	**3**	0.0014	0.0035	NA	0.031
	11/02/16	200.7/200.8	**0.013**	**2.6**	<0.002	<0.006	<0.006	**5.4**	<0.0005	**3.6**	<0.005	0.0046	0.0059	0.0038
	09/12/16	200.7/200.8	**0.014**	**2.5**	<0.002	<0.006	<0.06	**4.6**	<0.0005	**3.8**	<0.005	0.0062	0.0044	<0.01
	06/09/16	200.7/200.8	**0.014**	**2.5**	<0.002	<0.006	<0.006	**4.3**	<0.0005	**3.5**	<0.005	0.0042	0.0084	<0.01
	02/29/16	200.7/200.8	**0.015**	**3.6**	<0.002	<0.006	<0.006	**8**	0.00031	**5.7**	<0.005	0.0046	0.005	0.011
	11/03/15	200.7/200.8	0.0084	**4**	<0.002	<0.006	<0.006	**12**	<0.0005	**3.6**	<0.005	0.0064	<0.0005	<0.01
	08/18/15	200.7/200.8	<0.01	**2**	<0.002	<0.006	<0.006	**4**	<0.0025	**4**	<0.005	<0.01	0.0034	<0.01
	06/04/15	200.7/200.8	<0.01	**2.7**	<0.002	<0.006	<0.006	**9.9**	<0.01	**3**	<0.005	<0.01	<0.01	0.018
	03/16/15	200.7/200.8	0.0087	**2**	<0.002	<0.006	<0.006	**4.8**	<0.001	**2.9**	<0.005	0.008	0.0013	<0.01
	11/13/14	200.7/200.8	<0.01	**1.5**	<0.002	<0.006	<0.006	**3.4**	<0.001	**3.2**	<0.005	0.0051	0.0033	0.019
	09/15/14	200.7/200.8	0.0086	**1.1**	<0.002	<0.006	<0.006	**2.7**	<0.001	**2.4**	<0.005	<0.005	0.004	<0.01
	06/05/14	200.7/200.8	0.0064	**1.8**	<0.002	0.006	<0.006	**11**	**0.022**	**3.6**	<0.005	0.01	<0.01	0.036
MKTF-13	03/15/17	200.7/200.8	0.0055	**4.7**	<0.002	<0.006	<0.006	**18**	0.00023	**3.9**	<0.005	<0.01	0.00034	0.034

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-15	11/28/17	200.7/200.8	0.0072	**44**	<0.002	<0.006	<0.006	**75**	<0.0025	**23**	<0.1	<0.01	<0.0025	<0.01
	06/08/17	200.7/200.8	0.0057	**31**	<0.002	<0.006	<0.006	**54**	<0.0025	**13**	<0.005	0.0062	0.00057	0.011
	03/02/17	200.7/200.8	0.0033	**28**	<0.002	<0.006	<0.006	**45**	<0.0025	**9.5**	0.0066	0.0086	NA	0.019
	11/02/16	200.7/200.8	0.0027	**20**	<0.002	<0.006	<0.006	**26**	<0.0025	**6.5**	<0.005	0.0069	<0.0025	0.014
	09/11/16	200.7/200.8	0.0027	**23**	<0.002	<0.006	<0.006	**32**	0.00048	**7.6**	<0.005	0.0091	0.00023	0.04
	09/17/14	200.7/200.8	<0.01	**27**	<0.002	<0.006	<0.006	**13**	<0.01	**9**	<0.005	<0.01	<0.01	<0.01
	06/05/14	200.7/200.8	<0.005	**25**	<0.002	<0.006	<0.006	**11**	<0.005	**7.5**	<0.005	<0.01	<0.01	0.011
MKTF-16	11/29/17	200.7/200.8	**0.015**	**2.7**	<0.002	<0.006	<0.006	**3.5**	<0.0025	**2.1**	<0.005	<0.02	0.0046	<0.01
	09/26/17	200.7/200.8	**0.013**	**2.9**	<0.002	<0.006	<0.006	**8.8**	0.00019	**2.8**	<0.005	<0.05	NA	0.018
	06/08/17	200.7/200.8	**0.018**	**2.3**	<0.002	<0.006	<0.006	**1.4**	<0.0025	**1.7**	<0.005	0.018	0.0087	0.014
	03/14/17	200.7/200.8	0.01	**1.9**	<0.002	<0.006	<0.006	**4.7**	0.00078	**1.8**	<0.005	<0.02	0.0012	0.027
	11/03/16	200.7/200.8	**0.015**	0.69	<0.002	<0.006	<0.006	**2.2**	0.00042	**0.87**	<0.005	0.013	0.0053	0.0041
	09/12/16	200.7/200.8	**0.014**	0.67	<0.002	<0.006	<0.006	**2.4**	0.00027	**0.94**	<0.005	0.013	0.004	<0.01
	02/29/16	200.7/200.8	0.01	**1.3**	<0.002	<0.006	<0.006	**5.8**	0.00079	**1.7**	<0.005	0.0099	0.00025	0.018
	11/03/15	200.7/200.8	**0.016**	**3.1**	<0.002	<0.006	<0.006	**13**	<0.0005	**3.9**	<0.005	0.019	<0.0005	<0.01
	08/23/15	200.7/200.8	0.01	***2.7***	<0.002	<0.006	<0.006	**11**	<0.0025	**4.1**	<0.005	0.0097	<0.0025	<0.01
	06/08/15	200.7/200.8	0.0087	**2.3**	<0.002	<0.006	<0.006	**11**	<0.005	**3.6**	<0.005	0.0081	<0.005	0.017
	03/16/15	200.7/200.8	<0.01	0.94	<0.002	<0.006	<0.006	**5.6**	<0.001	**1.2**	<0.005	<0.02	<0.001	0.024
	11/18/14	200.7/200.8	**0.011**	0.88	<0.002	<0.006	<0.006	**7.2**	<0.001	**1.1**	<0.005	<0.01	<0.001	0.019
	09/17/14	200.7/200.8	**0.011**	0.81	<0.002	<0.006	<0.006	**7.3**	<0.001	**1.1**	<0.005	<0.01	<0.001	0.017
	06/05/14	200.7/200.8	**0.013**	0.81	<0.002	<0.006	<0.006	**7.9**	<0.005	**1.3**	<0.005	0.017	<0.01	0.022
MKTF-17	12/01/17	200.7/200.8	0.0033	0.42	<0.002	<0.006	<0.006	0.14	<0.0005	**2.2**	<0.005	<0.005	0.0062	0.0032
	09/26/17	200.7/200.8	0.0065	0.73	<0.002	<0.006	<0.006	**3.2**	<0.0005	**2.8**	<0.005	<0.01	NA	0.021
	06/14/17	200.7/200.8	0.0079	0.74	<0.002	<0.006	<0.006	**2.9**	<0.0005	**2.7**	<0.005	<0.005	NA	0.0095
	03/15/17	200.7/200.8	0.005	0.76	<0.002	<0.006	<0.006	**1.3**	<0.0005	**2.6**	<0.005	<0.005	0.0054	0.023
	11/08/16	200.7/200.8	0.0046	0.52	<0.002	<0.006	<0.006	0.21	<0.0005	**2.7**	<0.005	0.003	0.0069	<0.01
	09/13/16	200.7/200.8	0.0062	0.65	<0.002	<0.006	<0.006	0.23	<0.005	**3**	<0.005	0.0046	0.008	<0.01
	02/26/16	200.7/200.8	0.003	0.095	<0.002	<0.006	<0.006	0.093	0.00012	**2.8**	<0.005	0.0015	0.018	0.02
	11/03/15	200.7/200.8	0.01	0.19	<0.002	<0.006	<0.006	0.65	<0.0005	**3.5**	<0.005	0.0045	0.013	<0.01
	08/18/15	200.7/200.8	<0.01	0.097	<0.02	<0.006	<0.006	0.49	<0.0025	**2.8**	<0.005	<0.01	0.017	<0.01
	06/08/15	200.7/200.8	<0.005	0.11	<0.002	<0.006	<0.006	0.14	<0.002	**3.1**	<0.005	<0.005	0.021	<0.01
	03/12/15	200.7/200.8	0.0062	0.13	<0.002	<0.006	<0.006	0.57	<0.001	**3**	<0.005	0.0058	0.021	<0.01
	11/18/14	200.7/200.8	0.0047	0.14	<0.002	<0.006	<0.006	0.08	<0.001	**2.8**	<0.005	<0.01	0.022	0.027
	09/18/14	200.7/200.8	0.0053	0.16	<0.002	<0.006	<0.006	0.27	<0.001	**3.1**	<0.005	<0.005	0.022	0.018
	06/16/14	200.7/200.8	0.0054	0.24	<0.002	<0.006	<0.006	0.94	<0.005	**3.3**	<0.005	<0.005	0.022	0.14

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-18	06/14/17	200.7/200.8	0.0029	**1.9**	<0.002	<0.006	0.0063	**2.6**	<0.0005	**1.9**	<0.005	0.0025	NA	0.011
	03/01/17	200.7/200.8	0.0023	**2**	<0.002	<0.006	<0.006	**1.4**	<0.0005	**1.9**	<0.005	0.0043	NA	0.024
	11/08/16	200.7/200.8	0.0025	**1.7**	<0.002	<0.006	<0.006	**0.81**	<0.0005	**1.9**	<0.005	0.0053	0.001	<0.01
	09/13/16	200.7/200.8	0.0026	**1.8**	<0.002	<0.006	<0.006	0.89	<0.0005	**2**	<0.005	0.0072	0.0012	<0.01
	06/10/16	200.7/200.8	0.0023	**1.9**	<0.002	<0.006	<0.006	**1.5**	<0.0005	**1.9**	<0.005	0.0054	0.0011	<0.01
	02/26/16	200.7/200.8	0.002	**2.1**	<0.002	<0.006	<0.006	**2.1**	0.00039	**1.9**	<0.005	0.0018	0.0012	0.011
	11/03/15	200.7/200.8	0.0031	**2.5**	<0.002	<0.006	<0.006	**4.8**	0.0053	**1.9**	<0.005	<0.01	0.0012	<0.01
	08/18/15	200.7/200.8	<0.01	**2**	<0.002	<0.006	<0.006	**1.2**	<0.0025	**1.7**	<0.005	<0.01	<0.0025	<0.01
	06/08/15	200.7/200.8	<0.005	**2.5**	<0.002	<0.006	<0.006	**3.9**	<0.002	**1.8**	<0.005	<0.005	<0.002	<0.01
	03/17/15	200.7/200.8	<0.01	**2.5**	<0.002	<0.006	<0.006	**3.8**	<0.001	**1.8**	<0.005	<0.01	<0.001	<0.01
	11/18/14	200.7/200.8	0.002	**2.4**	<0.002	<0.006	<0.006	**3.4**	<0.001	**1.7**	<0.005	<0.01	<0.001	0.025
	09/18/14	200.7/200.8	<0.005	**2.3**	<0.002	<0.006	<0.006	0.3	<0.001	**1.7**	<0.005	<0.005	0.0012	0.012
	06/06/14	200.7/200.8	<0.005	**2.4**	<0.002	<0.006	<0.006	**4.5**	<0.005	**2**	<0.005	0.0086	<0.01	<0.01
MKTF-19	12/01/17	200.7/200.8	0.0091	**1.5**	<0.002	<0.006	<0.006	**9.2**	0.0017	**2.1**	<0.005	<0.005	0.00089	<0.01
	09/26/17	200.7/200.8	**0.014**	**1.6**	<0.002	<0.006	<0.006	**12**	0.0016	**3.1**	<0.005	0.0048	NA	0.021
	06/14/17	200.7/200.8	**0.014**	**1.7**	<0.002	<0.006	<0.006	**10**	0.0019	**2.6**	<0.005	<0.02	NA	0.011
	03/15/17	200.7/200.8	**0.015**	**1.7**	<0.002	<0.006	<0.006	**9**	0.0022	**2.4**	<0.005	<0.01	0.0021	0.031
	11/08/16	200.7/200.8	**0.011**	**1.6**	<0.002	<0.006	<0.006	**8.5**	0.0023	**2.2**	<0.005	0.0075	0.0016	0.0091
	09/13/16	200.7/200.8	**0.017**	**1.7**	<0.002	<0.006	<0.006	**10**	0.0023	**2.4**	<0.005	0.0082	0.00064	0.0044
	06/10/16	200.7/200.8	**0.015**	**1.6**	<0.002	<0.006	<0.006	**9.7**	0.0022	**2.7**	<0.005	0.013	0.00045	0.0062
	02/25/16	200.7/200.8	**0.015**	**1.7**	<0.002	<0.006	<0.006	**11**	0.0034	**3.1**	<0.005	0.0038	0.0006	0.0097
	11/03/15	200.7/200.8	**0.018**	**1.7**	<0.002	<0.006	<0.006	**13**	0.0016	**3.4**	<0.005	<0.05	<0.0005	<0.01
	08/18/15	200.7/200.8	**0.02**	**1.7**	<0.002	<0.006	<0.006	**14**	0.0032	**3.2**	<0.005	<0.01	<0.0025	0.02
	06/08/15	200.7/200.8	**0.019**	**1.7**	<0.002	<0.006	<0.006	**12**	<0.002	**3.3**	<0.005	<0.01	<0.002	<0.01
	03/12/15	200.7/200.8	**0.021**	**1.6**	<0.002	<0.006	<0.006	**9.5**	0.0017	**3.1**	<0.005	<0.02	<0.001	0.012
	11/18/14	200.7/200.8	**0.022**	**1.6**	<0.002	<0.006	<0.006	**11**	0.0019	**3**	<0.005	<0.01	<0.001	0.018
MKTF-20	11/29/17	200.7/200.8	**0.017**	**8.6**	<0.002	<0.006	0.014	**13**	0.0033	**3**	<0.005	<0.02	0.0023	0.0086
	09/26/17	200.7/200.8	**0.02**	**8.5**	<0.002	<0.006	<0.006	**16**	0.00097	**3.8**	<0.005	<0.1	NA	0.027
	06/12/17	200.7/200.8	**0.021**	**7.6**	<0.002	<0.006	0.0037	**17**	0.0042	**4.1**	<0.005	<0.05	NA	0.019
	03/14/17	200.7/200.8	**0.019**	**12**	<0.002	<0.006	<0.006	**23**	0.0023	**7.2**	<0.005	<0.05	0.00053	0.041
	11/03/16	200.7/200.8	**0.029**	**8.6**	<0.002	<0.006	0.0073	**20**	0.009	**8**	<0.005	0.013	0.0052	0.014
	09/12/16	200.7/200.8	**0.027**	**4.7**	<0.002	<0.006	0.0046	**14**	0.004	**3.8**	<0.005	0.0079	0.0033	0.012
	06/09/16	200.7/200.8	**0.034**	**3.3**	<0.002	<0.006	0.022	**12**	0.012	**3.9**	<0.005	0.0078	0.018	0.016
	06/08/15	200.7/200.8	**0.012**	**1.5**	<0.002	<0.006	<0.006	**3.6**	<0.005	**2**	<0.005	<0.005	<0.005	0.045
	03/16/15	200.7/200.8	**0.022**	**2**	<0.002	<0.006	<0.006	**8.6**	0.0013	**3.1**	<0.005	<0.01	0.0088	<0.01

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-21	11/28/17	200.7/200.8	**0.012**	**3.7**	<0.002	<0.006	<0.006	**15**	0.00034	**4.4**	<0.005	0.0084	0.0022	0.011
	09/26/17	200.7/200.8	0.0077	**2.7**	<0.002	<0.006	<0.006	**5.6**	<0.0005	**3.9**	<0.005	<0.02	NA	0.028
	06/21/17	200.7/200.8	**0.014**	**3.9**	<0.002	<0.006	<0.006	**39**	0.00086	**6.7**	<0.005	<0.05	0.00052	0.02
	03/14/17	200.7/200.8	**0.011**	**3.7**	<0.002	<0.006	<0.006	**26**	0.0012	**5.7**	<0.005	0.0039	0.00052	0.045
	11/03/16	200.7/200.8	**0.019**	**4.3**	<0.002	<0.006	<0.006	**30**	0.00098	**5**	<0.005	0.012	0.002	0.017
	09/12/16	200.7/200.8	**0.02**	**2.5**	<0.002	<0.006	<0.006	**22**	0.0018	**3.7**	<0.005	0.0094	0.00071	0.023
	06/10/15	200.7/200.8	Not enough water to collect samples											
	03/16/15	200.7/200.8	**0.011**	**1.9**	<0.002	<0.006	<0.006	**18**	0.012	**3.1**	<0.005	<0.01	0.0012	0.074
MKTF-22	11/28/17	200.7/200.8	0.0025	**1.4**	<0.002	<0.006	<0.006	**1.6**	<0.0005	**2.3**	<0.005	<0.005	0.0023	<0.01
	10/03/17	200.7/200.8	0.0017	**1.6**	<0.002	<0.006	<0.006	**7.1**	0.00031	**2.6**	<0.005	0.0029	NA	0.028
	06/08/17	200.7/200.8	0.0022	**1**	<0.002	<0.006	<0.006	0.98	<0.0005	**2.1**	<0.005	0.0035	0.003	0.011
	03/08/17	200.7/200.8	0.0022	**1.4**	<0.002	<0.006	<0.006	**4.2**	<0.0005	**2.3**	<0.005	0.0042	NA	0.025
	11/01/16	200.7/200.8	0.0021	**1.2**	<0.002	<0.006	<0.006	**3**	<0.0005	**2.5**	<0.005	0.0038	0.0024	0.0099
	09/10/16	200.7/200.8	0.0024	**1.1**	<0.002	<0.006	<0.006	**2.7**	0.0014	**2.3**	<0.005	0.0053	0.0028	<0.01
	06/10/16	200.7/200.8	0.0025	**1.1**	<0.002	<0.006	<0.006	**2.9**	<0.0005	**2.2**	<0.005	0.0046	0.0028	<0.01
	02/25/16	200.7/200.8	0.0014	**1.3**	<0.002	<0.006	<0.006	**6.3**	0.00053	**2.3**	<0.005	0.0015	0.0019	0.011
	11/09/15	200.7/200.8	0.0033	0.92	<0.002	<0.006	<0.006	**5.9**	0.0083	**2.4**	<0.005	<0.005	0.0048	<0.01
	08/20/15	200.7/200.8	<0.005	0.37	<0.002	<0.006	<0.006	**8.5**	<0.0025	**1.9**	<0.005	<0.005	0.013	<0.01
	06/09/15	200.7/200.8	<0.005	**1.1**	<0.002	<0.006	<0.006	**6.8**	<0.002	**2.3**	<0.005	<0.005	0.0038	0.029
	03/12/15	200.7/200.8	0.0031	**1.3**	<0.002	<0.006	<0.006	**7.5**	0.0016	**2.3**	<0.005	0.0067	0.0032	<0.01
	11/17/14	200.7/200.8	<0.005	0.78	<0.002	<0.006	<0.006	**6.8**	0.001	**2.2**	<0.005	<0.005	0.0053	0.024
MKTF-23	06/10/16	200.7/200.8	0.01	0.66	<0.002	<0.006	<0.006	**2.6**	0.00065	**1.8**	<0.005	0.009	0.0022	<0.01
	02/25/16	200.7/200.8	0.01	0.58	<0.002	<0.006	<0.006	**3.8**	0.00038	**1.8**	<0.005	0.0042	0.0018	0.0083
	11/09/15	200.7/200.8	**0.015**	0.71	<0.002	<0.006	<0.006	0.99	<0.0025	**1.4**	<0.005	<0.05	0.024	<0.01
	08/21/15	200.7/200.8	**0.011**	0.7	<0.002	<0.006	<0.006	0.34	<0.0005	**1.3**	<0.005	<0.01	0.014	<0.01
	06/09/15	200.7/200.8	0.01	0.75	<0.002	<0.006	<0.006	**2.4**	<0.002	**1.5**	<0.005	<0.005	0.0072	<0.01
	03/12/15	200.7/200.8	**0.013**	0.61	<0.002	<0.006	<0.006	**4.4**	<0.001	**1.9**	<0.005	<0.02	0.0045	<0.01
	11/17/14	200.7/200.8	0.01	0.57	<0.002	<0.006	<0.006	**3.1**	<0.001	**1.7**	<0.005	<0.01	0.013	0.018

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-24	11/20/17	200.7/200.8	0.0025	0.26	<0.002	<0.006	<0.006	0.24	0.0013	**2.1**	0.002	<0.005	0.013	0.0035
	10/03/17	200.7/200.8	0.0047	0.23	<0.002	<0.006	<0.006	0.85	0.0006	**1.6**	<0.005	0.0094	NA	0.058
	06/05/17	200.7/200.8	0.0029	0.25	<0.002	<0.006	<0.006	0.21	0.0012	**2.1**	<0.005	0.0052	0.017	0.015
	03/29/17	200.7/200.8	0.0031	0.29	<0.002	<0.006	<0.006	0.55	0.0012	**1.6**	<0.005	0.0057	**0.033**	0.018
	10/28/16	200.7/200.8	0.0033	0.23	<0.002	<0.006	<0.006	0.069	0.0012	**2**	<0.005	0.0064	0.017	<0.01
	09/07/16	200.7/200.8	0.0035	0.24	<0.002	<0.006	<0.006	0.19	0.0015	**1.9**	<0.005	0.0063	0.02	0.0071
	06/08/16	200.7/200.8	0.0045	0.27	<0.002	<0.006	<0.006	0.65	0.0019	**1.9**	<0.005	0.0084	0.027	<0.01
	02/22/16	200.7/200.8	0.0026	0.25	<0.002	<0.006	<0.006	0.21	0.0012	**1.9**	<0.005	0.0031	0.023	0.012
	11/04/15	200.7/200.8	<0.005	0.26	<0.002	<0.006	<0.006	0.41	0.0016	**1.3**	<0.005	0.0091	**0.032**	<0.01
	08/20/15	200.7/200.8	<0.005	0.31	<0.002	<0.006	<0.006	**4.1**	0.0027	**1.5**	<0.005	<0.005	**0.035**	<0.01
	06/10/15	200.7/200.8	<0.005	0.29	<0.002	<0.006	<0.006	0.69	<0.005	**1.4**	<0.005	0.0058	**0.037**	0.021
	03/11/15	200.7/200.8	<0.005	0.26	<0.002	<0.006	<0.006	0.34	0.0015	**1.2**	<0.005	0.011	**0.043**	<0.01
	11/14/14	200.7/200.8	<0.005	0.29	<0.002	<0.006	<0.006	**4.4**	<0.005	**1.6**	<0.005	<0.005	**0.038**	0.018
MKTF-25	11/21/17	200.7/200.8	0.0042	0.28	<0.002	<0.006	<0.006	0.8	0.00022	**2.4**	<0.005	<0.005	0.024	<0.01
	09/25/17	200.7/200.8	0.0044	0.24	<0.002	<0.006	<0.006	0.57	0.00039	**2.4**	<0.005	0.0047	NA	0.018
	06/05/17	200.7/200.8	0.0047	0.18	<0.002	<0.006	<0.006	0.57	0.00027	**2.3**	<0.005	0.0044	0.027	0.014
	03/29/17	200.7/200.8	0.0054	0.27	<0.002	<0.006	<0.006	0.56	0.00082	**2.6**	<0.005	0.0076	0.029	0.02
	11/01/16	200.7/200.8	0.0047	0.28	<0.002	<0.006	<0.006	0.35	0.00031	**2.5**	<0.005	0.0067	**0.037**	0.035
	09/09/16	200.7/200.8	0.0058	0.31	<0.002	<0.006	<0.006	0.11	0.0066	**2.7**	<0.005	0.0074	**0.032**	0.0089
	06/09/16	200.7/200.8	0.0049	0.32	<0.002	<0.006	<0.006	0.47	0.001	**2.9**	<0.005	0.0096	0.03	<0.01
	02/23/16	200.7/200.8	0.0036	0.28	<0.002	<0.006	<0.006	0.46	0.00027	**2.9**	<0.005	0.0033	0.03	0.013
	11/05/15	200.7/200.8	<0.005	0.34	<0.002	<0.006	<0.006	0.4	0.0017	**3.2**	<0.005	0.0078	0.03	<0.01
	08/21/15	200.7/200.8	0.0043	0.35	<0.002	<0.006	<0.006	0.57	0.00051	**3.3**	<0.005	<0.01	**0.034**	<0.01
	06/10/15	200.7/200.8	<0.005	0.32	<0.002	<0.006	<0.006	0.64	<0.005	**3.2**	<0.005	0.005	**0.033**	0.016
	03/11/15	200.7/200.8	<0.01	0.26	<0.002	<0.006	<0.006	0.2	<0.001	**3.2**	<0.005	<0.02	**0.038**	0.017
	11/14/14	200.7/200.8	<0.005	0.28	<0.002	<0.006	<0.006	0.21	<0.005	**3.1**	<0.005	<0.005	0.03	0.1
MKTF-26	06/09/16	200.7/200.8	0.0094	0.074	<0.002	<0.006	<0.006	0.48	0.00096	**0.7**	<0.005	0.033	**0.085**	0.004
	02/22/16	200.7/200.8	0.0024	0.12	<0.002	<0.006	<0.006	0.38	0.0013	**0.91**	<0.005	0.0031	**0.042**	0.048
	11/04/15	200.7/200.8	<0.005	0.14	<0.002	<0.006	<0.006	0.35	0.0011	**1**	<0.005	0.0075	**0.062**	<0.01
	08/20/15	200.7/200.8	<0.005	0.1	<0.002	<0.006	<0.006	0.57	<0.0025	**1.1**	<0.005	<0.005	**0.092**	<0.01
	06/10/15	200.7/200.8	<0.005	0.14	<0.002	<0.006	<0.006	0.86	<0.005	**1.2**	<0.005	<0.005	**0.063**	0.036
	03/11/15	200.7/200.8	<0.01	0.17	<0.002	<0.006	<0.006	0.85	<0.001	**1.4**	<0.005	<0.01	**0.045**	0.068
	11/14/14	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	0.18	<0.01	**1.4**	<0.005	<0.01	**0.066**	0.014

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-27	11/20/17	200.7/200.8	<0.005	0.069	<0.002	<0.006	0.0047	0.1	<0.0025	**0.24**	0.0033	<0.005	**0.046**	0.0044
	10/03/17	200.7/200.8	0.0037	0.067	<0.002	<0.006	<0.006	0.018	<0.0025	**0.17**	<0.005	0.012	NA	0.033
	06/05/17	200.7/200.8	0.0033	0.071	<0.002	<0.006	<0.006	0.058	<0.0025	0.064	<0.005	0.011	**0.058**	0.018
	03/29/17	200.7/200.8	0.004	0.097	<0.002	<0.006	<0.006	0.034	<0.0025	**0.49**	<0.005	0.015	**0.077**	0.022
	10/28/16	200.7/200.8	0.0033	0.065	<0.002	<0.006	<0.006	0.039	<0.0025	0.085	<0.005	0.0095	**0.059**	<0.01
	09/07/16	200.7/200.8	0.003	0.067	<0.002	<0.006	<0.006	0.083	0.00063	**0.29**	<0.005	0.0092	**0.055**	0.0034
	06/08/16	200.7/200.8	0.0036	0.074	<0.002	<0.006	<0.006	0.4	0.0025	**0.52**	<0.005	0.014	**0.056**	0.007
	02/22/16	200.7/200.8	0.00096	0.063	<0.002	<0.006	<0.006	0.084	0.00041	0.12	<0.005	0.0039	**0.061**	0.012
	11/04/15	200.7/200.8	<0.005	0.078	<0.002	<0.006	<0.006	0.12	<0.005	**0.7**	<0.005	<0.02	**0.066**	<0.01
	08/20/15	200.7/200.8	<0.005	0.092	<0.002	<0.006	<0.006	**1.8**	<0.0025	**0.49**	<0.005	<0.01	**0.069**	<0.01
	06/09/15	200.7/200.8	<0.005	0.083	<0.002	<0.006	<0.006	0.56	<0.005	**0.35**	<0.005	0.0075	**0.067**	0.01
	03/11/15	200.7/200.8	<0.01	0.086	<0.002	<0.006	<0.006	0.15	<0.01	0.1	<0.005	0.014	**0.075**	<0.01
	11/14/14	200.7/200.8	<0.01	0.094	<0.002	<0.006	<0.006	0.55	<0.01	**0.28**	<0.005	<0.01	**0.075**	0.03
MKTF-28	11/20/17	200.7/200.8	<0.01	0.087	<0.002	<0.006	0.0053	**2.9**	0.0029	0.18	<0.005	<0.01	**0.15**	0.0066
	10/03/17	200.7/200.8	0.0042	0.049	<0.002	0.0016	<0.006	<0.02	<0.0005	0.0017	<0.005	0.015	NA	0.049
	06/05/17	200.7/200.8	0.004	0.046	<0.002	<0.006	0.01	0.023	<0.0005	0.0023	<0.005	0.0086	**0.13**	0.019
	03/29/17	200.7/200.8	0.0029	0.049	<0.002	<0.006	<0.006	0.11	0.00042	0.011	<0.005	0.0081	**0.16**	0.016
	10/28/16	200.7/200.8	0.0047	0.061	<0.002	<0.006	<0.006	0.049	0.00022	0.021	<0.005	0.012	**0.16**	<0.01
	09/08/16	200.7/200.8	0.0039	0.061	<0.002	<0.006	<0.006	0.12	0.00087	0.031	<0.005	0.012	**0.14**	<0.01
	06/08/16	200.7/200.8	0.0054	0.074	<0.002	<0.006	<0.006	0.14	0.00076	0.022	<0.005	0.015	**0.15**	0.012
	02/23/16	200.7/200.8	0.0026	0.069	<0.002	<0.006	<0.006	0.064	0.00039	0.016	<0.005	0.0061	**0.16**	0.027
	11/04/15	200.7/200.8	<0.01	0.08	<0.002	<0.006	<0.006	0.081	<0.0005	0.088	<0.005	<0.05	**0.15**	<0.01
	08/20/15	200.7/200.8	<0.005	0.082	<0.002	<0.006	<0.006	0.19	<0.0025	0.018	<0.005	0.0081	**0.15**	<0.01
	06/09/15	200.7/200.8	<0.005	0.087	<0.002	<0.006	<0.006	0.062	<0.005	0.0054	<0.005	0.012	**0.16**	0.031
	03/11/15	200.7/200.8	<0.01	0.09	<0.002	<0.006	<0.006	0.075	<0.001	0.0057	<0.005	<0.05	**0.17**	<0.01
	11/14/14	200.7/200.8	<0.005	0.099	<0.002	<0.006	<0.006	0.63	<0.005	**0.32**	<0.005	<0.02	**0.12**	0.038

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-29	11/20/17	200.7/200.8	<0.005	0.031	<0.002	<0.006	<0.006	0.036	<0.0005	**0.71**	<0.005	<0.005	0.0092	0.0034
	10/03/17	200.7/200.8	0.0017	0.031	<0.002	<0.006	<0.006	0.022	<0.0005	**0.62**	<0.005	0.0029	NA	0.064
	06/05/17	200.7/200.8	0.0017	0.031	<0.002	<0.006	<0.006	0.029	<0.0005	**0.53**	<0.005	0.003	0.011	0.014
	03/29/17	200.7/200.8	0.0019	0.032	<0.002	<0.006	0.0053	0.034	0.00017	**0.35**	<0.005	0.0038	0.012	0.021
	10/28/16	200.7/200.8	0.0016	0.027	<0.002	<0.006	<0.006	<0.02	<0.0005	**0.39**	<0.005	0.0026	0.013	0.013
	09/07/16	200.7/200.8	0.0018	0.037	<0.002	<0.006	<0.006	0.073	0.0021	**0.62**	<0.005	0.0023	0.012	<0.01
	06/09/16	200.7/200.8	0.0021	0.028	<0.002	<0.006	<0.006	0.022	<0.0005	**0.39**	<0.005	0.0039	0.013	<0.01
	02/23/16	200.7/200.8	0.0012	0.032	<0.002	<0.006	<0.006	0.059	0.000097	**0.5**	<0.005	0.0013	0.015	0.012
	11/04/15	200.7/200.8	0.0022	0.041	<0.002	<0.006	<0.006	0.036	<0.005	**0.55**	<0.005	0.0035	0.016	<0.01
	08/20/15	200.7/200.8	<0.005	0.041	<0.002	<0.006	<0.006	0.073	<0.0025	**0.49**	<0.005	<0.005	0.018	<0.01
	06/10/15	200.7/200.8	<0.005	0.035	<0.002	<0.006	<0.006	0.049	<0.005	**0.36**	<0.005	<0.005	0.019	0.025
	03/11/15	200.7/200.8	0.0024	0.031	<0.002	<0.006	<0.006	<0.02	<0.001	**0.34**	<0.005	0.0045	0.023	<0.01
MKTF-30	11/20/17	200.7/200.8	<0.005	0.032	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0081	<0.005	<0.005	0.029	0.005
	10/03/17	200.7/200.8	0.0026	0.033	<0.002	<0.006	<0.006	0.051	0.00018	0.017	<0.005	0.0042	NA	0.019
	06/05/17	200.7/200.8	0.0015	0.026	<0.002	<0.006	<0.006	0.024	<0.0005	0.017	<0.005	0.0044	**0.039**	0.014
	03/29/17	200.7/200.8	0.0013	0.039	<0.002	<0.006	<0.006	0.087	0.00037	0.044	<0.005	0.0055	**0.033**	0.021
	10/28/16	200.7/200.8	0.0027	0.046	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0031	<0.005	0.0077	0.029	<0.01
	09/07/16	200.7/200.8	0.0026	0.046	<0.002	<0.006	<0.006	<0.02	0.022	0.053	<0.005	0.0076	0.026	0.0048
	06/09/16	200.7/200.8	0.0041	0.04	<0.002	<0.006	<0.006	0.016	<0.0005	0.0075	<0.005	0.013	**0.034**	<0.01
	02/23/16	200.7/200.8	<0.005	0.046	<0.002	<0.006	<0.006	0.057	0.00036	0.017	<0.005	0.0042	0.029	0.011
	11/04/15	200.7/200.8	<0.005	0.048	<0.002	<0.006	<0.006	0.036	<0.005	0.008	<0.005	0.01	0.024	<0.01
	08/20/15	200.7/200.8	<0.005	0.071	<0.002	<0.006	<0.006	**2.4**	<0.0025	0.14	<0.005	<0.01	0.028	<0.01
	06/10/15	200.7/200.8	<0.005	0.05	<0.002	<0.006	<0.006	0.58	<0.005	0.089	<0.005	0.0065	**0.033**	<0.01
	03/11/15	200.7/200.8	<0.01	0.036	<0.002	<0.006	<0.006	0.19	<0.01	0.018	<0.005	0.014	**0.041**	<0.01
	11/17/14	200.7/200.8	<0.01	0.036	<0.002	<0.006	<0.006	0.26	<0.001	0.021	<0.005	<0.01	**0.041**	0.039

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-31	11/21/17	200.7/200.8	<0.005	0.12	<0.002	<0.006	<0.006	0.026	<0.0005	0.025	0.0023	<0.005	**0.04**	<0.01
	09/25/17	200.7/200.8	0.0025	0.12	<0.002	<0.006	<0.006	<0.02	<0.0005	0.029	<0.005	0.0062	NA	0.012
	06/05/17	200.7/200.8	0.0025	0.14	<0.002	<0.006	<0.006	<0.02	<0.0005	0.013	<0.005	0.0072	**0.046**	0.012
	03/07/17	200.7/200.8	0.0026	0.17	<0.002	<0.006	<0.006	<0.02	<0.0005	0.022	<0.005	0.0078	NA	0.018
	10/31/16	200.7/200.8	0.0026	0.13	<0.002	<0.006	<0.006	0.02	<0.0005	0.018	<0.005	0.01	**0.043**	<0.01
	09/08/16	200.7/200.8	0.0021	0.14	<0.002	<0.006	<0.006	<0.02	0.00084	0.035	<0.005	0.0068	**0.04**	<0.01
	06/09/16	200.7/200.8	0.0043	0.14	<0.002	<0.006	<0.006	0.013	<0.0005	0.018	<0.005	0.014	**0.046**	<0.01
	02/23/16	200.7/200.8	0.0014	0.12	<0.002	<0.006	<0.006	0.011	0.000084	0.02	<0.005	0.0036	**0.046**	0.01
	11/04/15	200.7/200.8	<0.005	0.14	<0.002	<0.006	<0.006	<0.02	<0.005	0.033	<0.005	0.0085	**0.042**	<0.01
	08/21/15	200.7/200.8	<0.005	0.14	<0.002	<0.006	<0.006	<0.02	<0.0005	0.035	<0.005	<0.01	**0.047**	<0.01
	06/10/15	200.7/200.8	<0.005	0.13	<0.002	<0.006	<0.006	0.021	<0.005	0.026	<0.005	0.0058	**0.048**	0.032
	03/11/15	200.7/200.8	<0.01	0.17	<0.002	<0.006	<0.006	0.026	<0.001	0.032	<0.005	0.013	**0.054**	<0.01
	11/17/14	200.7/200.8	<0.005	0.17	<0.002	<0.006	<0.006	<0.02	<0.001	0.059	<0.005	0.0075	**0.045**	0.027
MKTF-32	11/27/17	200.7/200.8	0.0033	0.049	<0.002	<0.006	<0.006	0.043	<0.0025	0.078	<0.005	<0.005	**0.055**	<0.01
	09/25/17	200.7/200.8	0.0036	0.045	<0.002	<0.006	<0.006	0.023	<0.0005	0.075	<0.005	0.005	NA	0.0087
	06/06/17	200.7/200.8	0.0041	0.049	<0.002	<0.006	<0.006	0.086	0.00035	0.05	<0.005	0.005	**0.059**	0.011
	03/07/17	200.7/200.8	0.0039	0.043	<0.002	<0.006	<0.006	<0.02	<0.0005	0.065	<0.005	0.0059	NA	0.029
	10/31/16	200.7/200.8	0.004	0.051	<0.002	<0.006	<0.006	0.05	<0.0025	0.056	<0.005	0.0069	**0.059**	0.0096
	09/09/16	200.7/200.8	0.0038	0.05	<0.002	<0.006	<0.006	0.027	0.00031	0.074	<0.005	0.0072	**0.059**	0.0095
	06/09/16	200.7/200.8	0.0057	0.064	<0.002	<0.006	<0.006	0.099	0.00057	0.082	<0.005	0.012	**0.064**	<0.01
	02/24/16	200.7/200.8	0.0029	0.049	<0.002	<0.006	<0.006	0.023	0.00024	0.062	<0.005	0.0034	**0.063**	0.012
	11/05/15	200.7/200.8	<0.005	0.054	<0.002	<0.006	<0.006	0.064	<0.0005	0.076	<0.005	0.0081	**0.059**	<0.01
	08/21/15	200.7/200.8	<0.005	0.077	<0.002	<0.006	<0.006	0.57	0.00051	0.06	<0.005	<0.01	**0.067**	<0.01
	06/09/15	200.7/200.8	<0.005	0.057	<0.002	<0.006	<0.006	0.058	<0.005	0.082	<0.005	<0.005	**0.066**	0.016
	03/12/15	200.7/200.8	<0.01	0.057	<0.002	<0.006	<0.006	0.18	<0.001	0.08	<0.005	<0.02	**0.068**	0.014
	11/17/14	200.7/200.8	<0.005	0.064	<0.002	<0.006	<0.006	0.21	<0.001	0.094	<0.005	<0.01	**0.059**	0.01

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-33	11/28/17	200.7/200.8	0.00071	0.04	<0.002	<0.006	<0.006	<0.02	<0.0005	**0.28**	<0.005	<0.005	**0.032**	0.0051
	09/25/17	200.7/200.8	<0.005	0.037	<0.002	<0.006	<0.006	<0.02	<0.0005	0.19	<0.005	0.002	NA	0.014
	06/08/17	200.7/200.8	0.0011	0.04	<0.002	<0.006	<0.006	0.029	0.00019	0.042	<0.005	0.0023	**0.035**	0.012
	03/08/17	200.7/200.8	0.0014	0.04	<0.002	<0.006	<0.006	0.032	0.00025	0.2	<0.005	0.0028	NA	0.029
	11/01/16	200.7/200.8	0.0011	0.041	<0.002	<0.006	<0.006	<0.02	<0.0005	0.13	<0.005	0.0028	**0.038**	0.017
	09/10/16	200.7/200.8	0.0011	0.043	<0.002	<0.006	<0.006	0.02	0.00023	0.13	<0.005	0.0035	**0.037**	<0.01
	06/10/16	200.7/200.8	0.0017	0.04	<0.002	<0.006	<0.006	0.014	<0.0005	0.031	<0.005	0.004	**0.038**	0.011
	02/25/16	200.7/200.8	0.00079	0.047	<0.002	<0.006	<0.006	0.045	0.00011	0.16	<0.005	0.0018	**0.04**	0.017
	11/09/15	200.7/200.8	<0.005	0.062	<0.002	<0.006	<0.006	0.071	0.00059	**0.24**	<0.005	<0.005	**0.04**	<0.01
	08/21/15	200.7/200.8	<0.005	0.054	<0.002	<0.006	<0.006	<0.02	<0.0005	**0.28**	<0.005	0.0024	**0.042**	<0.01
	06/09/15	200.7/200.8	<0.005	0.055	<0.002	<0.006	<0.006	<0.02	<0.002	0.14	<0.005	<0.005	**0.044**	0.028
	03/12/15	200.7/200.8	<0.01	0.061	<0.002	<0.006	<0.006	0.026	<0.001	**0.28**	<0.005	<0.01	**0.045**	0.017
	11/17/14	200.7/200.8	<0.005	0.064	<0.002	<0.006	<0.006	0.061	<0.001	**0.24**	<0.005	<0.005	**0.045**	0.016
MKTF-34	12/01/17	200.7/200.8	<0.005	0.063	<0.002	<0.006	<0.006	<0.02	<0.0025	<0.002	<0.005	<0.005	**0.036**	0.0082
	09/26/17	200.7/200.8	0.0025	0.06	<0.002	0.0015	<0.006	<0.02	<0.0005	0.00062	<0.005	<0.02	NA	0.034
	06/14/17	200.7/200.8	0.0015	0.072	<0.002	<0.006	0.019	0.033	<0.0005	0.00099	<0.005	<0.02	NA	0.01
	03/01/17	200.7/200.8	0.0025	0.079	<0.002	<0.006	<0.006	<0.02	<0.0005	0.00076	<0.005	0.0045	NA	0.028
	11/08/16	200.7/200.8	0.003	0.057	<0.002	<0.006	<0.006	<0.02	<0.0005	0.00035	<0.005	0.0077	**0.036**	0.0031
	09/13/16	200.7/200.8	0.0042	0.11	<0.002	<0.006	<0.006	<0.02	<0.0005	0.00053	<0.005	0.016	**0.037**	0.0032
	06/10/16	200.7/200.8	0.0046	0.1	<0.002	<0.006	<0.006	0.041	<0.0025	0.0017	<0.005	0.018	0.03	0.0037
	02/25/16	200.7/200.8	0.0032	0.13	<0.002	<0.006	<0.006	0.017	0.00013	0.001	<0.005	0.01	0.03	0.012
	01/03/15	200.7/200.8	<0.005	0.12	<0.002	<0.006	<0.006	<0.02	<0.0005	<0.002	<0.005	<0.02	0.027	<0.01
	08/18/15	200.7/200.8	<0.01	0.13	<0.002	<0.006	<0.006	<0.02	<0.0025	<0.002	<0.005	<0.01	0.027	<0.01
	06/08/15	200.7/200.8	<0.005	0.14	<0.002	<0.006	<0.006	0.11	<0.002	0.0059	<0.005	<0.01	0.029	0.018
	03/12/15	200.7/200.8	<0.01	0.12	<0.002	<0.006	<0.006	0.21	<0.001	0.013	<0.005	<0.05	0.025	<0.01
	11/17/14	200.7/200.8	<0.01	0.15	<0.002	<0.006	<0.006	<0.02	<0.001	0.0041	<0.005	<0.02	0.027	0.051

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-35	11/30/17	200.7/200.8	<0.005	0.29	<0.002	<0.006	<0.006	**2.9**	<0.0005	**3.1**	<0.005	<0.005	0.0024	<0.01
	09/27/17	200.7/200.8	0.002	0.31	<0.002	<0.006	<0.006	**3.3**	0.0003	**3.4**	<0.005	<0.02	NA	0.0067
	06/14/17	200.7/200.8	0.003	0.13	<0.002	<0.006	<0.006	**3.1**	0.00024	**3.1**	<0.005	<0.02	NA	0.0095
	03/01/17	200.7/200.8	0.00072	0.06	<0.002	<0.006	<0.006	**3.1**	<0.0005	**3.3**	<0.005	0.004	NA	0.023
	11/03/16	200.7/200.8	0.00081	0.23	<0.002	<0.006	<0.006	**3**	0.00032	**2.9**	<0.005	0.0014	0.00075	<0.01
	09/13/16	200.7/200.8	0.00089	0.17	<0.002	<0.006	<0.006	**2.7**	<0.0005	**3.1**	<0.005	0.0026	0.001	0.0032
	06/10/16	200.7/200.8	0.00061	0.37	<0.002	<0.006	<0.006	**2.5**	<0.0005	**2.7**	<0.005	0.0023	0.0011	<0.01
	02/26/16	200.7/200.8	0.00046	0.43	<0.002	<0.006	<0.006	**2.8**	0.00037	**3**	<0.005	0.00089	0.0016	0.0099
	11/03/15	200.7/200.8	<0.005	0.57	<0.002	<0.006	<0.006	**2.6**	<0.0005	**3**	<0.005	0.0035	0.0019	<0.01
	08/18/15	200.7/200.8	<0.01	0.96	<0.002	<0.006	<0.006	**2.8**	<0.0025	**2.9**	<0.005	<0.01	<0.0025	<0.01
	06/04/15	200.7/200.8	<0.005	0.36	<0.002	<0.006	<0.006	**2.6**	<0.005	**3.1**	<0.005	<0.005	<0.005	0.017
	03/17/15	200.7/200.8	<0.01	0.31	<0.002	<0.006	<0.006	**3.6**	0.0011	**3.5**	<0.005	<0.01	0.0026	<0.01
MKTF-36	11/30/17	200.7/200.8	**0.011**	**5.7**	<0.002	<0.006	<0.006	**13**	0.002	**1.7**	<0.005	<0.005	0.00047	0.0063
	09/27/17	200.7/200.8	**0.016**	**4.7**	<0.002	<0.006	<0.006	**13**	0.0022	**1.7**	<0.005	0.0036	NA	0.043
	06/14/17	200.7/200.8	**0.013**	**4.7**	<0.002	<0.006	<0.006	**14**	0.002	**1.8**	<0.005	0.0026	NA	0.012
	03/01/17	200.7/200.8	**0.012**	**5.4**	<0.002	<0.006	<0.006	**17**	0.002	**2.1**	<0.005	0.0036	NA	0.022
	11/08/16	200.7/200.8	**0.015**	**6**	<0.002	<0.006	<0.006	**13**	0.0022	**1.9**	<0.005	0.0042	0.00021	0.0055
	08/18/15	200.7/200.8	**0.018**	**6.1**	<0.002	0.0064	<0.006	**18**	<0.0025	**2.5**	<0.005	<0.01	<0.0025	<0.01
	06/04/15	200.7/200.8	**0.016**	**6.6**	<0.002	<0.006	<0.006	**18**	<0.005	**2.4**	<0.005	<0.005	<0.005	0.012
	03/17/15	200.7/200.8	**0.015**	**6.4**	<0.002	<0.006	<0.006	**19**	0.0034	**2.6**	<0.005	<0.01	<0.001	0.047
MKTF-37	03/01/17	200.7/200.8	0.0036	**1.2**	<0.002	<0.002	<0.006	**2.4**	0.002	**1.1**	<0.005	0.004	NA	0.024
	11/03/16	200.7/200.8	0.0035	0.58	<0.002	<0.006	<0.006	0.25	0.00025	**0.46**	<0.005	0.003	**0.036**	<0.01
	08/19/15	200.7/200.9	<0.02	**1.19**	<0.002	<0.006	<0.006	**2.6**	0.0047	**1.8**	<0.005	<0.01	**1.019**	<0.02
	06/04/15	200.7/200.8	<0.01	0.19	<0.002	<0.006	<0.006	**1.8**	<0.01	**2.3**	<0.005	<0.01	0.023	0.039
	03/17/15	200.7/200.8	<0.005	0.16	<0.002	<0.006	<0.006	**1.1**	0.0071	**2.7**	<0.005	<0.01	0.021	0.029

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-38	11/30/17	200.7/200.8	<0.005	0.031	<0.002	<0.006	<0.006	<0.02	<0.0025	**1.8**	<0.005	<0.005	0.026	<0.01
	09/28/17	200.7/200.8	0.0017	0.03	<0.002	<0.006	<0.006	<0.02	<0.0005	**2.1**	<0.005	0.0041	NA	0.044
	06/21/17	200.7/200.8	0.0026	0.041	<0.002	<0.006	<0.006	0.076	0.00027	**2.5**	<0.005	0.0043	0.024	0.011
	03/14/17	200.7/200.8	0.0011	0.037	<0.002	<0.006	<0.006	0.098	0.00031	**2.6**	<0.005	0.003	0.015	0.029
	11/01/16	200.7/200.8	0.0014	0.044	<0.002	<0.006	<0.006	0.038	<0.0005	**3.3**	<0.005	0.004	0.013	<0.01
	09/13/16	200.7/200.8	0.0018	0.039	<0.002	<0.006	<0.006	<0.02	<0.0005	**3.1**	<0.005	0.0053	0.013	0.004
	06/08/16	200.7/200.8	0.0013	0.031	<0.002	<0.006	<0.006	0.015	<0.0005	**2.8**	<0.005	0.0057	0.013	0.0074
	02/29/16	200.7/200.8	0.0014	0.03	<0.002	<0.006	<0.006	0.07	0.000047	**2.3**	<0.005	0.0033	0.012	0.012
	11/09/15	200.7/200.8	<0.005	0.066	<0.002	<0.006	<0.006	0.22	0.001	**3.4**	<0.005	<0.05	0.019	<0.01
	08/24/15	200.7/200.8	0.0019	0.066	<0.002	<0.006	<0.006	0.094	<0.0005	**3**	<0.005	0.0033	0.023	<0.01
	06/10/15	200.7/200.8	<0.005	0.074	<0.002	<0.006	<0.006	0.31	<0.005	**3.1**	<0.005	<0.005	0.021	0.021
	03/16/15	200.7/200.8	<0.01	0.14	<0.002	<0.006	<0.006	0.24	<0.001	**3.1**	<0.005	<0.01	0.025	0.096
MKTF-39	11/28/17	200.7/200.8	0.0027	**12**	<0.002	<0.006	<0.006	**12**	<0.0025	**2**	<0.005	0.0099	<0.0025	<0.01
	09/28/17	200.7/200.8	0.0042	**34**	<0.002	<0.006	<0.006	**31**	<0.0025	**5.2**	<0.005	0.013	NA	0.034
	06/08/17	200.7/200.8	0.0051	**6.7**	<0.002	<0.006	<0.006	**7.3**	0.00087	**1.3**	<0.005	0.016	0.00013	0.084
	03/14/17	200.7/200.8	0.0032	**5.6**	<0.002	<0.006	<0.006	**6.3**	0.00032	**1.2**	<0.005	0.0088	0.000079	0.022
	11/01/16	200.7/200.8	0.0036	**6**	<0.002	<0.006	<0.006	**6.9**	0.00045	**1.2**	<0.005	0.01	0.000078	<0.01
	09/13/16	200.7/200.8	0.0047	**8.9**	<0.002	<0.006	<0.006	**9.6**	0.00038	**1.7**	<0.005	0.016	0.000071	0.0031
	06/08/16	200.7/200.8	0.0024	**7.5**	<0.002	<0.006	<0.006	**8.3**	0.0013	**1.2**	<0.005	0.0061	0.00011	<0.01
	03/03/16	200.7/200.8	0.0017	**11**	<0.002	<0.006	<0.006	**11**	0.00039	**1.7**	<0.005	0.0066	0.000093	0.0092
	11/09/15	200.7/200.8	<0.005	**30**	<0.002	<0.006	<0.006	**29**	<0.005	**3.9**	<0.005	<0.02	<0.005	<0.01
	08/23/15	200.7/200.8	<0.005	**44**	<0.002	<0.006	<0.006	**45**	<0.0025	**5.8**	<0.005	<0.01	<0.0025	0.023
	06/10/15	200.7/200.8	<0.01	**67**	<0.002	<0.006	<0.006	**60**	<0.01	**8.8**	<0.005	<0.01	<0.01	0.012
	03/16/15	200.7/200.8	<0.01	**21**	<0.002	<0.006	<0.006	**31**	<0.005	**7**	<0.005	0.011	0.0099	<0.01
MKTF-40	11/21/17	200.7/200.8	0.0046	0.076	<0.002	<0.006	<0.006	0.072	<0.0025	0.021	0.0056	<0.01	**0.052**	<0.01
	09/25/17	200.7/200.8	0.0026	0.072	<0.002	<0.006	<0.006	0.094	<0.0025	0.052	<0.005	0.0082	NA	0.012
	06/05/17	200.7/200.8	0.0023	0.079	<0.002	<0.006	0.0081	0.053	<0.0025	0.09	<0.005	0.0075	**0.058**	0.018
	03/07/17	200.7/200.8	0.0029	0.097	<0.002	<0.006	<0.006	<0.02	<0.0025	0.04	<0.005	0.01	NA	0.02
	10/31/16	200.7/200.8	0.0039	0.1	<0.002	<0.006	<0.006	0.045	<0.0025	0.11	<0.005	0.012	**0.06**	0.0029
	09/08/16	200.7/200.8	0.0023	0.11	<0.002	<0.006	<0.006	0.11	<0.0025	0.052	<0.005	0.0096	**0.059**	0.0031
	06/09/16	200.7/200.8	<0.05	0.13	<0.002	<0.006	<0.006	0.089	<0.0025	0.18	<0.005	0.019	**0.058**	<0.01
	02/23/16	200.7/200.8	<0.01	0.064	<0.002	<0.006	<0.006	0.093	0.00053	0.041	<0.005	<0.01	**0.077**	0.016
	11/04/15	200.7/200.8	<0.005	0.15	<0.002	<0.006	<0.006	0.051	<0.0025	**0.23**	<0.005	<0.02	**0.06**	<0.01
	08/21/15	200.7/200.8	<0.005	0.086	<0.002	<0.006	<0.006	0.039	<0.0025	0.18	<0.005	0.0078	**0.087**	<0.01
	06/10/15	200.7/200.8	<0.005	0.16	<0.002	<0.006	<0.006	0.11	<0.005	0.15	<0.005	0.0096	**0.069**	0.022
	03/11/15	200.7/200.8	<0.01	0.19	<0.002	<0.006	<0.006	0.11	<0.01	0.2	<0.005	0.02	**0.07**	<0.01

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-41	11/27/17	200.7/200.8	<0.05	0.061	<0.002	<0.006	<0.006	0.02	<0.0025	0.0016	<0.005	0.037	0.013	<0.01
	09/25/17	200.7/200.8	0.0063	0.063	<0.002	0.0021	<0.006	0.018	<0.0005	0.0014	<0.005	0.045	NA	0.065
	06/06/17	200.7/200.8	0.0064	0.056	<0.002	0.0017	<0.006	0.14	0.00055	0.014	<0.005	0.044	0.02	0.018
	03/07/17	200.7/200.8	0.0055	0.056	<0.002	0.002	<0.006	<0.02	<0.0005	0.0016	<0.005	0.049	NA	0.015
	10/31/16	200.7/200.8	0.0054	0.058	<0.002	<0.006	<0.006	0.052	<0.0025	0.0043	<0.005	0.05	0.013	<0.01
	09/09/16	200.7/200.8	<0.05	0.059	<0.002	<0.006	<0.006	<0.02	<0.0005	0.0012	<0.005	0.048	0.014	0.0098
	06/09/16	200.7/200.8	0.0075	0.071	<0.002	0.0027	<0.006	0.19	0.00091	0.019	<0.005	**0.06**	0.023	0.0029
	02/24/16	200.7/200.8	0.0051	0.07	<0.002	0.0025	<0.006	0.074	0.00035	0.0068	<0.005	0.047	0.023	0.0063
	11/05/15	200.7/200.8	<0.01	0.083	<0.002	<0.006	<0.006	0.27	0.0015	0.037	<0.005	**0.054**	0.022	<0.01
	08/21/15	200.7/200.8	<0.01	0.097	<0.002	<0.006	<0.006	**1.4**	0.0013	0.044	<0.005	0.049	0.026	<0.01
	06/09/15	200.7/200.8	<0.005	0.073	<0.002	<0.006	<0.006	0.18	<0.005	0.011	<0.005	0.045	0.03	0.018
	03/12/15	200.7/200.8	<0.01	0.081	<0.002	<0.006	<0.006	0.2	<0.001	0.024	<0.005	**0.059**	**0.034**	0.013
MKTF-42	11/27/17	200.7/200.8	0.0033	0.064	<0.002	<0.006	<0.006	0.21	<0.0025	**0.21**	<0.005	0.0044	0.0093	<0.01
	09/25/17	200.7/200.8`	0.0036	0.059	<0.002	<0.006	<0.006	0.056	<0.0005	0.19	<0.005	0.0086	NA	0.006
	06/06/17	200.7/200.8	0.0035	0.065	<0.002	<0.006	0.0084	0.21	<0.0005	**0.24**	<0.005	0.0079	0.013	0.016
	03/07/17	200.7/200.8	0.0033	0.079	<0.002	<0.006	<0.006	0.061	<0.0005	**0.23**	<0.005	0.0086	NA	0.015
	10/31/16	200.7/200.8	0.0044	0.075	<0.002	<0.006	<0.006	0.18	<0.0025	**0.3**	<0.005	0.012	0.013	<0.01
	09/09/16	200.7/200.8	0.0033	0.078	<0.002	<0.006	0.0052	0.081	0.00067	**0.29**	<0.005	0.0095	0.019	0.0078
	06/09/16	200.7/200.8`	0.006	0.079	<0.002	<0.006	<0.006	0.077	0.00031	**0.37**	<0.005	0.016	0.021	<0.01
	02/24/16	200.7/200.8	0.0029	0.073	<0.002	<0.006	<0.006	0.19	0.00016	**0.44**	<0.005	0.0071	0.025	0.0099
	11/05/15	200.7/200.8	<0.005	0.071	<0.002	<0.006	<0.006	0.092	<0.0005	**0.43**	<0.005	0.012	0.024	<0.01
	08/21/15	200.7/200.8	<0.005	0.078	<0.002	<0.006	<0.006	0.046	<0.0005	**0.39**	<0.005	0.0075	0.029	<0.01
	06/09/15	200.7/200.8	<0.005	0.082	<0.002	<0.006	<0.006	0.031	<0.005	**0.55**	<0.005	0.0072	**0.035**	<0.01
	03/11/15	200.7/200.8	<0.01	0.094	<0.002	<0.006	<0.006	0.11	<0.001	**0.54**	<0.005	0.015	**0.04**	0.036
MKTF-43	11/27/17	200.7/200.8	0.0049	0.081	<0.002	<0.006	0.0076	0.072	<0.005	**6.6**	<0.05	<0.05	**0.14**	<0.01
	09/25/17	200.7/200.8	<0.1	0.071	<0.002	<0.006	<0.006	0.022	<0.005	**9.7**	<0.005	0.044	NA	<0.02
	06/06/17	200.7/200.8	<0.1	0.083	<0.002	<0.006	<0.006	0.028	<0.005	**6.6**	<0.005	0.045	**0.18**	0.017
	03/08/17	200.7/200.8	**0.017**	0.068	<0.01	<0.03	<0.03	<0.1	<0.01	**11**	<0.025	**0.059**	NA	0.037
	10/31/16	200.7/200.8	<0.05	0.13	<0.002	<0.006	<0.006	0.48	<0.01	**19**	<0.005	<0.5	**0.19**	0.016
	09/09/16	200.7/200.8	**0.018**	0.086	<0.002	<0.006	<0.006	0.073	<0.005	**23**	<0.005	**0.067**	**0.25**	0.013
	06/09/16	200.7/200.8	**0.027**	0.065	<0.002	<0.006	<0.006	0.11	<0.005	**20**	<0.005	**0.091**	**0.27**	0.0073
	02/24/16	200.7/200.8	**0.013**	0.057	<0.002	<0.006	<0.006	0.041	<0.025	**12**	<0.005	0.043	**0.24**	0.017
	11/05/15	200.7/200.8	<0.05	0.085	<0.002	<0.006	<0.006	0.11	<0.005	**14**	<0.005	**0.094**	**0.25**	0.011
	08/21/15	200.7/200.8	<0.02	0.1	<0.002	<0.006	<0.006	0.062	<0.01	**20**	<0.005	**0.06**	**0.28**	<0.1
	06/10/15	200.7/200.8	<0.05	0.12	<0.002	<0.006	<0.006	**1.1**	<0.05	**15**	<0.005	<0.1	**0.23**	0.032
	03/11/15	200.7/200.8	<0.05	0.17	<0.01	0.048	<0.03	0.49	<0.05	**3.7**	<0.025	**0.11**	**0.15**	<0.05

8.17.3 MKTF WELLS

Dissolved Metals Analytical Result Summary

STANDARDS			Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Silver (mg/L)	Selenium (mg/L)	Uranium (mg/L)	Zinc (mg/L)
WQCC 20NMAC 6.2.3103			0.1	**1**	0.01	**0.05**	**1**	**1**	0.05	**0.2**	**0.05**	**0.05**	**0.03**	**10**
40 CFR 141.62 MCL			**0.01**	2	**0.005**	0.1	1.3	NE	**0.015**	NE	NE	0.05	0.03	NE
NMED Tap Water (MARCH 2017)			0.000855	3.28	0.00624	0.0057	0.7898	13.8	NE	2.02	0.0812	0.0987	0.0592	5.96
EPA RSL for Tap Water (MAY 2018)			0.000052	0.38	0.0092	NE	0.8	14	0.015	0.43	0.094	0.1	0.004	6
Well ID	**DATE SAMPLED**	**METHOD**												
MKTF-44	11/28/17	200.7/200.8	0.0054	0.076	<0.002	<0.006	<0.006	0.034	<0.0005	0.0012	<0.005	0.0097	**0.14**	0.005
	09/25/17	200.7/200.8	0.0033	0.16	<0.002	0.013	<0.006	<0.02	<0.0005	0.00064	<0.005	0.012	NA	0.011
	06/05/17	200.7/200.8	0.0035	0.14	<0.002	0.011	<0.006	0.044	<0.0025	0.0029	<0.005	0.012	**0.13**	0.012
	03/08/17	200.7/200.8	0.0043	0.96	<0.002	0.032	<0.006	<0.02	<0.0025	0.0082	<0.005	0.017	NA	0.023
	11/01/16	200.7/200.8	0.0095	0.037	<0.002	0.0043	<0.006	0.37	0.0012	0.011	<0.005	0.014	**0.17**	0.0061
	09/09/16	200.7/200.8	0.0088	0.058	<0.002	0.0077	0.0041	0.97	0.005	0.042	<0.005	0.015	**0.17**	0.0078
	06/09/16	200.7/200.8	0.0049	0.11	<0.002	0.011	<0.006	0.045	0.00019	0.0031	<0.005	0.016	**0.17**	<0.01
	02/24/16	200.7/200.8	0.0052	0.072	<0.002	0.009	<0.006	0.13	0.00039	0.0046	<0.005	0.012	**0.18**	0.014
	11/09/15	200.7/200.8	<0.01	0.053	<0.002	0.0062	<0.006	0.87	0.0053	0.081	<0.005	0.014	**0.21**	<0.01
	08/17/15	200.7/200.8	<0.005	0.11	<0.002	0.013	<0.006	**2.6**	0.0075	0.2	<0.005	0.015	**0.21**	0.016
	06/10/15	200.7/200.8	<0.005	0.05	<0.002	0.0099	<0.006	0.91	<0.005	0.042	<0.005	0.015	**0.21**	0.021
	03/12/15	200.7/200.8	<0.01	0.07	<0.002	0.0072	<0.006	0.85	0.0031	0.079	<0.005	0.017	**0.22**	0.011

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

2) 2009 Method 6010B Total Recoverable Metals Analysis run

3) Water level too shallow to collect samples.

4) Was not sampled in September due to low recharge rate.

5) Quarterly combined with 2013 Annual sampling event.

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	0.006	NE	NE	NE	NE	0.075	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.535	NE	0.00012	NE	NE	0.0556	NE	NE	NE	NE	0.302	0.612	0.354	0.288	0.0114	0.036	0.035	NE	0.00165	0.0004	0.17	5.76	0.117	NE
EPA RSL for Tap Water (MAY 2018)			0.53	0.013	0.00003	75	2	0.0056	0.0016	NE	0.2	0.0079	0.00048	NE	0.36	0.29	0.0011	0.036	0.93	0.93	0.00017	0.000041	NE	5.8	0.12	0.02
Well ID	**DATE SAMPLED**	**METHOD**																								
MKTF-1	02/24/16	8270C		0.0099		<0.02		<0.01		<0.01					0.026	<0.01	0.052	0.022	0.038	0.046	0.088		<0.01	0.012		
	11/04/15	8270C		0.011		<0.02		<0.01		<0.01					0.068	<0.01	0.2	0.087	0.049	0.07	0.12		0.012	0.036		
	08/21/15	8270c		0.014		<0.02		<0.01		<0.01					0.046	<0.01	0.14	0.03	0.054	0.05	0.1		<0.01	0.022		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					0.08	<0.01	0.34	0.16	0.076	0.05	0.19		0.022	0.031		
	03/11/15	8270C		0.018		<0.02		<0.01		<0.01					0.051	<0.01	0.12	<0.01	0.061	0.035	0.09		<0.01	0.023		
	06/06/14	8270C		<0.01		<0.02		<0.01		<0.01					0.05	0.02	0.31	0.31	0.06	0.031	0.31		0.028	0.019		
MKTF-2	11/20/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	0.0047	<0.01	<0.01	<0.01	0.0093	<0.01	0.03	<0.010	0.0064	0.011	0.017	<0.02	<0.01	0.014	<0.01	<0.01
	10/03/17	8270C	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.003	<0.01	0.0097	<0.01	<0.01	<0.01	0.005	<0.02	<0.01	0.019	<0.01	<0.01
	03/16/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	0.0033	<0.01	<0.01	<0.01	0.011	<0.01	0.03	<0.01	0.013	0.013	0.038	<0.02	<0.01	0.016	<0.01	<0.01
	10/28/16	8270C		<0.01	<0.01	<0.02		0.0071	0.0027	<0.01	0.0068			<0.01	<0.01	<0.01	0.006	<0.01	<0.01	<0.01	0.0046		<0.01	<0.01		
	09/07/16	8270C		<0.01	0.0028	0.0083		0.0043		<0.01	0.0034			0.0054	<0.01	<0.01	0.0082	<0.01	<0.01	<0.01	0.0051		<0.01	0.0067		
	06/10/16	8270C		<0.05		<0.1		0.018		<0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		
	02/24/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/05/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/14/14	8270C		<0.01		<0.02		0.011		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/18/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.023	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	06/06/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	04/08/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-4	11/28/17	8270C	0.0068	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.021	<0.01	<0.01	<0.01	<0.01	0.0054	0.0081	0.16	0.19	<0.01	<0.01	0.27	<0.02	0.0068	0.0043	<0.01	<0.01
	09/26/17	8270C	0.0048	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.019	<0.01	<0.01	<0.01	<0.01	0.0049	0.0074	0.18	0.22	<0.01	<0.01	0.3	<0.02	0.0063	<0.01	<0.01	<0.01
	06/08/17	8270C	0.0052	<0.01	<0.01	<0.02	<0.01	0.055	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	0.0054	0.0048	0.14	0.15	<0.01	<0.01	0.24	<0.02	0.0064	0.0058	<0.01	<0.01
	03/02/17	8270C	0.0061	<0.01	<0.01	<0.02	<0.01	0.0071	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.0038	0.0061	0.12	0.16	<0.01	<0.01	0.27	<0.02	0.0061	0.0052	<0.01	<0.01
	11/02/16	8270C	0.0055	<0.01		<0.02		0.0068		0.02	0.0073	<0.01			0.0043	0.0082	0.15	0.17	<0.01	<0.01	0.25		0.008	0.0026		<0.01
	09/11/16	8270C	0.0049	<0.01		<0.02		0.0036		0.017	0.0049	0.0025			<0.01	0.0052	0.14	0.16	<0.01	<0.01	0.22		0.0071	0.0037		0.0033
	06/09/16	8270C		<0.05		<0.1		0.018		0.018	0.028				<0.05	<0.05	0.13	0.13	<0.05	<0.05	0.18		<0.05	<0.05		
	02/29/16	8270C		<0.01		<0.02		<0.01		0.026					0.008	0.0075	0.17	0.19	<0.01	<0.01	0.33		0.0086	<0.01		
	11/03/15	8270C		<0.01		<0.02		<0.01		0.019					<0.01	<0.01	0.15	0.16	<0.01	<0.01	0.27		<0.01	<0.01		
	08/18/15	8270C		<0.01		<0.02		<0.01		0.021					<0.01	<0.01	0.15	0.096	<0.01	<0.01	0.26		<0.01	<0.01		
	06/04/15	8270C		<0.01		<0.02		<0.01		0.015					<0.01	<0.01	0.12	0.076	<0.01	<0.01	0.19		<0.01	<0.01		
	03/16/15	8270C		<0.01		<0.02		<0.01		0.014					<0.01	<0.01	0.051	0.025	<0.01	<0.01	0.059		<0.01	<0.01		
	11/13/14	8270C		<0.01		<0.02		<0.01		0.017					<0.01	<0.01	0.061	0.047	<0.01	<0.01	0.08		<0.01	<0.01		
	09/24/14[1]	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.13	0.16	<0.02	<0.01	0.19		<0.01	<0.01		
	06/04/14	8270C		<0.01		0.021		<0.01		0.011					<0.01	<0.01	0.11	0.14	<0.02	<0.01	0.24		<0.01	<0.01		
	04/11/14	8270C		<0.01		<0.02		<0.01		0.017					<0.01	<0.01	0.12	0.16	<0.02	<0.01	0.23		<0.01	<0.01		
MKTF-9	11/28/17	8270C	0.0059	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	0.008	0.077	0.012	<0.01	<0.01	0.042	<0.02	0.0088	0.018	<0.01	<0.01
	09/28/17	8270C	0.0055	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01	0.0049	<0.01	0.0085	0.089	<0.01	<0.01	<0.01	0.043	<0.02	0.0086	0.012	<0.01	<0.01
	06/12/17	8270C	0.0053	<0.01	<0.01	<0.02	<0.01	0.005	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	0.0061	0.059	0.0079	<0.01	<0.01	0.042	<0.02	0.0072	0.013	<0.01	<0.01
	03/15/17	8270C	0.004	<0.01	<0.01	<0.02	<0.01	0.0073	<0.01	0.011	0.0037	<0.01	<0.01	<0.01	<0.01	0.0049	0.048	0.0047	<0.01	<0.01	0.032	<0.02	0.0053	0.005	<0.01	<0.01
	11/02/16	8270C	0.0038	<0.01		<0.02		0.0066		0.01	0.007				<0.01	0.0061	0.048	<0.01	<0.01	<0.01	0.023	<0.02	0.0066	0.0025		<0.01
	09/11/16	8270C	0.0046	<0.01		<0.02		0.0035		0.011	0.005				<0.01	0.0044	0.064	0.0052	<0.01	<0.01	0.023	0.0094	0.0065	0.012		0.0071
	06/09/16	8270C	0.0034	<0.01		<0.02		0.0035		0.0088	0.0051				<0.01	<0.01	0.046	0.0051	<0.01	<0.01	0.018		0.0051	0.0064		
	02/29/16	8270C		<0.01		<0.02		<0.01		0.012					<0.01	<0.01	0.069	0.01	<0.01	<0.01	0.032		<0.01	<0.01		
	11/03/15	8270C		<0.01		<0.02		<0.01		0.013					<0.01	<0.01	0.085	0.011	<0.01	<0.01	0.034		<0.01	<0.01		
	08/18/15	8270C		<0.10		<0.02		<0.01		0.016					<0.01	<0.01	0.08	<0.01	<0.01	<0.01	0.023		0.011	<0.01		
	06/04/15	8270C		<0.10		<0.02		<0.01		0.01					<0.01	<0.01	0.036	<0.01	<0.01	<0.01	0.012		<0.01	<0.01		
	03/16/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.027	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/14/14	8270C		<0.01		<0.02		0.011		<0.01					<0.01	<0.01	0.049	<0.01	<0.01	<0.01	0.021		<0.01	<0.01		
	09/18/14	8270C		<0.01		<0.02		<0.01		0.01					<0.01	<0.01	0.031	<0.01	<0.02	<0.01	0.018		<0.01	<0.01		
	06/05/14	8270C		<0.01		<0.02		<0.01		0.01					<0.01	<0.01	0.058	0.014	<0.02	<0.01	0.041		<0.01	<0.01		
	04/14/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.046	0.01	<0.02	<0.01	0.031		<0.01	<0.01		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	0.006	NE	NE	NE	NE	0.075	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.535	NE	0.00012	NE	NE	0.0556	NE	NE	NE	NE	0.302	0.612	0.354	0.288	0.0114	0.036	0.035	NE	0.00165	0.0004	0.17	5.76	0.117	NE
EPA RSL for Tap Water (MAY 2018)			0.53	0.013	0.00003	75	2	0.0056	0.0016	NE	0.2	0.0079	0.00048	NE	0.36	0.29	0.0011	0.036	0.93	0.93	0.00017	0.000041	NE	5.8	0.12	0.02
Well ID	**DATE SAMPLED**	**METHOD**																								
MKTF-10	11/28/17	8270C	<0.05	<0.05	<0.05	0.06	<0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.016	<0.05	0.047	0.079	0.024	0.028	0.14	<0.1	<0.05	0.031	<0.05	<0.05
	09/28/17	8270C	<0.1	<0.1	<0.1	0.065	<0.1	0.082	<0.1	<0.1	<0.1	<0.1	<0.1	0.061	<0.1	<0.1	<0.1	0.042	<0.1	<0.1	0.11	<0.2	<0.1	<0.1	<0.1	<0.1
	06/08/17	8270C	<0.01	0.0049	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	0.0048	<0.01	<0.01	<0.01	0.029	<0.01	0.052	0.066	0.073	0.098	0.16	<0.02	<0.01	0.049	<0.01	<0.01
	03/02/17	8270C	<0.01	0.0067	<0.01	<0.02	0.0045	0.0067	<0.01	0.0032	<0.01	<0.01	<0.01	<0.01	0.031	<0.01	0.037	0.049	0.083	0.13	0.12	<0.02	<0.01	0.05	<0.01	<0.01
	11/02/16	8270C		<0.05		0.056	<0.05	0.034	0.014	<0.05	0.037				0.039	<0.05	0.047	0.07	0.13	0.18	0.15		<0.05	0.079		
	09/11/16	8270C		0.06		0.05	0.0062	0.0037		0.0044	0.005				0.2	<0.01	0.051	0.077	0.69	1.1	0.15		<0.01	0.26		
	06/09/16	8270C		<0.05		<0.1		0.018		<0.05	0.025				0.21	<0.05	0.056	0.072	0.82	0.92	0.15		<0.05	0.36		
	02/29/16	8270C		0.042		<0.02		<0.01		<0.01					0.17	<0.01	0.057	0.08	0.77	1	0.2		<0.01	0.67		
	11/03/15	8270C		0.029		<0.02		<0.01		<0.01					0.093	<0.01	0.06	0.069	0.28	0.42	0.14		<0.01	0.24		
	08/18/15	8270C		0.06		<0.02		<0.01		<0.01					0.085	<0.01	0.14	0.13	0.45	0.65	0.25		<0.01	0.41		
	06/04/15	8270C		<0.01		<0.02		<0.01		<0.01					0.1	<0.01	0.066	0.084	0.35	0.54	0.18		<0.01	0.28		
	03/16/15	8270C		0.067		<0.02		<0.01		<0.01					0.11	<0.01	<0.01	0.088	0.53	0.63	0.17		<0.01	0.42		
	11/14/14	8270C		0.054		<0.02		0.01		<0.01					0.063	<0.01	0.046	0.051	0.33	0.4	0.099		<0.01	0.29		
	09/18/14	8270C		0.073		<0.02		<0.01		<0.01					0.09	<0.01	0.036	0.042	0.32	0.38	0.098		<0.01	0.25		
	06/06/14	8270C		0.075		<0.02		<0.01		<0.01					0.11	<0.01	0.04	0.053	0.49	0.61	0.14		<0.01	0.37		
	04/11/14	8270C		0.075		<0.023		<0.012		<0.012					0.12	<0.012	0.042	0.056	0.3	0.26	0.14		<0.012	0.061		
MKTF-11	11/28/17	8270C	<0.01	0.021	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.055	<0.01	0.014	0.012	0.22	0.27	0.045	<0.02	<0.01	0.088	<0.01	<0.01
	09/26/17	8270C	<0.01	0.026	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.086	<0.01	0.013	0.013	0.33	0.39	0.044	<0.02	<0.01	0.094	<0.01	<0.01
	06/08/17	8270C	<0.01	0.014	<0.01	<0.02	<0.01	0.0058	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.062	<0.01	0.011	0.0084	0.21	0.23	0.031	<0.02	<0.01	0.073	<0.01	<0.01
	03/02/17	8270C	<0.01	<0.01	<0.01	0.011	<0.01	0.0076	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	0.0092	0.0069	0.04	0.031	0.024	<0.02	<0.01	0.015	<0.01	<0.01
	11/02/16	8270C		0.007		<0.02		0.0064	0.0027	0.0024	0.0072			<0.01	0.013	<0.01	0.015	0.0095	0.096	0.089	0.034		<0.01	0.04		
	09/11/16	8270C		0.0093		<0.02		0.0037		<0.01	0.0037			0.0029	0.042	<0.01	0.012	0.009	0.13	0.12	0.03		<0.01	0.049		
	06/09/16	8270C		0.0037		<0.02		0.0032		<0.01	0.0048				0.022	<0.01	0.015	0.01	0.088	0.063	0.033		<0.01	0.045		
	02/29/16	8270C		0.011		<0.02		<0.01		<0.01					0.018	<0.01	0.014	0.011	0.084	0.049	0.038		<0.01	0.029		
	11/03/15	8270C		0.038		<0.02		<0.01		<0.01					0.11	<0.01	0.022	0.023	0.3	0.27	0.073		<0.01	0.09		
	08/18/15	8270C		<0.01		<0.029		<0.01		<0.01					0.015	<0.01	0.01	<0.01	0.049	0.029	0.017		<0.01	0.027		
	06/04/15	8270C		0.046		<0.02		<0.01		<0.01					0.14	<0.01	0.02	0.021	0.3	0.23	0.07		<0.01	0.053		
	03/16/15	8270C		0.044		<0.02		<0.01		<0.01					0.11	<0.01	0.025	0.02	0.27	0.24	0.069		<0.01	0.052		
	11/13/14	8270C		<0.01		<0.02		0.014		<0.01					0.012	<0.01	0.015	<0.01	0.07	0.046	0.031		<0.01	0.02		
	09/24/14[1]	8270C		0.027		<0.02		<0.10		<0.01					0.19	<0.01	0.024	0.022	0.35	0.24	0.067		<0.01	0.078		
	06/05/14	8270C		0.025		<0.02		<0.01		<0.01					0.092	<0.01	0.011	<0.01	0.18	0.13	0.046		<0.01	0.032		
	04/11/14	8270C		0.023		<0.02		<0.01		<0.01					0.078	<0.01	0.012	<0.01	0.16	0.11	0.038		<0.01	0.021		
MKTF-13	03/15/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.0071	<0.01	<0.01	0.0035	<0.01	<0.01	<0.01	0.0067	0.0034	0.045	0.063	<0.01	0.0034	0.084	<0.02	0.003	0.0082	<0.01	<0.01
MKTF-15	11/28/17	8270C	<0.1	0.041	0.054	0.051	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.067	<0.1	<0.1	<0.1	0.38	0.34	0.72	<0.2	0.054	0.71	0.062	<0.1
	06/08/17	8270C	<0.05	0.052	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.088	<0.05	<0.05	<0.05	0.25	0.19	0.042	<0.1	<0.05	0.14	<0.05	<0.05
	03/02/17	8270C	<0.01	<0.01	<0.01	0.021	0.0049	0.0076	<0.01	0.0032	<0.01	<0.01	<0.01	<0.01	0.055	<0.01	0.016	0.017	0.28	0.29	0.06	<0.02	<0.01	<0.01	<0.01	<0.01
	11/02/16	8270C		<0.05		0.065		0.035	0.013	<0.05	0.036			<0.05	0.079	<0.05	<0.05	<0.05	0.46	0.55	0.059		<0.05	2		
	09/11/16	8270C		<0.01		0.011		0.0031		0.004	0.0045			0.017	0.23	<0.01	0.013	0.014	1.8	2.6	0.053		<0.01	5.8		
	09/17/14	8270C		<0.01		<0.02		<0.01		<0.01					0.013	<0.01	0.035	0.033	0.024	<0.01	0.048		<0.01	<0.01		
	06/05/14	8270C		<0.01		0.023		<0.01		<0.01					0.013	<0.01	0.021	0.021	0.028	<0.01	0.05		<0.01	<0.01		
	04/10/14	8270C		<0.012		<0.025		<0.012		<0.012					0.016	<0.012	0.02	0.021	0.043	<0.012	0.048		<0.012	0.015		
MKTF-16	11/29/17	8270C	<0.05	<0.05	<0.05	0.05	<0.05	0.035	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.059	<0.05	0.026	0.023	0.029	0.016	0.09	<0.1	<0.05	0.49	<0.05	<0.05
	09/26/17	8270C	<0.05	<0.05	<0.05	0.051	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	0.018	0.026	0.036	<0.05	0.1	<0.1	<0.05	0.11	<0.05	<0.05
	06/08/17	8270C	<0.01	<0.01	<0.01	0.016	<0.01	0.0062	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.11	<0.01	0.034	0.025	0.024	0.0081	0.094	<0.02	<0.01	0.45	<0.01	<0.01
	03/14/17	8270C	<0.01	0.0038	<0.01	<0.02	<0.01	0.0068	<0.01	0.003	0.0035	<0.01	<0.1	<0.01	0.034	<0.01	0.026	0.026	0.035	0.0028	0.098	<0.02	<0.01	0.029	<0.01	<0.01
	11/03/16	8270C		<0.01		0.038		0.0069	0.0027	<0.01	0.0074				0.059	0.0035	0.04	0.037	0.026	0.003	0.13		<0.01	0.18		
	09/12/16	8270C		0.0056		0.024		0.004		0.0036	0.0036				0.084	<0.01	0.046	0.051	0.071	<0.01	0.13		<0.01	0.14		
	06/09/16	8270C		<0.05		<0.1		0.019		<0.05	0.025				0.083	<0.05	0.035	0.038	0.061	<0.05	0.1		<0.05	0.17		
	02/29/16	8270C		0.011		<0.02		<0.01		<0.01					0.091	<0.01	0.033	0.042	0.079	<0.01	0.11		<0.01	0.03		
	11/03/15	8270C		0.02		<0.02		<0.01		<0.01					0.12	<0.01	0.035	0.046	0.081	<0.01	0.13		<0.01	0.057		
	08/23/15	8270C		0.025		<0.02		<0.01		<0.01					0.13	<0.01	0.044	0.055	0.1	0.015	0.16		<0.01	0.042		
	06/08/15	8270C		0.021		<0.02		<0.01		<0.01					0.18	<0.01	0.042	0.046	0.12	<0.1	0.14		<0.01	0.048		
	03/16/15	8270C		0.02		<0.02		<0.01		<0.01					0.19	<0.01	0.045	0.053	0.15	<0.01	0.15		<0.01	0.031		
	11/18/14	8270C		0.018		<0.02		0.014		<0.01					0.08	<0.01	0.047	0.051	0.14	0.016	0.13		<0.01	0.038		
	09/17/14	8270C		0.024		<0.02		<0.01		<0.01					0.18	<0.01	0.053	0.062	0.15	0.03	0.18		<0.01	0.031		
	06/16/14 [1]	8270C		0.011		<0.02		<0.01		<0.01					0.17	<0.01	0.037	0.042	0.22	0.16	0.14		<0.01	0.42		
	04/10/14	8270C		0.015		<0.02		<0.01		<0.01					0.2	<0.01	0.035	0.044	0.16	0.091	0.13		<0.01	0.09		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	0.006	NE	NE	NE	NE	0.075	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.535	NE	0.00012	NE	NE	0.0556	NE	NE	NE	NE	0.302	0.612	0.354	0.288	0.0114	0.036	0.035	NE	0.00165	0.0004	0.17	5.76	0.117	NE
EPA RSL for Tap Water (MAY 2018)			0.53	0.013	0.00003	75	2	0.0056	0.0016	NE	0.2	0.0079	0.00048	NE	0.36	0.29	0.0011	0.036	0.93	0.93	0.00017	0.000041	NE	5.8	0.12	0.02
Well ID	DATE SAMPLED	METHOD																								
MKTF-17	12/01/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0033	<0.02	<0.01	<0.01	<0.01	<0.01
	09/26/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.31	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0046	0.01	<0.01	<0.01	<0.01	0.008	<0.02	<0.01	<0.01	<0.01	<0.01
	06/14/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	<0.01	<0.01	0.027	<0.02	<0.01	0.0055	<0.01	<0.01
	03/15/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.007	<0.01	<0.01	0.0035	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0049	<0.02	<0.01	0.005	<0.01	<0.01
	11/08/16	8270C		<0.01		<0.02		0.0069	0.0027	<0.01	0.007				<0.01	0.003	0.011	<0.01	<0.01	<0.01	0.0077		<0.01	0.0035		
	09/13/16	8270C		<0.01		<0.02		0.0038		<0.01	<0.01				<0.01	<0.01	0.0063	<0.01	<0.01	<0.01	0.0064		<0.01	0.0029		
	06/10/16	8270C		<0.01		<0.02		<0.01		<0.01	0.005				0.0044	<0.01	0.026	<0.01	<0.01	<0.01	0.062		<0.01	0.0098		
	02/26/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/03/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/18/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	06/08/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	11/18/14	8270C		<0.01		<0.02		0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	09/18/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.02	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	06/16/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	0.039		
	04/09/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.024		<0.01	<0.01		
MKTF-18	06/14/17	8270C	0.0085	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.0051	<0.01	<0.01	<0.01	0.007	0.079	0.023	<0.01	<0.01	0.019	<0.02	0.008	<0.01	<0.01	<0.01
	03/01/17	8270C	0.0055	<0.01	<0.01	<0.02	<0.01	0.0075	<0.01	0.0026	<0.01	<0.01	<0.01	0.0032	<0.01	0.0062	0.063	0.024	<0.01	<0.01	0.017	<0.02	0.0049	<0.01	<0.01	<0.01
	11/08/16	8270C	0.0056	<0.01		<0.02		0.0065	0.0026	<0.01	0.0069				<0.01	0.0071	0.057	0.02	<0.01	<0.01	0.018		0.0037	<0.01		
	09/13/16	8270C	0.0043	<0.01		0.0064		<0.01		<0.01	<0.01				<0.01	0.006	0.049	0.02	<0.01	<0.01	0.014		0.0036	<0.01		
	06/10/16	8270C	0.0055	<0.01		<0.02		<0.01		<0.01	0.0049				<0.01	0.0041	0.054	0.014	<0.01	<0.01	0.013		0.0037	<0.01		
	02/26/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.06	0.017	<0.01	<0.01	0.016		<0.01	<0.01		
	11/03/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.079	0.017	<0.01	<0.01	0.023		<0.01	<0.01		
	08/18/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	0.011	0.14	0.042	<0.01	<0.01	0.042		0.012	<0.01		
	06/08/15	8270c		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.077	0.013	<0.01	<0.01	0.029		<0.01	<0.01		
	03/17/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.1	0.028	<0.01	<0.01	0.032		<0.01	<0.01		
	11/18/14	8270C		<0.01		<0.02		0.012		<0.01					<0.02	<0.01	0.11	0.036	<0.01	<0.01	0.055		<0.01	<0.01		
	09/18/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.12	0.023	<0.02	<0.01	0.059		<0.01	<0.01		
	06/06/14	8270C		<0.014		<0.029		<0.014		<0.014					<0.014	<0.014	0.064	<0.014	<0.029	<0.014	0.026		<0.014	<0.014		
	04/14/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.11	0.035	<0.02	<0.01	0.061		<0.01	<0.01		
MKTF-19	12/01/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.18	0.27	<0.01	<0.01	0.34	<0.02	<0.01	<0.01	<0.01	<0.01
	09/26/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.0097	<0.01	0.0055	<0.01	<0.01	<0.01	<0.01	0.003	0.0043	0.1	0.16	<0.01	<0.01	0.21	<0.02	<0.01	0.0091	<0.01	<0.01
	06/14/17	8270C	0.0042	<0.01	<0.01	<0.02	<0.01	0.0051	<0.01	0.0062	<0.01	<0.01	<0.01	<0.01	0.006	0.0045	0.11	0.16	<0.01	<0.01	0.28	<0.02	0.0055	0.015	<0.01	<0.01
	03/15/17	8270C	0.0036	<0.01	<0.01	<0.02	<0.01	0.0073	<0.01	0.0046	0.0034	<0.01	<0.01	<0.01	0.0052	0.0039	0.088	0.12	<0.01	0.0024	0.21	<0.02	0.0031	0.0079	<0.01	<0.01
	11/08/16	8270C	0.005	<0.01		<0.02		0.0073		0.006	0.008			0.0035	0.0056	0.0073	0.12	0.18	<0.01	<0.01	0.27		0.0055	0.0066	0.0044	
	09/13/16	8270C	0.0048	<0.01		<0.02		<0.01		0.0052	<0.01			0.0059	0.0043	0.0069	0.11	0.14	<0.01	<0.01	0.24		0.0043	0.0062		
	06/10/16	8270C	0.0058	<0.01		<0.02		0.0035		0.0072	0.0051				<0.01	0.0044	0.12	0.16	<0.01	<0.01	0.24		0.0046	0.007		
	02/25/16	8270C		<0.01		<0.02		<0.01		0.01					<0.01	<0.01	0.15	0.24	<0.01	<0.01	0.35		<0.01	0.01		
	11/03/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.16	0.29	<0.01	<0.01	0.37		<0.01	0.021		
	08/18/15	8270C		<0.01		<0.02		<0.01		0.01					<0.01	<0.01	0.18	0.3	<0.01	<0.01	0.4		<0.01	<0.01		
	06/08/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.14	0.21	<0.01	<0.01	0.31		<0.01	0.013		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.17	0.27	<0.01	<0.01	0.34		<0.01	0.015		
	11/18/14	8270C		<0.01		<0.02		0.011		<0.01					<0.01	<0.01	0.11	0.033	<0.01	<0.01	0.054		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		0.01					<0.01	<0.01	0.18	0.29	<0.02	<0.01	0.31		<0.01	0.011		
	04/09/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.16	0.25	<0.02	<0.01	0.32		<0.01	0.012		
MKTF-20	11/29/17	8270C	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.044	<0.05	0.059	0.061	0.028	<0.05	0.2	<0.1	<0.05	0.085	<0.05	<0.05
	09/26/17	8270C	<0.01	<0.01	<0.01	0.025	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.066	<0.01	0.037	0.041	0.075	0.022	0.16	<0.02	<0.01	0.078	<0.01	<0.01
	06/12/17	8270C	<0.05	<0.05	<0.05	<0.1	<0.05	0.025	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	<0.05	0.038	0.037	0.13	0.13	0.18	<0.1	<0.05	0.073	<0.05	<0.05
	03/14/17	8270C	<0.05	<0.05	<0.05	0.067	<0.05	0.036	<0.05	<0.05	0.018	<0.05	<0.1	<0.05	0.34	<0.05	0.029	0.028	0.34	0.19	0.072	<0.1	<0.05	0.31	<0.05	<0.05
	11/03/16	8270C		<0.05		0.061		0.035	0.014	<0.05	0.036			<0.05	0.43	<0.05	0.05	0.038	0.16	0.089	0.11	<0.1	<0.05	0.13		<0.05
	09/12/16	8270C		<0.1		0.13		0.036		<0.1	0.038			0.029	0.39	<0.1	0.048	0.043	0.19	0.061	0.11	0.025	<0.1	0.061		<0.1
	06/09/16	8270C		<0.05		<0.1		0.018		<0.05	0.025				0.23	<0.05	0.051	0.029	0.25	0.28	0.077		<0.05	0.24		<0.05
	03/01/16	8270C		<0.01		<0.02		<0.01		<0.01					0.28	<0.01	0.036	0.023	0.096	<0.01	0.05		<0.01	0.011		<0.01
	06/08/15	8270C		<0.01		<0.02		<0.01		<0.01					0.23	<0.01	0.037	0.036	0.049	0.13	0.056		<0.01	0.05		<0.01
	03/16/15	8270C		<0.01		<0.02		<0.01		<0.01					0.32	<0.01	0.045	0.037	0.21	0.36	0.13		<0.01	0.21		0.016
	11/18/14	8270C		<0.01		<0.02		0.014		<0.01					0.61	<0.01	0.11	0.066	0.12	0.051	0.1		<0.01	0.037		
	04/11/14	8270C		0.022		<0.026		<0.013		<0.013					0.13	<0.013	0.088	0.12	0.12	0.076	0.25		<0.013	<0.013		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	0.006	NE	NE	NE	NE	0.075	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.535	NE	0.00012	NE	NE	0.0556	NE	NE	NE	NE	0.302	0.612	0.354	0.288	0.0114	0.036	0.035	NE	0.00165	0.0004	0.17	5.76	0.117	NE
EPA RSL for Tap Water (MAY 2018)			0.53	0.013	0.00003	75	2	0.0056	0.0016	NE	0.2	0.0079	0.00048	NE	0.36	0.29	0.0011	0.036	0.93	0.93	0.00017	0.000041	NE	5.8	0.12	0.02
Well ID	**DATE SAMPLED**	**METHOD**																								
MKTF-21	11/28/17	8270C	<0.1	<0.1	<0.1	0.07	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.047	<0.2	<0.1	0.12	<0.1	<0.1
	09/26/17	8270C	<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	0.0071	<0.01	0.0093	<0.01	0.017	<0.02	<0.01	0.031	<0.01	<0.01
	06/21/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.0052	<0.01	<0.01	<0.1	<0.01	<0.1	<0.01	0.038	<0.01	0.008	0.0049	0.021	0.15	0.028	<0.02	<0.01	0.06	<0.01	<0.01
	03/14/17	8270c	<0.05	<0.05	<0.05	0.033	<0.05	0.035	<0.05	<0.05	0.017	<0.05	<0.1	<0.05	0.021	<0.05	<0.05	<0.05	<0.05	0.03	0.02	<0.1	<0.05	0.036	<0.05	<0.05
	11/03/16	8270c		<0.1		0.11		0.064	0.027	<0.1	0.081			<0.1	0.03	<0.1	<0.1	<0.1	<0.1	0.03	0.049	<0.2	<0.1	0.03		
	09/12/16	8270C		<0.1		0.063		0.056		<0.1	0.035			0.029	<0.1	<0.1	<0.1	<0.1	<0.1	0.42	<0.1	0.024	<0.1	0.08		
	03/01/16	8270C		<0.01		0.036		<0.01		<0.01					0.0057	<0.01	<0.01	<0.01	<0.01	0.12	<0.01		<0.01	0.037		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					0.011	<0.01	<0.01	<0.01	<0.01	0.11	<0.01		<0.01	0.035		
	03/16/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	0.069	<0.01		<0.01	0.038		
	04/11/14	8270C		<0.012		<0.025		<0.012		<0.012					0.1	<0.012	0.069	0.11	0.14	0.1	0.27		<0.012	0.013		
MKTF-22	11/28/17	8270C	<0.01	<0.01	<0.01	0.015	<0.01	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0053	0.058	<0.01	<0.01	<0.01	0.022	<0.02	<0.01	0.022	<0.01	<0.01
	10/03/17	8270C	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.075	<0.01	<0.01	<0.01	0.028	<0.02	<0.01	0.014	<0.01	<0.01
	06/08/17	8270C	<0.01	<0.01	<0.01	0.014	<0.01	0.0055	<0.01	<0.01	0.0052	<0.01	<0.01	<0.01	<0.01	<0.01	0.047	<0.01	<0.01	<0.01	0.027	<0.02	<0.01	0.02	<0.01	<0.01
	03/08/17	8270C	<0.01	<0.01	<0.01	0.011	<0.01	0.0068	<0.01	0.0046	0.0035	<0.01	<0.01	<0.01	<0.01	0.003	0.044	0.0086	<0.01	0.0025	0.031	<0.02	<0.01	0.0095	<0.01	<0.01
	11/01/16	8270C	0.0038	<0.01		0.018		0.0068		0.0049	0.0073			<0.01	0.0037	0.0057	0.07	0.013	<0.01	<0.01	0.052		<0.01	0.023		
	09/10/16	8270C	<0.01	<0.01		0.011		0.003		0.0024	0.0034			0.003	<0.01	<0.01	0.039	0.005	<0.01	<0.01	0.023		<0.01	0.0077		
	06/10/16	8270C	0.0039	<0.01		<0.02		0.0046		0.0053	0.0091				<0.01	<0.01	0.067	0.011	<0.01	<0.01	0.046		<0.01	0.019		
	02/25/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.042	<0.01	<0.01	<0.01	0.029		<0.01	<0.01		
	11/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.04	<0.01	<0.01	<0.01	0.011		<0.01	0.01		
	08/20/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.018	<0.01	<0.01	<0.01	<0.01		<0.01	0.014		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.062	<0.01	<0.01	<0.01	0.013		<0.01	0.018		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.066	<0.01	<0.01	<0.01	0.016		<0.01	0.014		
	11/17/14	8270C		<0.01		<0.02		0.013		<0.01					<0.01	<0.01	0.045	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	04/10/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.02	<0.01	0.045	<0.01	<0.02	<0.01	0.013		<0.01	<0.01		
MKTF-23	06/10/16	8270C		<0.05		<0.1		<0.05		<0.05	0.03				<0.05	0.38	7.8	5.6	<0.05	<0.05	2.3		0.72	<0.05		
	02/25/16	8270C		<0.01		<0.02		<0.01		<0.01					0.11	0.011	0.22	0.23	0.037	0.024	0.23		0.029	0.017		
	11/09/15	8270C		<0.01		<0.02		<0.01		<0.01					0.065	0.013	0.17	0.21	0.06	0.054	0.23		0.022	0.036		
	08/21/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.14	0.19	0.061	0.047	0.27		0.016	<0.01		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					0.12	<0.01	0.11	0.14	0.071	0.064	0.2		<0.01	0.034		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					0.094	<0.01	0.079	0.082	0.042	0.063	0.15		<0.01	0.021		
	11/17/14	8270C		<0.01		<0.02		0.014		<0.01					0.031	<0.01	0.084	0.092	0.058	0.053	0.13		<0.01	0.027		
	09/23/14	8270C		<0.01		<0.02		<0.01		<0.01					0.027	<0.01	0.075	0.079	0.034	0.025	0.13		<0.01	0.022		
MKTF-24	11/20/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.009	<0.01	<0.01	<0.01	0.0058	<0.02	<0.01	0.0032	<0.01	<0.01
	10/03/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.01	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.01	<0.01	0.006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0063	<0.01	<0.01	<0.01	0.0072	<0.02	<0.01	0.0036	<0.01	<0.01
	03/29/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.0076	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.0047	<0.01	<0.01
	10/28/16	8270C		<0.01		0.013		0.0066	0.0027	<0.01	0.0069			<0.01	<0.01	<0.01	0.0073	<0.01	<0.01	<0.01	0.0055		<0.01	<0.01		
	09/07/16	8270C		<0.01		0.01		0.004		<0.01	0.0049			0.0073	<0.01	<0.01	0.0042	<0.01	<0.01	<0.01	0.0029		<0.01	<0.01		
	06/08/16	8270C		<0.01		<0.02		0.0034		<0.01	0.005				<0.01	<0.01	0.0034	<0.01	<0.01	0.0045	<0.01		<0.01	0.0056		
	02/22/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	0.012	0.0072		<0.01	<0.01		
	11/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/20/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/14/14	8270C		<0.01		<0.02		0.011		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	04/08/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-25	11/21/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	0.0047	<0.01	<0.01	<0.01	<0.01	<0.01	0.0059	<0.01	<0.01	<0.01	0.0045	<0.02	<0.01	0.0044	<0.01	<0.01
	09/25/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0075	<0.01	<0.01	<0.01	0.007	<0.02	<0.01	0.012	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.0083	<0.01	0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.0076	<0.01	<0.01
	03/29/17	8270C	<0.01	<0.01	<0.01	0.008	<0.01	0.0061	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0035	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.0053	<0.01	<0.01
	11/01/16	8270C		<0.01		0.011		0.0072	0.0027	<0.01	0.0084			<0.01	<0.01	<0.01	0.0055	<0.01	<0.01	<0.01	0.0037		<0.01	0.0068		
	09/09/16	8270C		<0.01		0.0099		0.0038		<0.01	0.0038			0.0031	<0.01	<0.01	0.0041	<0.01	<0.01	<0.01	<0.01		<0.01	0.012		
	06/09/16	8270C		<0.01		<0.02		0.0037		<0.01	0.0054				<0.01	<0.01	0.0038	<0.01	<0.01	<0.01	0.0037		<0.01	0.0079		
	02/23/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/05/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.017		<0.01	<0.01		
	11/14/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/23/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	04/08/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	0.021		<0.01	0.013		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	**0.006**	NE	NE	NE	NE	**0.075**	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			**0.535**	NE	**0.00012**	NE	NE	0.0556	NE	NE	NE	NE	0.302	**0.612**	**0.354**	**0.288**	0.0114	0.036	0.035	NE	**0.00165**	**0.0004**	**0.17**	5.76	**0.117**	NE
EPA RSL for Tap Water (MAY 2018)			0.53	**0.013**	0.00003	**75**	**2**	0.0056	**0.0016**	NE	**0.2**	**0.0079**	0.00048	NE	0.36	0.29	**0.0011**	**0.036**	**0.93**	**0.93**	0.00017	0.000041	NE	5.8	0.12	**0.02**
Well ID	**DATE SAMPLED**	**METHOD**																								
MKTF-26	06/09/16	8270C		<0.01		<0.02		0.0039		<0.01	0.0052			0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/22/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/20/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	**0.018**		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	**0.014**		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	**0.014**		
	11/14/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	**0.013**		
	04/08/14	8270C		<0.012		<0.023		<0.012		<0.012					<0.012	<0.012	<0.012	<0.012	<0.023	<0.012	<0.012		<0.012	<0.012		
MKTF-27	11/20/17	8270C	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/03/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/05/17	8270c	<0.01	<0.01	<0.01	0.0068	<0.01	0.0053	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/29/17	8270C	<0.01	<0.01	<0.01	0.0064	<0.01	**0.0063**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/28/16	8270C		<0.01		0.0084		**0.0069**	**0.0057**	<0.01	0.0067			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/07/16	8270c		<0.01		0.0098		0.0034		<0.01	0.0034			0.0064	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/08/16	8270C		<0.01		<0.02		0.0039		<0.01	0.0053			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/22/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/20/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	11/14/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	04/08/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-28	11/20/17	8270C	<0.01	<0.01	<0.01	0.0052	<0.01	**0.012**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/03/17	8270C	<0.01	<0.01	<0.01	0.0067	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.007	<0.01	0.0054	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/29/17	8270C	<0.01	<0.01	<0.01	0.0065	<0.01	**0.0066**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/28/16	8270C		<0.01		0.013		**0.009**	**0.0027**	<0.01	0.0068			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/08/16	8270C		<0.01		0.0073		0.0033		<0.01				0.0029	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/08/16	8270C		<0.01		<0.02		0.0041		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/23/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/20/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	11/14/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-29	11/20/17	8270C	<0.01	<0.01	<0.01	0.0068	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/03/17	8270C	<0.01	<0.01	<0.01	0.0087	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.011	<0.01	0.0055	<0.01	<0.01	0.0056	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/29/17	8270C	<0.01	<0.01	<0.01	0.0062	<0.01	**0.0061**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/28/16	8270c		<0.01	<0.01	0.015		**0.007**		<0.01	0.0068			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/07/16	8270C		<0.01	**0.0029**	0.011		0.0037		<0.01	0.0037			0.0065	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/16	8270C		<0.01		<0.02		0.0042		<0.01	0.0049				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/23/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/04/15	8270c		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/20/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	04/09/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-30	11/20/17	8270C	<0.01	<0.01	<0.01	0.0079	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/03/17	8270C	<0.01	<0.01	<0.01	0.0085	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.0066	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/29/17	8270C	<0.01	<0.01	<0.01	0.0063	<0.01	**0.0061**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/28/16	8270C		<0.01		0.0086		**0.0069**	**0.0027**	<0.01	0.0069			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/07/16	8270C		<0.01		0.0072		0.0034		<0.01	0.0035			0.0059	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/16	8270C		<0.01		<0.02		0.0039		<0.01	0.0055				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/23/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/20/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	11/17/14	8270C		<0.01		<0.02		**0.011**		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	04/09/14	8270C		<0.011		<0.021		<0.011		<0.011					<0.011	<0.011	<0.011	<0.011	<0.021	<0.011	<0.011		<0.011	<0.011		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	**0.006**	NE	NE	NE	NE	**0.075**	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			**0.535**	NE	**0.00012**	NE	NE	0.0556	NE	NE	NE	NE	0.302	**0.612**	**0.354**	**0.288**	0.0114	0.036	0.035	NE	**0.00165**	**0.0004**	**0.17**	5.76	**0.117**	NE
EPA RSL for Tap Water (MAY 2018)			0.53	**0.013**	0.00003	**75**	**2**	0.0056	**0.0016**	NE	**0.2**	**0.0079**	0.00048	NE	0.36	0.29	**0.0011**	**0.036**	**0.93**	**0.93**	0.00017	0.000041	NE	5.8	0.12	**0.02**
Well ID	**DATE SAMPLED**	**METHOD**																								
MKTF-31	11/21/17	8270C	<0.01	<0.01	<0.01	0.0062	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/25/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.0055	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.0069	<0.01	**0.0075**	<0.01	<0.01	0.0047	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/07/17	8270C	<0.01	<0.01	<0.01	0.0068	<0.01	**0.0072**	<0.01	<0.01	0.0035	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/31/16	8270C		<0.01		0.0093		**0.0068**	**0.0029**	<0.01	0.0084			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/08/16	8270C		<0.01		0.0085		0.0032		<0.01	<0.01			0.0029	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.02		
	06/09/16	8270C		<0.01		<0.02		0.0039		<0.01	0.0051				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.02		
	02/23/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/17/14	8270C		<0.01		<0.02		**0.013**		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/23/14	8270C		<0.012		<0.025		<0.012		<0.012					<0.012	<0.012	<0.012	<0.012	<0.025	<0.012	<0.012		<0.012	<0.012		
	04/08/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-32	11/27/17	8270C	<0.01	<0.01	<0.01	0.0053	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/25/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/06/17	8270C	<0.01	<0.01	<0.01	0.0081	<0.01	0.0054	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/07/17	8270C	<0.01	<0.01	<0.01	0.026	<0.01	**0.0077**	<0.01	<0.01	0.0004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/31/16	8270C		<0.01		0.0087		**0.0068**	**0.0028**	<0.01	0.0076			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/09/16	8270C		<0.01		0.012		0.0046		<0.01	0.0038			0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/16	8270C		<0.01		<0.02		0.0056		<0.01	0.0054				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/24/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/05/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	87270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/17/14	8270C		<0.01		<0.02		**0.012**		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/23/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	04/09/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-33	11/28/17	8270C	<0.01	<0.01	<0.01	0.0045	<0.01	0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/25/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/08/17	8270C	<0.01	<0.01	<0.01	0.0068	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/08/17	8270C	<0.01	<0.01	<0.01	0.0077	<0.01	**0.0083**	<0.01	<0.01	0.0037	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	11/01/16	8270C		<0.01		0.013		**0.0066**	**0.0027**	<0.01	0.0078			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/10/16	8270C		<0.01		0.0071		0.0036		<0.01	0.0035			0.0029	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/16	8270C		<0.01		<0.02		0.0032		<0.01	0.0049				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/25/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/17/14	8270C		<0.01		<0.02		**0.012**		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/23/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	04/10/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-34	12/01/17	8270C	<0.01	<0.01	<0.01	0.0065	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/26/17	8270C	<0.01	<0.01	<0.01	0.006	<0.01	**0.21**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**0.0048**	<0.02	<0.01	<0.01	<0.01	<0.01
	06/14/17	8270C	<0.01	<0.01	<0.01	0.009	<0.01	0.0049	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/01/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	**0.0078**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	11/08/16	8270C		<0.01		0.0083		**0.0064**		<0.01	0.0067				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/13/16	8270C		<0.01		0.0084		0.0033		<0.01	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/16	8270C		<0.01		<0.02		0.0034		<0.01	0.0054				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/25/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/03/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/18/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/08/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/17/14	8270C		<0.01		<0.02		**0.014**		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/24/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	04/09/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.025	<0.01	<0.01		<0.01	<0.01		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	0.005	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	0.006	NE	NE	NE	NE	0.075	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			0.535	NE	0.00012	NE	NE	0.0556	NE	NE	NE	NE	0.302	0.612	0.354	0.288	0.0114	0.036	0.035	NE	0.00165	0.0004	0.17	5.76	0.117	NE
EPA RSL for Tap Water (MAY 2018)			0.53	0.013	0.00003	75	2	0.0056	0.0016	NE	0.2	0.0079	0.00048	NE	0.36	0.29	0.0011	0.036	0.93	0.93	0.00017	0.000041	NE	5.8	0.12	0.02
Well ID	DATE SAMPLED	METHOD																								
MKTF-35	11/30/17	8270C	<0.01	<0.01	<0.01	0.0083	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/27/17	8270C	<0.01	<0.01	<0.01	0.0075	<0.01	0.0057	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/14/17	8270c	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/01/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.0076	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	11/03/16	8270C		<0.05		0.055		0.034	0.014	<0.05	0.034				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		
	09/13/16	8270c		<0.01		0.005		<0.01		<0.01	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/16	8270C		<0.01		<0.02		0.0032		<0.01	0.0059				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/26/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/03/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/18/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/17/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.028		<0.01	<0.01		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.034	0.045	<0.01	<0.01	0.036		<0.01	<0.01		
MKTF-36	11/30/17	8270C	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.29	0.44	<0.1	<0.1	0.42	<0.2	<0.1	0.062	<0.1	<0.1
	09/27/17	8270C	<0.1	<0.1	<0.1	0.064	<0.1	0.21	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.27	0.44	<0.1	<0.1	0.36	<0.2	<0.1	<0.1	<0.1	<0.1
	06/14/17	8270C	0.0099	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	0.0099	<0.1	0.0048	<0.1	<0.01	<0.01	0.012	0.35	0.54	<0.01	<0.01	0.52	<0.02	0.0087	0.08	<0.01	<0.01
	03/01/17	8270C	0.0067	<0.01	<0.01	<0.02	<0.01	0.0072	<0.01	0.0064	<0.01	<0.01	<0.01	<0.01	<0.01	0.0086	0.19	0.32	<0.01	<0.01	0.28	<0.02	0.0057	0.029	<0.01	<0.01
	11/08/16	8270C	0.0051	<0.01		<0.02		0.0071	0.0027	0.006	0.008				<0.01	0.008	0.15	0.23	<0.01	<0.01	0.27		0.0044	0.028		
	08/18/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	0.012	0.34	0.51	<0.01	<0.01	0.52		<0.01	0.048		
	06/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	0.013	0.33	0.51	<0.01	<0.01	0.49		<0.01	0.056		
	03/17/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	0.01	0.24	0.39	<0.01	<0.01	0.47		<0.01	0.044		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.16	0.23	<0.01	<0.01	0.28		<0.01	0.015		
MKTF-37	03/01/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.42	0.69	<0.01	<0.01	0.89	<0.02	<0.01	<0.01	<0.01	<0.01
	11/03/16	8270C		<0.01		0.019		0.0084		<0.01	0.0069		0.0032		<0.01	<0.01	0.051	0.064	0.012	0.0035	0.2		<0.01	0.0074		
	08/19/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.83	1.4	<0.01	<0.01	2.7		<0.01	<0.01		
	06/04/15	8270C		<0.01		<0.01		<0.01		<0.01					<0.01	<0.01	0.074	0.11	0.028	<0.01	0.23		<0.01	<0.01		
	03/17/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.072	0.096	0.033	<0.01	0.16		<0.01	<0.01		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	0.05	0.056	<0.01	<0.01	0.27		<0.01	<0.01		
MKTF-38	11/30/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/28/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0062	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/21/17	8270C	<0.01	<0.01	<0.01	0.0066	<0.01	<0.01	<0.01	<0.01	0.0048	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/14/17	8270C	<0.01	<0.01	<0.01	0.0075	<0.01	0.0074	<0.01	<0.01	0.0035	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	11/01/16	8270C		<0.01		0.0087		0.0064	0.0027	<0.01	0.0078				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/13/16	8270C		<0.01		0.0046		0.0031		<0.01	<0.01				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/08/16	8270C		<0.01		<0.02		0.0033		<0.01	0.005				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/29/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/24/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/16/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-39	11/28/17	8270C	<0.1	<0.1	<0.1	0.06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.12	0.052	<0.1	<0.1	0.064	<0.2	<0.1	<0.1	<0.1	<0.1
	09/28/17	8270C	<0.1	<0.1	<0.1	0.069	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.051	<0.1	<0.1	0.17	0.048	<0.1	<0.1	0.051	<0.2	<0.1	<0.1	<0.1	<0.1
	06/08/17	8270C	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.041	0.36	0.11	<0.05	<0.05	0.098	<0.1	0.074	<0.05	<0.05	<0.05
	03/14/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	0.0072	<0.01	0.016	0.0035	<0.01	<0.01	<0.01	<0.01	0.01	0.13	0.059	<0.01	<0.01	0.065	<0.02	0.014	<0.01	0.004	<0.01
	11/01/16	8270C	0.0026	<0.01		0.016		0.0067		0.016	0.007	0.0032		<0.01	<0.01	0.0086	0.098	0.039	<0.01	<0.01	0.054		0.0074	<0.01	0.0048	
	09/13/16	8270C		<0.01		0.012		0.0026		0.016	<0.01	0.0026		<0.01	<0.01	0.0078	0.077	0.028	<0.01	<0.01	0.044		0.0067	<0.01		
	06/08/16	8270C		<0.05		<0.1		0.019		0.026	0.025			0.014	<0.05	<0.05	0.11	0.042	<0.05	<0.05	0.049		0.013	<0.05		
	03/03/16	8270C		<0.01		<0.02		<0.01		0.028					<0.01	0.01	0.11	0.037	<0.01	<0.01	0.045		0.00079	<0.01		
	11/09/15	8270C		<0.01		<0.02		<0.01		0.021					<0.01	<0.01	0.089	0.032	<0.01	<0.01	0.062		<0.01	<0.01		
	08/23/15	8270C		<0.01		<0.02		<0.01		0.025					<0.01	<0.01	0.084	0.021	<0.01	<0.01	0.051		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		0.026					<0.01	0.013	0.14	0.043	<0.01	<0.01	0.064		0.014	<0.01		
	03/16/15	8270C		<0.01		<0.02		<0.01		0.011					<0.01	<0.01	0.056	<0.01	<0.01	<0.01	0.02		<0.01	<0.01		
	11/18/14	8270C		<0.01		<0.02		0.012		0.021					<0.01	<0.01	0.079	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	**0.006**	NE	NE	NE	NE	**0.075**	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			**0.535**	NE	**0.00012**	NE	NE	0.0556	NE	NE	NE	NE	0.302	**0.612**	**0.354**	**0.288**	0.0114	0.036	0.035	NE	**0.00165**	**0.0004**	**0.17**	5.76	**0.117**	NE
EPA RSL for Tap Water (MAY 2018)			0.53	**0.013**	0.00003	**75**	**2**	0.0056	**0.0016**	NE	**0.2**	**0.0079**	0.00048	NE	0.36	0.29	**0.0011**	**0.036**	**0.93**	**0.93**	0.00017	0.000041	NE	5.8	0.12	**0.02**
Well ID	**DATE SAMPLED**	**METHOD**																								
MKTF-40	11/21/17	8270C	<0.01	<0.01	<0.01	0.0065	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/25/17	8270C	<0.01	<0.01	<0.01	0.0069	<0.01	**0.026**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.0085	<0.01	**0.0082**	<0.01	<0.01	0.0053	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/07/17	8270C	<0.01	<0.01	<0.01	0.01	<0.01	**0.0076**	<0.01	<0.01	0.0036	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/31/16	8270C		<0.01		0.0085		**0.0066**	**0.0028**	<0.01	0.0084			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/08/16	8270C		<0.01		0.0086		0.0033		<0.01	0.0033			0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.1	<0.01		
	06/09/16	8270C		<0.01		<0.02		0.004		<0.01	0.0049				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.02		
	02/23/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/04/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-41	11/27/17	8270C	<0.01	<0.01	<0.01	0.0047	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/25/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/06/17	8270C	<0.01	<0.01	<0.01	0.0088	<0.01	**0.0063**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/07/17	8270C	<0.01	<0.01	<0.01	0.0082	<0.01	**0.0077**	<0.01	<0.01	0.0042	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	10/31/16	8270C		<001		0.013		**0.0065**		<0.01	0.0067			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/09/16	8270C		<0.01		0.0098		0.0031		<0.01	0.0035			0.003	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/16	8270C		<0.05		<0.1		**0.024**		<0.05	0.028				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		
	02/24/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/05/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	8270C		<0.014		<0.029		<0.014		<0.014					<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014		<0.014	<0.014		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/18/14	8270C		<0.01		<0.02		**0.014**		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
MKTF-42	11/27/17	8270C	<0.05	<0.05	<0.05	0.052	<0.05	<0.05	<0.05	<0.05	0.025	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.034**	<0.1	<0.05	<0.05	<0.05	<0.05	
	09/25/17	8270C	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	**0.27**	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	
	06/06/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0052	<0.01	<0.01	**0.012**	<0.02	<0.01	<0.01	<0.01	<0.01
	03/07/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	**0.0096**	<0.01	<0.01	0.0044	<0.01	<0.01	0.022	<0.01	<0.01	**0.15**	<0.010	<0.01	<0.01	**0.014**	<0.02	<0.01	<0.01	<0.01	<0.01
	10/31/16	8270C		<0.1		0.056		**0.033**		<0.1	0.037				<0.05	<0.05	**0.19**	<0.05	<0.05	<0.05	**0.016**		<0.05	<0.05		
	09/09/16	8270C		<0.1		0.072		<0.1		<0.1	<0.1				<0.1	<0.1	**0.17**	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1		
	06/09/16	8270C		<0.05		<0.1		**0.021**		<0.05					<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05		
	02/24/16	8270C		<0.1		<0.2		<0.1		<0.1					<0.1	<0.1	**0.27**	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1		
	11/05/15	8270C		<0.1		<0.2		<0.1		<0.1					<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1		
	08/21/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/18/14	8270C		<0.01		<0.02		**0.013**		<0.01					<0.01	<0.01	**0.072**	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
MKTF-43	11/27/17	8270C	<0.01	<0.01	<0.01	0.0086	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	
	09/25/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	
	06/06/17	8270C	<0.01	<0.01	<0.01	0.011	<0.01	**0.0091**	<0.01	<0.01	0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	
	03/08/17	8270C	<0.01	<0.01	<0.01	0.0063	<0.01	**0.0071**	<0.01	<0.01	0.0034	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	
	10/31/16	8270C		<0.01		0.0083		**0.0063**	**0.0028**	<0.01	0.0083			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/09/16	8270C		<0.01		0.017		0.0041		<0.01	0.0034			0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/16	8270C		<0.01		<0.02		0.004		<0.01	0.0056			0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/24/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/05/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/21/15	8270C		<0.01		<0.025		<0.01		<0.01					<0.012	<0.01	<0.01	<0.01	<0.012	<0.012	<0.01		<0.01	<0.012		
	06/10/15	8270C		<0.012		<0.024		<0.012		<0.012					<0.012	<0.012	<0.012	<0.012	<0.012	<0.012	<0.12		<0.12	<0.012		
	03/11/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/18/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		

8.17.4 MKTF WELLS

Semi-Volatile Organic Compound Analytical Result Summary

STANDARDS			Acenaphthene (mg/L)	Aniline (mg/L)	Benz(a) anthracene (mg/L)	Benzoic Acid (mg/L)	Benzyl alcohol (mg/L)	Bis(2-ethylhexyl) phthalate (mg/L)	Butyl benzyl phthalate (mg/L)	Carbazole (mg/L)	Di-n-octyl phthalate (mg/L)	Dibenzo furan (mg/L)	1,4-Dichlorob enzene (mg/L)	Dimethyl phthalate (mg/L)	2,4-Dimethyl phenol (mg/L)	Fluorene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	2-Methyl phenol (mg/L)	3+4-Methyl phenol (mg/L)	Naphthalene (mg/L)	Penta chloro phenol (mg/L)	Phenanthrene (mg/L)	Phenol (mg/L)	Pyrene (mg/L)	Pyridine (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	**0.005**	NE	NE
40 CFR 141.62 MCL			NE	NE	NE	NE	NE	**0.006**	NE	NE	NE	NE	**0.075**	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
NMED Tap Water (MARCH 2017)			**0.535**	NE	**0.00012**	NE	NE	0.0556	NE	NE	NE	NE	0.302	**0.612**	**0.354**	**0.288**	0.0114	0.036	0.035	NE	**0.00165**	**0.0004**	**0.17**	5.76	**0.117**	NE
EPA RSL for Tap Water (MAY 2018)			0.53	**0.013**	0.00003	**75**	**2**	0.0056	**0.0016**	NE	**0.2**	**0.0079**	0.00048	NE	0.36	0.29	**0.0011**	**0.036**	**0.93**	**0.93**	0.00017	0.000041	NE	5.8	0.12	**0.02**
Well ID	**DATE SAMPLED**	**METHOD**																								
MKTF-44	11/28/17	8270C	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	09/25/17	8270C	<0.01	<0.01	<0.01	<0.02	<0.01	**0.024**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	06/05/17	8270C	<0.01	<0.01	<0.01	0.007	<0.01	**0.0067**	<0.01	<0.01	0.0047	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	03/08/17	8270C	<0.01	<0.01	<0.01	0.0062	<0.01	**0.008**	<0.01	<0.01	0.0036	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
	11/01/16	8270C		<0.01		0.11		**0.066**	**0.027**	<0.01	0.075			<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	09/09/16	8270C		<0.01		0.0065		0.0035		<0.01				0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/09/16	8270C		<0.01		<0.02		<0.01		<0.01	0.0051				<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	02/24/16	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	11/09/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	08/17/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	06/10/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01		
	03/12/15	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		
	11/21/14	8270C		<0.01		<0.02		<0.01		<0.01					<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01		<0.01	<0.01		

DEFINITIONS

NE = Not established
NA = Not analyzed
Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.
a) Human Health Standards; b) Other Standards for Domestic Water
40 CFR 141.62 Detection Limits for Inorganic Contaminants
EPA Regional Screening Level (RSL) Summary Table
NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
MKTF-1	09/07/16	8260B/8011/504.1/EDB	0.039	<0.01	0.0039	**0.017**	**0.01**	**0.012**	<0.04	0.01		0.0036					**0.015**		**0.048**	**0.019**
	02/24/16	8260B	**0.66**	0.03	**0.0091**	<0.05	**0.11**	**0.067**	0.035	0.16		<0.5					**0.026**		**0.06**	**0.025**
	11/04/15	8260B	**0.71**	0.054	<0.005		**0.091**	**0.062**	0.032	<0.05		<0.05					**0.037**		**0.074**	**0.046**
	08/21/15	8260B	**0.65**	0.057	<0.005		**0.081**	**0.044**	<0.02	<0.05		<0.05					**0.042**		**0.065**	**0.051**
	06/09/15	8260B	**0.67**	**0.13**	<0.05		<0.1	<0.2	<0.2	<0.5		<0.5					<0.05		**0.056**	<0.05
	03/11/15	8260B	**0.59**	**0.1**	<0.05		<0.1	<0.2	<0.2	<0.5		<0.5					<0.05		**0.066**	**0.058**
	06/06/14	8260B	**1.1**	**0.27**	<0.05		**0.3**	<0.2	<0.2	<0.5		<0.5					<0.05		**0.094**	<0.05
MKTF-2	11/20/17	8260B	**0.2**	0.003	0.0033	<0.005	**0.027**	**0.031**	0.0015	0.0074	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.016**	<0.005	**0.047**	**0.021**
	10/03/17	8260B	0.053	<0.005	0.0035	<0.005	**0.0067**	**0.0095**	<0.02	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.017**	<0.005	**0.045**	**0.021**
	03/16/17	8260B/8011/504.1/EDB	**0.36**	0.024	<0.01	<0.01	**0.044**	**0.031**	0.0058	0.016	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.024**	<0.01	**0.062**	**0.026**
	10/28/16	8260B/8011/504.1/EDB	0.02	<0.01	**0.0072**	0.000044	0.0016	**0.0045**	<0.04	<0.1		<0.1					**0.017**		**0.062**	**0.037**
	09/07/16	8260B	0.039	<0.01	0.0039	<0.001	**0.01**	**0.012**	<0.04	0.01		0.0036					**0.015**		**0.048**	**0.019**
	06/10/16	8260B	**0.13**	0.0097	<0.005		**0.025**	**0.015**	0.0028	<0.05		<0.05					**0.012**		**0.046**	**0.018**
	02/24/16	8260B	0.0013	<0.005	0.015		<0.01	<0.02	<0.02	0.0046		<0.05					**0.0058**		**0.058**	**0.11**
	11/04/15	8260B	0.0087	<0.001	0.0048		**0.0024**	**0.0042**	<0.004	<0.01		<0.01					**0.013**		**0.066**	**0.03**
	08/21/15	8260B	0.0017	<0.001	**0.0091**		**0.0036**	<0.004	<0.004	<0.01		<0.01					**0.01**		**0.062**	**0.059**
	06/09/15	8260B	0.04	<0.001	0.0041		**0.0066**	**0.0058**	<0.004	<0.01		<0.01					**0.0099**		**0.054**	**0.026**
	03/11/15	8260B	0.0051	<0.002	0.0045		<0.004	<0.008	<0.008	<0.02		<0.02					**0.0093**		**0.05**	**0.031**
	11/14/14	8260B	0.0021	<0.001	**0.016**		<0.002	<0.004	<0.004	<0.01		<0.01					**0.011**		**0.075**	**0.078**
	09/18/14	8260B	**0.14**	<0.005	**0.0051**		**0.017**	**0.037**	<0.02	<0.05		<0.05					**0.03**		**0.098**	**0.024**
	06/06/14	8260B	0.031	0.0019	**0.0081**		**0.0049**	<0.004	<0.004	0.012		<0.01					**0.011**		**0.07**	**0.041**
	04/08/14	8260B	0.0035	<0.002	**0.0068**		<0.004	<0.008	<0.008	<0.02		<0.02					**0.0052**		**0.041**	**0.034**
MKTF-4	11/28/17	8260B	**0.58**	**0.11**	<0.005	<0.005	**0.42**	**0.25**	**0.26**	0.016	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.0061**	<0.005	0.0057	**0.0087**
	09/26/17	8260B	**0.57**	**0.11**	<0.005	<0.005	**0.45**	**0.26**	**0.26**	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.0052**	<0.005	0.0034	**0.0058**
	06/08/17	8260B	**0.47**	**0.08**	<0.005	<0.005	**0.33**	**0.18**	**0.15**	0.023	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.0059**	<0.005	0.0063	**0.013**
	03/02/17	8260B	**0.49**	**0.088**	0.0025	<0.005	**0.37**	**0.2**	**0.2**	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	0.0048	<0.005	0.0046	**0.0075**
	11/02/16	8260B	**0.37**	**0.063**	0.0023	<0.005	**0.3**	**0.19**	**0.16**	<0.05		<0.05					**0.0055**		0.01	**0.014**
	09/11/16	8260B	**0.43**	**0.069**	0.0026	<0.005	**0.39**	**0.22**	**0.22**	<0.05		<0.05					**0.01**		0.0062	**0.012**
	06/09/16	8260B	**0.37**	0.057	<0.01		**0.28**	**0.17**	**0.14**	<0.1		<0.1					**0.0077**		0.012	**0.021**
	02/29/16	8260B	**0.37**	0.058	0.0016		**0.34**	**0.18**	**0.18**	0.027		0.011					**0.0055**		0.0059	**0.014**
	11/03/15	8260B	**0.43**	0.053	<0.01		**0.34**	**0.21**	**0.18**	<0.1		<0.1					<0.01		<0.01	**0.02**
	08/18/15	8260B	**0.27**	0.026	<0.005		**0.24**	**0.14**	**0.085**	<0.05		<0.05					**0.013**		0.0075	**0.016**
	06/04/15	8260B	**0.27**	0.023	<0.01		**0.22**	**0.14**	**0.086**	<0.1		<0.1					<0.01		<0.01	**0.022**
	03/16/15	8260B	**0.2**	0.024	<0.01		**0.17**	**0.096**	**0.089**	<0.1		<0.1					<0.1		0.019	**0.032**
	11/13/14	8260B	**0.2**	0.019	<0.01		**0.13**	**0.095**	**0.08**	<0.1		<0.1					**0.014**		**0.037**	**0.059**
	09/15/14	8260B	**0.096**	0.012	<0.005		**0.092**	**0.041**	0.033	<0.05		<0.05					**0.014**		**0.037**	**0.074**
	06/04/14	8260B	**0.27**	0.049	<0.01		**0.31**	**0.13**	**0.17**	<0.1		<0.1					<0.01		0.011	**0.021**
	04/11/14	8260B	**0.51**	**0.094**	<0.02		**0.43**	**0.18**	**0.28**	<0.2		<0.2					<0.02		<0.02	**0.028**
MKTF-9	11/28/17	8260B	**0.093**	0.0028	<0.01	<0.01	**0.057**	**0.08**	0.016	<0.1	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.017**	<0.01	0.019	**0.03**
	09/28/17	8206B	**0.095**	<0.01	<0.01	<0.01	**0.083**	**0.098**	0.016	<0.1	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.0096**	<0.01	0.0098	**0.013**
	06/12/17	8260B	**0.087**	0.0013	<0.01	<0.01	**0.062**	**0.091**	0.013	<0.1	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.013**	<0.01	0.014	**0.017**
	03/15/17	8260B	**0.078**	0.0017	<0.01	<0.01	**0.051**	**0.08**	0.01	0.013	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.02**	<0.01	0.019	**0.021**
	11/02/16	8260B	0.043	<0.01	<0.01	<0.01	**0.029**	**0.064**	0.0056	<0.1		<0.1					**0.027**		**0.028**	**0.025**
	09/11/16	8260B	0.053	<0.01	<0.01	<0.01	**0.039**	**0.076**	0.0075	<0.1		<0.01					**0.032**		0.022	**0.024**
	06/09/16	8206B	**0.058**	0.00075	<0.001	<0.001	**0.035**	**0.083**	0.011	0.013		0.0056					**0.03**		**0.032**	**0.032**
	02/29/16	8260B	**0.065**	<0.01	<0.01	<0.01	**0.041**	**0.082**	0.014	0.01		<0.1					**0.027**		**0.029**	**0.036**
	11/03/15	8260B	**0.073**	<0.001	<0.001		**0.041**	**0.081**	0.014	<0.01		<0.01					**0.03**		**0.027**	**0.033**

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	08/18/15	8260B	0.05	<0.005	<0.005		**0.029**	**0.08**	<0.02	<0.05		<0.05					**0.027**		**0.026**	**0.036**
	06/04/15	8260B	0.033	<0.005	<0.005		**0.015**	**0.051**	<0.02	<0.05		<0.05					**0.03**		**0.028**	**0.055**
	03/16/15	8260B	0.018	<0.005	<0.005		**0.011**	**0.03**	<0.02	<0.05		<0.05					**0.036**		**0.034**	**0.074**
	11/14/14	8260B	**0.087**	<0.01	<0.01		**0.043**	**0.11**	<0.04	<0.1		<0.1					**0.024**		**0.035**	**0.068**
	09/18/14	8260B	0.038	<0.01	<0.01		**0.03**	**0.042**	<0.04	<0.1		<0.1					**0.021**		**0.028**	**0.065**
	06/05/14	8260B	**0.083**	<0.01	<0.1		**0.068**	**0.089**	<0.04	<0.1		<0.1					**0.014**		**0.026**	**0.041**
	04/14/14	8260B	**0.074**	<0.005	<0.005		**0.044**	**0.062**	<0.02	<0.05		<0.05					**0.012**		0.024	**0.046**
MKTF-10	11/28/17	8260B	**1**	**0.25**	<0.1	<0.1	**0.24**	**0.11**	**0.13**	<1	<0.3	<1	<0.1	0.067	<0.1	<0.3	**0.051**	<0.1	<0.1	<0.1
	09/28/17	8260B	**0.92**	**0.21**	<0.1	<0.1	**0.23**	**0.098**	**0.097**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	**0.053**	<0.1	<0.1	<0.1
	06/08/17	8260B	**0.93**	**0.22**	<0.1	<0.1	**0.17**	**0.066**	**0.075**	<1	<0.3	<1	<0.1	0.077	<0.1	<0.3	**0.045**	<0.1	<0.1	<0.1
	03/02/17	8260B	**0.98**	**0.22**	<0.1	<0.1	**0.23**	**0.064**	**0.066**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	**0.043**	<0.1	<0.1	<0.1
	11/02/16	8260B	**0.85**	**0.2**	<0.1	<0.1	**0.24**	**0.1**	**0.1**	<1.0		0.69		<0.2			**0.026**		<0.01	<0.01
	09/11/16	8260B	**0.84**	**0.2**	<0.1	<0.1	**0.35**	**0.15**	**0.16**	<1.0		1.3		<0.2			**0.032**		<0.05	<0.05
	06/09/16	8260B	**0.9**	**0.2**	<0.02		**0.22**	**0.067**	**0.088**	0.29		0.69		0.039			**0.023**		**0.039**	**0.0071**
	02/29/16	8260B	**0.9**	**0.2**	<0.1		**0.21**	**0.074**	**0.087**	0.16		0.68					**0.031**		**0.07**	<0.1
	11/03/15	8260B	**0.85**	**0.21**	<0.05		**0.17**	<0.2	<0.2	<0.5		<0.5					**0.057**		**0.078**	<0.05
	08/18/15	8260B	**0.88**	**0.22**	<0.05		**0.23**	<0.2	<0.2	0.52		1.6					<0.05		**0.067**	<0.05
	06/04/15	8260B	**0.79**	**0.21**	<0.05		**0.19**	<0.2	<0.2	<0.5		1.3					<0.05		**0.06**	<0.05
	03/16/15	8260B	**0.96**	**0.24**	<0.05		**0.2**	<0.2	<0.2	<0.5		<0.5					<0.05		**0.078**	<0.05
	11/14/14	8260B	**1.5**	**0.57**	<0.02		**0.36**	**0.24**	**0.38**	<0.2		<0.2					**0.066**		**0.039**	<0.02
	06/06/14	8260B	**0.27**	**0.065**	<0.01		**0.079**	<0.04	<0.04	0.21		1.8					**0.033**		**0.051**	<0.01
	04/11/14	8260B	**0.96**	**0.21**	<0.05		**0.2**	<0.2	<0.2	1.2		1					<0.05		<0.05	<0.05
MKTF-11	11/28/17	8260B	**0.33**	**0.063**	<0.02	<0.02	**0.065**	**0.018**	0.018	0.094	<0.06	0.15	<0.02	0.023	<0.02	<0.06	<0.02	<0.02	**0.04**	<0.02
	09/26/17	8260B	**0.34**	**0.072**	<0.02	<0.02	**0.075**	**0.023**	0.02	0.042	<0.06	0.2	<0.02	0.017	<0.02	<0.06	<0.02	<0.02	**0.025**	<0.02
	06/08/17	8260B	**0.21**	0.044	<0.02	<0.02	**0.035**	**0.016**	0.014	0.05	<0.06	0.13	<0.02	0.024	<0.02	<0.06	<0.02	<0.02	**0.053**	<0.02
	03/02/17	8260B	**0.33**	0.058	<0.02	<0.02	**0.055**	**0.018**	0.014	<0.2	<0.06	<0.2	<0.02	<0.04	<0.02	<0.06	<0.02	<0.02	**0.055**	<0.02
	11/02/16	8260B	**0.25**	0.049	<0.05	<0.05	**0.048**	<0.2	**0.2**	<0.5		0.22		<0.1			<0.05		**0.057**	<0.05
	09/11/16	8260B	**0.25**	0.045	<0.05	<0.05	**0.05**	**0.021**	0.014	<0.5		0.27		<0.1			<0.05		**0.053**	<0.05
	06/09/16	8260B	**0.29**	0.052	<0.01	<0.01	**0.053**	**0.019**	0.016	0.2		0.17		0.024			<0.01		**0.064**	<0.01
	02/29/16	8260B	**0.31**	0.059	<0.1	<0.1	**0.062**	**0.048**	**0.048**	<1.0		<1.0					<0.1		**0.06**	<0.1
	11/03/15	8260B	**0.57**	**0.14**	<0.05		<0.1	<0.2	<0.2	<0.5		<0.5					<0.05		<0.05	<0.05
	08/18/15	8260B	**0.23**	0.046	<0.02		**0.054**	<0.08	<0.08	<0.2		<0.2					<0.02		**0.063**	<0.02
	06/04/15	8260B	**0.57**	**0.14**	<0.02		**0.11**	<0.08	<0.08	<0.2		0.43					<0.02		**0.031**	<0.02
	03/16/15	8260B	**0.51**	**0.11**	<0.02		**0.093**	<0.08	<0.08	<0.2		<0.2					<0.02		**0.048**	<0.02
	11/13/14	8260B	**0.4**	0.06	<0.02		**0.058**	<0.08	<0.08	<0.2		<0.2					<0.2		**0.047**	<0.02
	09/15/14	8260B	**0.36**	0.058	<0.05		<0.1	<0.2	<0.2	<0.5		<0.5					<0.5		**0.057**	<0.05
	06/05/14	8260B	**0.27**	0.052	<0.005		**0.066**	<0.02	<0.02	0.29		0.17					**0.016**		**0.053**	<0.005
	04/11/14	8260B	**0.41**	**0.062**	<0.05		<0.1	<0.2	<0.2	<0.5		<0.5					<0.05		**0.065**	<0.05
MKTF-13	03/15/17	8260B	**0.68**	**0.17**	<0.01	<0.01	**0.21**	**0.11**	**0.13**	0.03	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01
MKTF-15	11/28/17	8260B	**0.72**	**0.21**	<0.1	<0.1	**0.1**	<0.4	<0.4	0.2	<0.3	0.36	<0.1	0.041	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	06/08/17	8260B	**0.79**	**0.25**	<0.1	<0.1	**0.052**	<0.4	<0.4	0.28	<0.3	0.47	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	03/02/17	8260B	**0.75**	**0.21**	<0.1	<0.1	**0.078**	<0.4	0.032	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	**0.042**	<0.1
	11/02/16	8260B	**0.63**	**0.19**	<0.05	<0.05	**0.097**	<0.2	<0.2	0.4		0.66					<0.05		<0.05	<0.05
	09/11/16	8260B	**0.57**	**0.17**	<0.05	<0.05	**0.086**	**0.015**	0.014	1.2		1.3					<0.05		<0.05	<0.05
	09/17/14	8260B	**0.66**	**0.18**	<0.05		**0.12**	<0.2	<0.2	<0.5		<0.5					<0.05		<0.05	<0.05
	06/05/14	8260B	**0.33**	**0.095**	<0.005		**0.08**	**0.03**	0.035	0.29		0.062					<0.005		<0.005	<0.005

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	04/10/14	8260B	**0.46**	**0.11**	<0.01		**0.072**	<0.04	<0.04	<0.1		<0.1					<0.01		<0.01	<0.01
MKTF-16	11/29/17	8260B	**0.69**	**0.19**	<0.1	<0.1	**0.16**	**0.066**	**0.072**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	09/26/17	8260B	**0.75**	**0.2**	<0.1	<0.1	**0.17**	**0.053**	**0.057**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	**0.042**	<0.1
	06/08/17	8260B	**0.44**	**0.18**	<0.1	<0.1	**0.12**	**0.046**	**0.051**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	03/14/17	8260B	**0.75**	**0.23**	<0.1	<0.1	**0.14**	**0.056**	**0.062**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	**0.03**	<0.1
	11/03/16	8260B	**0.56**	**0.21**	<0.1	<0.1	**0.17**	**0.056**	**0.057**	<1.0		<1.0					<0.1		<0.1	<0.1
	09/12/16	8260B	**0.78**	**0.27**	<0.1	<0.1	**0.23**	**0.052**	**0.06**	<1.0		<1.0					<0.1		**0.065**	<0.1
	06/09/16	8260B	**0.73**	**0.24**	<0.02	<0.02	**0.17**	**0.046**	**0.055**	<0.2		<0.2					0.00084		**0.049**	<0.02
	02/29/16	8260B	**0.69**	**0.24**	<0.1	<0.1	**0.14**	**0.057**	**0.063**	<1.0		<1.0					<0.1		**0.05**	<0.1
	11/03/15	8260B	**1.1**	**0.33**	<0.05		**0.2**	<0.2	<0.2	<0.5		<0.5					<0.05		**0.061**	<0.05
	08/23/15	8260B	**0.89**	**0.32**	<0.1		**0.2**	<0.4	<0.4	<1.0		<1.0					<0.1		<0.1	<0.1
	06/08/15	8260B	**0.77**	**0.27**	<0.05		**0.17**	<0.2	<0.2	<0.5		<0.5					<0.05		<0.05	<0.05
	03/16/15	8260B	**0.94**	**0.31**	<0.05		**0.2**	<0.2	<0.2	<0.5		<0.5					<0.05		<0.05	<0.05
	11/18/14	8260B	**1**	**0.36**	<0.05		**0.16**	<0.2	<0.2	<0.5		<0.5					<0.05		**0.081**	<0.05
	09/17/14	8260B	**1.1**	**0.36**	<0.05		**0.26**	<0.2	<0.2	<0.5		<0.5					<0.05		<0.05	<0.05
	06/05/14	8260B	**1.2**	**0.36**	<0.05		**0.24**	<0.2	<0.2	<0.5		<0.5					<0.05		<0.05	<0.05
	04/10/14	8260B	**0.49**	0.12	<0.02		**0.07**	<0.08	<0.08	<0.2		<0.2					<0.02		<0.02	<0.02
MKTF-17	12/01/17	8260B	<0.005	<0.005	<0.005	<0.005	**0.0035**	<0.02	<0.02	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005
	09/26/17	8260B	0.00073	<0.005	<0.005	<0.005	**0.0079**	**0.012**	<0.02	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005
	06/14/17	8260B	**0.075**	<0.005	<0.005	<0.005	**0.032**	**0.025**	0.0016	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005
	03/15/17	8260B	0.034	0.0035	<0.01	<0.01	**0.011**	**0.0072**	0.0047	0.018	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01
	11/08/16	8260B	**0.0017**	<0.005	<0.005	<0.005	**0.021**	**0.01**	0.003	<0.05	<0.015	<0.05					<0.005		<0.005	<0.005
	09/13/16	8260B	0.012	<0.01	<0.01	<0.01	**0.014**	**0.013**	<0.04	<0.1	**0.0093**	<0.1					<0.01		<0.01	<0.01
	06/10/16	8260B	**0.23**	0.0046	<0.001	<0.001	**0.094**	**0.035**	0.007	0.04		0.0064					<0.001		<0.001	<0.001
	02/26/16	8260B	0.0024	<0.005	<0.005	<0.005	**0.0025**	<0.02	<0.02	<0.05		<0.05					<0.005		<0.005	<0.005
	11/03/15	8260B	<0.02	<0.002	<0.002		<0.004	<0.008	<0.008	<0.02		<0.02					<0.002		<0.002	<0.002
	08/18/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/08/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/12/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/18/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	09/18/14	8260B	<0.01	<0.01	<0.01		<0.02	<0.04	<0.04	<0.1		<0.1					<0.01		<0.01	<0.01
	06/06/14	8260B	**0.064**	<0.01	<0.01		<0.02	<0.04	<0.04	<0.1		<0.1					<0.01		<0.01	<0.01
	04/09/14	8260B	**0.074**	<0.01	<0.01		**0.032**	<0.04	<0.04	<0.1		<0.1					<0.01		<0.01	<0.01
MKTF-18	06/14/17	8260B	<0.002	<0.002	<0.002	<0.002	**0.028**	**0.12**	0.035	<0.02	<0.006	<0.02	<0.002	<0.004	<0.002	<0.006	0.0033	<0.002	0.00093	0.0008
	03/01/17	8260B	0.0013	<0.001	0.00047	<0.001	**0.031**	**0.089**	0.03	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	0.0031	<0.001	0.00085	0.00069
	11/08/16	8260B	0.00078	<0.001	0.00042	<0.001	**0.024**	**0.11**	0.034	0.0055		<0.01					0.0029	0.00048	<0.001	0.0006
	09/13/16	8260B	0.0011	0.00015	<0.001	<0.001	**0.022**	**0.079**	0.027	<0.01		<0.01					0.0027		<0.001	0.00062
	06/10/16	8260B	0.004	0.0004	<0.001	<0.001	**0.025**	**0.082**	0.025	0.0098		0.0044					0.0036		0.00082	0.00069
	02/26/16	8260B	0.014	0.0012	<0.001	<0.001	**0.035**	**0.14**	**0.04**	0.0032		<0.01					0.0042		0.00076	0.00043
	11/03/15	8260B	0.051	0.0072	<0.002		**0.042**	**0.11**	0.027	<0.02		<0.02					0.0046		<0.002	<0.002
	08/18/15	8260B	0.047	0.009	<0.001		**0.053**	**0.16**	**0.051**	<0.01		<0.01					**0.0056**		<0.001	<0.001
	06/08/15	8260B	0.051	0.012	<0.001		**0.043**	**0.099**	0.026	<0.01		<0.01					0.0045		<0.001	<0.001
	03/17/15	8260B	**0.065**	0.019	<0.005		**0.036**	**0.088**	0.025	<0.05		<0.05					**0.0056**		<0.005	<0.005
	11/18/14	8260B	**0.096**	0.023	<0.005		**0.088**	**0.2**	**0.082**	<0.05		<0.05					**0.0056**		<0.005	<0.005
	09/18/14	8260B	**0.095**	0.025	<0.005		**0.097**	**0.15**	0.033	<0.05		<0.05					**0.0073**		<0.005	<0.005
	06/06/14	8260B	**0.088**	0.029	<0.005		**0.068**	**0.13**	0.028	<0.05		<0.05					<0.005		<0.005	<0.005
	04/14/14	8260B	**0.091**	0.024	<0.005		**0.077**	**0.13**	**0.043**	<0.05		<0.05					<0.005		<0.005	<0.005

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
MKTF-19	12/01/17	8260B	**0.72**	**0.1**	<0.01	<0.01	**0.6**	**0.27**	**0.34**	<0.1	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01
	09/26/17	8260B	**0.53**	**0.067**	<0.01	<0.01	**0.44**	**0.17**	**0.23**	<0.1	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01
	06/14/17	8260B	**0.6**	**0.087**	<0.01	<0.01	**0.41**	**0.19**	**0.23**	<0.1	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	<0.01	<0.01	<0.01	<0.01
	03/15/17	8260B	**0.66**	**0.098**	<0.02	<0.02	**0.43**	**0.17**	**0.2**	<0.2	<0.06	<0.2	<0.02	<0.04	<0.02	<0.06	<0.02	<0.02	<0.02	<0.02
	11/08/16	8260B	**0.63**	**0.11**	0.007	<0.02	**0.51**	**0.22**	**0.26**	<0.2		<0.2					<0.02		<0.02	<0.02
	09/13/16	8260B	**0.62**	**0.1**	<0.02	<0.02	**0.45**	**0.18**	**0.25**	<0.2		<0.2					<0.02		<0.01	<0.01
	06/10/16	8260B	**0.58**	**0.079**	<0.01	<0.01	**0.41**	**0.15**	**0.21**	<0.1		<0.1					<0.01		<0.1	<0.1
	02/25/16	8260B	**0.68**	**0.082**	<0.02	<0.02	**0.55**	**0.25**	**0.35**	<0.2		<0.2					<0.02		<0.02	<0.02
	11/03/15	8260B	**0.53**	**0.094**	<0.01		**0.43**	**0.17**	**0.27**	<0.1		<0.1					<0.01		<0.01	<0.01
	08/18/15	8260B	**0.52**	**0.073**	<0.01		**0.49**	**0.23**	**0.38**	<0.1		<0.1					<0.01		<0.01	<0.01
	06/08/15	8260B	**0.42**	0.055	<0.01		**0.34**	**0.15**	**0.23**	<0.1		<0.1					<0.01		<0.01	<0.01
	03/12/15	8260B	**0.39**	0.047	<0.01		**0.38**	**0.17**	**0.25**	<0.1		<0.1					<0.01		<0.01	<0.01
	11/18/14	8260B	**0.83**	**0.11**	<0.05		**0.58**	**0.41**	**0.54**	<0.5		<0.5					<0.05		<0.05	<0.05
	09/24/14	8260B	**0.69**	**0.11**	<0.05		**0.5**	**0.22**	**0.36**	<0.5		<0.5					<0.5		<0.05	<0.05
	04/09/14	8260B	**0.59**	**0.099**	<0.05		**0.43**	<0.2	**0.3**	<0.5		<0.5					<0.05		<0.05	<0.05
MKTF-20	11/29/17	8260B	**1.4**	**0.41**	<0.1	<0.1	**0.27**	**0.09**	**0.1**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	09/26/17	8260B	**1.3**	**0.41**	<0.1	<0.1	**0.27**	**0.055**	**0.06**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	06/12/17	8260B	**1.6**	**0.48**	<0.1	<0.1	**0.29**	**0.058**	**0.049**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	03/14/17	8260B	**1.2**	**0.42**	<0.1	<0.1	**0.12**	**0.083**	**0.078**	<1	<0.3	<1	<0.1	<0.2	<0.1	<0.3	<0.1	<0.1	<0.1	<0.1
	11/03/16	8260B	**1.2**	**0.35**	<0.1	<0.1	**0.19**	**0.073**	**0.079**	<1.0		<1.0					<0.1		<0.1	<0.1
	09/12/16	8260B	**1.3**	**0.41**	<0.1	<0.1	**0.23**	**0.053**	**0.062**	<1.0		<1.0					<0.1		<0.1	<0.1
	06/09/16	8260B	**0.97**	**0.31**	<0.01	<0.01	**0.14**	**0.04**	**0.049**	0.12		0.047					<0.01		<0.01	<0.01
	03/01/16	8260B	**1.2**	**0.38**	<0.05	<0.05	**0.14**	**0.037**	**0.051**	<0.5		<0.5					<0.05		<0.05	<0.05
	06/08/15	8260B	**0.94**	**0.34**	<0.05		**0.1**	<0.2	<0.2	<0.5		<0.5					<0.5		<0.05	<0.05
	03/16/15	8260B	**1.3**	**0.39**	<0.05		**0.21**	<0.2	<0.2	<0.5		<0.5					<0.5		<0.05	<0.05
	11/18/14	8260B	**1.8**	**0.53**	<0.5		**0.16**	<0.2	<0.2	<0.5		<0.5					<0.5		<0.5	<0.5
	04/11/14	8260B	**1.9**	**0.5**	<0.05		**0.3**	<0.2	<0.2	<0.5		<0.05					<0.05		<0.05	<0.05
MKTF-21	11/28/17	8260B	**0.29**	**0.097**	<0.05	<0.05	**0.061**	<0.2	<0.2	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	09/26/17	8260B	**0.29**	**0.089**	<0.05	<0.05	**0.045**	**0.016**	0.018	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	06/21/17	8260B	**0.34**	**0.12**	<0.05	<0.05	**0.045**	<0.2	<0.2	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	03/14/17	8260B	**0.26**	**0.096**	<0.05	<0.05	**0.032**	0.02	0.021	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	11/03/16	8260B	**0.23**	**0.096**	<0.05	<0.05	**0.047**	<0.2	<0.2	<0.5		<0.5					<0.05		<0.05	<0.05
	09/12/16	8260B	**0.24**	**0.11**	<0.05	<0.05	**0.03**	**0.015**	0.014	<0.5		<0.5					<0.05		<0.05	<0.05
	06/09/16	8260B	**0.14**	**0.066**	<0.01	<0.01	**0.019**	**0.01**	0.012	0.17		0.11					<0.01		<0.01	<0.01
	03/01/16	8260B	**0.14**	**0.067**	<0.01	<0.01	**0.016**	**0.0067**	0.0072	<0.1		<0.1					<0.01		<0.01	<0.01
	06/10/15	8260B	**0.11**	0.047	<0.01		<0.02	<0.04	<0.04	<0.1		<0.1					<0.01		<0.01	<0.01
	03/16/15	8260B	**0.11**	0.051	<0.01		<0.02	<0.04	<0.04	<0.1		<0.1					<0.1		<0.01	<0.01
	04/11/14	8260B	**2.2**	**0.6**	<0.05		**0.49**	<0.2	<0.2	<0.5		<0.5					<0.5		<0.05	<0.05
MKTF-22	11/28/17	8260B	0.0094	0.0017	<0.01	<0.01	**0.033**	**0.089**	0.0086	0.023	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.008**	<0.01	<0.01	**0.0062**
	10/03/17	8260B	0.015	<0.01	<0.01	<0.01	**0.059**	**0.1**	0.01	<0.1	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.0061**	<0.01	0.0041	**0.0051**
	06/08/17	8260B	0.004	0.0014	<0.01	<0.01	**0.032**	**0.058**	0.0071	0.021	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.0094**	<0.01	<0.01	**0.009**
	03/08/17	8260B	0.012	0.0022	<0.01	<0.01	**0.07**	**0.09**	0.016	0.034	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.0083**	<0.01	0.0017	**0.0086**
	11/01/16	8260B	0.015	0.0019	<0.01	<0.01	**0.07**	**0.094**	0.016	<1.0		<1.0					**0.0066**		<0.01	**0.0068**
	09/10/16	8260B	0.015	<0.02	<0.02	<0.02	**0.078**	**0.088**	0.014	<0.2		<0.2					**0.011**		<0.02	**0.0094**
	06/10/16	8260B	0.025	0.0017	<0.01	<0.01	**0.073**	**0.088**	0.016	0.082		0.031					**0.008**		<0.01	**0.0069**
	02/25/16	8260B	0.043	<0.02	0.003	<0.02	**0.073**	**0.11**	0.017	<0.2		<0.2					**0.0077**		<0.02	0.004
	11/09/15	8260B	0.029	<0.02	<0.02		<0.04	<0.08	<0.08	<0.2		<0.2					<0.02		<0.02	<0.2

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	08/20/15	8260B	<0.02	<0.02	<0.02		<0.04	<0.08	<0.08	<0.2		<0.2					<0.02		<0.02	<0.02
	06/09/15	8260B	0.053	<0.02	<0.02		<0.04	**0.08**	<0.08	<0.2		<0.2					<0.02		<0.02	<0.02
	03/12/15	8260B	**0.058**	<0.02	<0.02		<0.04	**0.099**	<0.08	<0.2		<0.2					<0.02		<0.02	<0.02
	11/17/14	8260B	<0.01	<0.01	<0.01		<0.02	**0.058**	<0.04	<0.1		<0.1					0.01		0.015	<0.01
	04/10/14	8260B	**0.089**	<0.01	<0.01		<0.02	**0.048**	<0.04	<0.1		<0.1					<0.01		<0.01	<0.01
MKTF-23	06/10/16	8260B	**1.5**	**0.52**	<0.01		**0.28**	**0.14**	**0.19**	<0.1		<0.1					**0.034**		**0.096**	**0.056**
	02/25/16	8260B	**1.3**	**0.35**	0.0053		**0.24**	**0.085**	**0.11**	0.042		<0.2					**0.036**		**0.11**	**0.058**
	11/09/15	8260B	**1.4**	**0.38**	<0.02		**0.39**	**0.14**	**0.21**	<0.2		<0.2					**0.049**		**0.11**	**0.049**
	08/21/15	8260B	**0.92**	**0.24**	<0.02		**0.16**	<0.08	<0.08	<0.2		<0.2					**0.045**		**0.13**	**0.054**
	06/09/15	8260B	**1.1**	**0.28**	<0.01		**0.22**	**0.079**	**0.12**	<0.1		<0.1					**0.042**		**0.13**	**0.062**
	03/12/15	8260B	**1.4**	**0.38**	<0.01		**0.3**	**0.097**	**0.14**	<0.1		<0.1					**0.055**		**0.12**	**0.053**
	11/17/14	8260B	**0.89**	**0.22**	<0.01		**0.15**	**0.074**	**0.11**	<0.1		<0.1					**0.043**		**0.15**	**0.064**
	09/23/14	8260B	**0.54**	**0.15**	<0.01		**0.1**	<0.04	**0.041**	<0.1		<0.1					**0.029**		**0.092**	**0.047**
MKTF-24	11/20/17	8260B	0.0039	0.0022	**0.0056**	<0.01	**0.0057**	**0.0081**	<0.04	0.016	<0.03	<0.1	<0.01	<0.02	<0.01	<0.03	**0.019**	<0.01	**0.072**	**0.024**
	10/03/17	8260B	<0.02	<0.02	**0.0099**	<0.02	<0.04	<0.08	<0.08	<0.2	<0.06	<0.2	<0.02	<0.04	<0.02	<0.06	**0.018**	<0.02	**0.072**	**0.035**
	06/05/17	8260B/8011/504.1/EDB	0.0042	0.0026	<0.02	<0.02	**0.0094**	**0.011**	<0.08	<0.2	<0.06	<0.2	<0.02	<0.04	<0.02	<0.06	**0.029**	<0.02	**0.088**	**0.039**
	03/29/17	8260B	<0.02	<0.02	**0.01**	<0.02	<0.04	<0.08	<0.08	<0.2	<0.06	<0.2	<0.02	<0.04	<0.02	<0.06	**0.022**	<0.02	**0.079**	**0.035**
	10/28/16	8260B	0.01	<0.02	**0.0079**	<0.02	<0.04	**0.0052**	<0.08	<0.2		<0.2					**0.035**		**0.088**	**0.045**
	09/07/16	8260B/8011/504.1/EDB	0.0093	<0.02	<0.02	**0.031**	<0.04	**0.0093**	<0.08	<0.2		<0.2					**0.027**		**0.094**	**0.042**
	06/08/16	8260B	0.0032	0.00075	<0.005	<0.005	**0.004**	**0.0038**	<0.02	0.044		0.012					**0.028**		**0.092**	**0.046**
	02/22/16	8260B	0.0072	<0.02	**0.0081**	<0.02	**0.014**	**0.011**	<0.08	<0.2		<0.2					**0.032**		**0.093**	**0.051**
	11/04/15	8260B	<0.02	<0.02	<0.02		<0.04	<0.08	<0.08	<0.2		<0.2					**0.034**		**0.12**	**0.046**
	08/20/15	8260B	<0.02	<0.02	<0.02		<0.04	<0.08	<0.08	<0.2		<0.2					**0.028**		**0.11**	**0.049**
	06/10/15	8260B	<0.005	<0.005	**0.0083**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.036**		**0.12**	**0.058**
	03/11/15	8260B	<0.005	<0.005	**0.007**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.035**		**0.1**	**0.051**
	11/14/14	8260B	0.0027	<0.001	**0.0096**		<0.002	**0.0046**	<0.004	<0.01		<0.01					**0.039**		**0.15**	**0.058**
	09/24/14	8260B	0.0023	<0.002	**0.0098**		<0.004	<0.008	<0.008	<0.02		<0.02					**0.044**		**0.14**	**0.067**
	04/08/14	8260B	<0.001	<0.001	**0.014**		<0.002	<0.004	<0.004	<0.01		<0.01					**0.057**		**0.2**	**0.088**
MKTF-25	11/21/17	8260B	0.0045	<0.005	**0.0097**	<0.005	**0.0056**	**0.0037**	<0.02	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.047**	<0.005	**0.21**	**0.094**
	09/25/17	8260B	0.0035	0.0012	<0.001	<0.001	**0.0079**	**0.0038**	<0.004	<0.01	<0.003	<0.01	<0.001	0.00046	<0.001	<0.003	**0.052**	<0.001	**0.24**	**0.11**
	06/05/17	8260B/8011/504.1/EDB	0.0013	<0.005	**0.0064**	<0.005	**0.0022**	**0.0031**	<0.02	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.024**	<0.005	**0.16**	**0.086**
	03/29/17	8260B	0.0014	<0.005	**0.0057**	<0.005	**0.0028**	**0.0035**	<0.02	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	**0.02**	<0.005	**0.15**	**0.074**
	11/01/16	8260B	0.0025	<0.01	**0.0086**	<0.01	<0.01	<0.04	<0.04	<0.1		<0.1					**0.044**		**0.22**	**0.088**
	09/09/16	8260B/8011/504.1/EDB	<0.01	<0.01	**0.0079**	<0.01	<0.02	<0.04	<0.04	<0.1		<0.1					**0.04**		**0.18**	**0.055**
	06/09/16	8260B	0.021	0.0017	<0.01	<0.00001	**0.019**	**0.0082**	<0.04	<0.1		<0.1					**0.1**		**0.61**	**0.24**
	02/23/16	8260B	0.003	<0.005	**0.013**	<0.005	**0.007**	**0.0045**	<0.02	<0.05		<0.05					**0.045**		**0.3**	**0.12**
	11/05/15	8260B	0.0056	<0.005	**0.013**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.049**		**0.3**	**0.13**
	08/21/15	8260B	0.0056	<0.005	**0.012**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.047**		**0.32**	**0.16**
	06/10/15	8260B	0.018	<0.005	**0.011**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.044**		**0.28**	**0.12**
	03/11/15	8260B	0.0086	<0.005	**0.012**		**0.018**	<0.02	<0.02	<0.05		<0.05					**0.055**		**0.28**	**0.14**
	11/14/14	8260B	<0.005	<0.005	**0.012**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.044**		**0.23**	**0.098**
	09/23/14	8260B	<0.01	<0.01	<0.01		<0.02	<0.04	<0.04	<0.1		<0.1					**0.046**		**0.25**	**0.1**
	04/08/14	8260B	0.0099	0.003	**0.01**		**0.03**	<0.008	<0.008	<0.02		<0.02					**0.054**		**0.33**	**0.15**
MKTF-26	06/09/16	8260B	0.0016	<0.005	**0.012**	0.0000045	<0.01	<0.02	<0.02	<0.05		<0.05		0.0016			0.004		**0.061**	**0.068**
	02/22/16	8260B	<0.005	<0.005	**0.011**	<0.005	<0.01	<0.02	<0.02	<0.05		<0.05					0.0033		**0.055**	**0.061**
	11/04/15	8260B	<0.005	<0.005	**0.011**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.0065**		**0.066**	**0.048**
	08/20/15	8260B	<0.005	<0.005	**0.01**		<0.01	<0.02	<0.02	<0.05		<0.05					<0.005		**0.07**	**0.077**

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	06/10/15	8260B	<0.005	<0.005	**0.0064**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.0069**		**0.064**	**0.036**
	03/11/15	8260B	<0.005	<0.005	<0.005		<0.01	<0.02	<0.02	<0.05		<0.05					**0.008**		**0.049**	**0.009**
	11/14/14	8260B	<0.005	<0.005	**0.0093**		<0.01	<0.02	<0.02	<0.05		<0.05					**0.011**		**0.083**	**0.043**
	09/24/14	8260B	<0.001	<0.001	**0.0081**		<0.002	<0.004	<0.004	<0.01		<0.01					**0.013**		**0.084**	**0.032**
	04/08/14	8260B	<0.001	<0.001	**0.013**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0045		**0.083**	**0.066**
MKTF-27	11/20/17	8260B	<0.001	<0.001	0.00051	<0.001	<0.002	0.00028	0.00026	0.0022	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.0019	0.00048
	10/03/17	8260B	<0.001	<0.001	0.00063	<0.001	<0.002	<0.004	<0.004	0.0097	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	0.00029	<0.001	0.0017	0.00059
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0038	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.0022	0.00032
	03/29/17	8260B	<0.001	<0.001	0.00059	<0.001	<0.002	<0.004	<0.004	0.0018	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.0015	0.00036
	10/28/16	8260B	<0.001	<0.001	0.00057	<0.001	<0.002	<0.004	<0.04	<0.01		<0.01					0.00019		0.0018	0.00039
	09/07/16	8260B	0.00018	<0.001	0.00076	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					0.00032		0.0017	0.00058
	06/08/16	8260B	0.00049	0.00017	0.0007	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					0.00022		0.0028	0.00074
	02/22/16	8260B	<0.001	<0.001	0.00059	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					0.00013		0.0019	0.00047
	11/04/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0023	<0.001
	08/20/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0018	<0.001
	06/09/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.002	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0016	<0.001
	11/14/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0028	<0.001
	09/24/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.002	<0.001
	04/08/14	8260B	<0.002	<0.002	<0.002		<0.004	<0.008	<0.008	<0.02		<0.02					<0.002		<0.002	<0.002
MKTF-28	11/20/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	0.00025	0.00025	0.0028	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	10/03/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0083	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0033	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	03/29/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0019	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	10/28/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/08/16	8260B	0.00019	<0.001	<0.001	<0.001	0.00036	0.0008	0.001	<0.01		<0.01					<0.001		<0.001	<0.001
	02/23/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/04/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/20/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/09/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/14/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	09/24/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
MKTF-29	11/20/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	0.0003	0.0003	0.0018	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	10/03/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0046	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	0.00015	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0025	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	03/29/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	10/28/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	09/07/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.00001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	02/23/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0003	<0.001
	11/04/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/20/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/10/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	09/24/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	04/09/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
MKTF-30	11/20/17	8260B	<0.001	<0.001	0.003	<0.001	<0.002	<0.004	0.00022	0.0013	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	**0.0062**	<0.001	**0.068**	0.0049
	10/03/17	8260B	<0.001	<0.001	0.0029	<0.001	<0.002	<0.004	<0.004	0.0065	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	**0.0056**	<0.001	**0.068**	0.005
	06/05/17	8260B/8011/504.1/EDB	<0.002	<0.002	0.0024	<0.002	<0.004	<0.008	<0.008	0.005	<0.006	<0.02	<0.002	<0.004	<0.002	<0.006	0.0044	<0.002	**0.057**	0.0044
	03/29/17	8260B/8011/504.1/EDB	<0.001	<0.001	0.0038	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	0.00027	<0.003	**0.0088**	<0.001	**0.097**	**0.0066**
	10/28/16	8260B/8011/504.1/EDB	<0.001	<0.001	**0.0052**	<0.01	<0.002	<0.004	<0.004	<0.01		<0.01		<0.002	0.0002		**0.01**		**0.11**	**0.0079**
	09/07/16	8260B/8011/504.1/EDB	<0.001	<0.001	**0.0057**	<0.01	<0.002	<0.004	<0.004	<0.01		<0.01		<0.002	<0.001		**0.012**		**0.11**	**0.012**
	06/09/16	8260B	<0.001	<0.001	**0.006**	<0.01	<0.002	<0.004	<0.004	<0.01		<0.01		<0.002	<0.001		**0.012**		**0.13**	**0.01**
	02/23/16	8260B	<0.001	<0.001	**0.0067**	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01		0.00039	0.00027		**0.012**		**0.13**	**0.01**
	11/04/15	8260B	<0.001	<0.001	**0.0068**		<0.002	<0.004	<0.004	<0.01		<0.01					**0.012**		**0.13**	**0.01**
	08/20/15	8260B	<0.001	<0.001	**0.0051**		<0.002	<0.004	<0.004	<0.01		<0.01					**0.0087**		**0.11**	**0.0086**
	06/10/15	8260B	<0.001	<0.001	0.005		<0.002	<0.004	<0.004	<0.01		<0.01					**0.0067**		**0.11**	**0.0067**
	03/11/15	8260B	<0.001	<0.001	0.004		<0.002	<0.004	<0.004	<0.01		<0.01					0.0045		**0.081**	0.004
	11/17/14	8260B	<0.001	<0.001	**0.0053**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0039		**0.087**	0.0027
	09/24/14	8260B	<0.001	<0.001	0.0044		<0.002	<0.004	<0.004	<0.01		<0.01					0.0042		**0.068**	0.0035
	04/09/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.01		0.025	<0.001
MKTF-31	11/21/17	8260B	<0.001	<0.001	**0.022**	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	0.0016	<0.001	**0.035**	**0.067**
	09/25/17	8260B	<0.001	<0.001	**0.025**	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	0.00052	<0.003	0.0017	<0.001	**0.041**	**0.08**
	06/05/17	8260B	<0.001	<0.001	**0.022**	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	0.00047	<0.003	0.0017	<0.001	**0.036**	**0.07**
	03/07/17	8260B	<0.001	<0.001	**0.02**	<0.001	<0.002	<0.004	<0.004	0.0026	<0.003	<0.01	<0.001	<0.002	0.00045	<0.003	0.0018	<0.001	**0.035**	**0.07**
	10/31/16	8260B	<0.001	<0.001	**0.021**	**0.0035**	<0.002	<0.004	<0.004	<0.01		<0.01			0.00041		0.0016		**0.031**	**0.057**
	09/08/16	8260B	<0.001	<0.001	**0.024**	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			0.00029		0.0014		**0.033**	**0.069**
	06/09/16	8260B	<0.001	<0.001	**0.022**	0.0000067	<0.002	<0.004	<0.004	<0.01		<0.01			<0.001		0.002		**0.037**	**0.066**
	02/23/16	8260B	<0.001	<0.001	**0.023**	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			0.0004		0.0016		**0.034**	**0.057**
	11/04/15	8260B	<0.001	<0.001	**0.022**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0021		**0.033**	**0.057**
	08/21/15	8260B	<0.001	<0.001	**0.018**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0017		**0.028**	**0.047**
	06/10/15	8260B	<0.001	<0.001	**0.018**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0017		**0.029**	**0.053**
	03/11/15	8260B	<0.001	<0.001	**0.014**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0016		0.021	**0.04**
	11/17/14	8260B	<0.001	<0.001	**0.016**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0018		**0.029**	**0.034**
	09/23/14	8260B	<0.001	<0.001	**0.013**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0018		0.022	**0.041**
	04/08/14	8260B	<0.001	<0.001	**0.021**		<0.002	<0.004	<0.004	<0.01		<0.01					0.0016		**0.028**	**0.059**
MKTF-32	11/27/17	8260B	<0.001	<0.001	**0.016**	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	0.0016	<0.001	0.014	**0.023**
	09/25/17	8260B	0.00012	<0.001	**0.017**	<0.001	0.00098	**0.0018**	0.0013	0.0049	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	0.0017	<0.001	0.016	**0.029**
	06/06/17	8260B/8011/504.1/EDB	<0.001	<0.001	**0.019**	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	0.002	<0.001	0.019	**0.038**
	03/07/17	8260B	<0.001	<0.001	**0.018**	<0.001	<0.002	<0.004	<0.004	0.0024	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	0.0019	<0.001	0.018	**0.035**
	10/31/16	8260B	<0.001	<0.001	**0.02**	<0.01	<0.002	<0.004	<0.004	<0.01		<0.01				<0.003	0.0016		0.015	**0.03**
	09/09/16	8260B/8011/504.1/EDB	<0.002	<.002	**0.017**	<0.01	<0.004	<0.008	<0.008	<0.02		<0.02				<0.006	0.0015		0.012	**0.026**
	06/09/16	8260B	<0.002	<0.002	**0.026**	<0.01	<0.004	<0.008	<0.008	<0.02		<0.02				<0.006	0.0021		0.023	**0.046**
	02/24/16	8260B	<0.001	<0.001	**0.019**	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01				<0.003	0.0016		0.017	**0.028**
	11/05/15	8260B	<0.001	<0.001	**0.027**		<0.002	<0.004	<0.004	<0.01		<0.01				<0.003	0.002		0.021	**0.039**
	08/21/15	8260B	<0.002	<0.002	**0.022**		<0.004	<0.008	<0.008	<0.02		<0.02				<0.006	<0.02		0.019	**0.038**
	06/09/15	8260B	<0.001	<0.001	**0.022**		<0.002	<0.004	<0.004	<0.01		<0.01				<0.001	0.0015		0.018	**0.036**
	03/12/15	8260B	<0.001	<0.001	**0.025**		<0.002	<0.004	<0.004	<0.01		<0.01				<0.001	0.0013		0.019	**0.048**
	11/17/14	8260B	<0.001	<0.001	**0.028**		<0.002	<0.004	<0.004	<0.01		<0.01				0.013 [1]	0.0012		0.024	**0.041**
	09/23/14	8260B	<0.005	<0.005	**0.029**		<0.01	<0.02	<0.02	<0.05		<0.05					<0.005		0.023	**0.054**
	04/09/14	8260B	<0.001	<0.001	**0.03**		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.022	**0.036**
MKTF-33	11/28/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0027	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	06/08/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0037	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	03/08/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0016	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	11/01/16	8260B	0.0003	0.00015	0.00034	<0.001	0.00073	0.00069	0.00076	<0.01		<0.01					<0.001	<0.001	<0.001	<0.001
	09/10/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001	<0.001	<0.001	<0.001
	06/10/16	8260B	0.00018	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001	0.00014	<0.001	<0.001
	02/25/16	8260B	<0.001	<0.001	0.0002	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001	0.00037	<0.001	<0.001
	11/09/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/21/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/09/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/12/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/17/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	09/23/14	8260B	<0.005	<0.005	<0.005		<0.01	<0.02	<0.02	<0.05		<0.05					<0.005		<0.005	<0.005
	04/10/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
MKTF-34	12/01/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	0.0012
	09/26/17	8260B	0.00014	<0.001	<0.001	<0.001	0.00059	0.00057	0.0007	0.0048	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	0.00056
	06/14/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0053	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	0.00059
	03/01/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.00047	0.00071
	11/08/16	8260B	0.00023	<0.001	<0.001	<0.001	0.0004	0.00051	0.00048	<0.01		<0.01					0.00026	0.0004	<0.001	0.0028
	09/13/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001					<0.001		<0.001	0.00089
	06/10/16	8260B	0.00059	<0.001	<0.001	<0.001	0.0012	**0.0015**	0.0005	<0.01		<0.01					<0.001		0.00024	0.00078
	02/25/16	8260B	<0.001	<0.001	0.00015	<0.001	0.00021	0.00043	0.00052	<0.01		<0.01					<0.001		0.0003	0.00042
	11/03/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/18/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/08/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/12/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/17/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0015	<0.001
	09/24/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	0.0011
	04/09/14	8260B	<0.002	<0.002	<0.002		<0.004	<0.008	<0.008	<0.02		<0.02					<0.002		<0.002	0.0028
MKTF-35	11/30/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	0.00052	<0.002	<0.001	<0.003	<0.001	0.0038	0.00086	<0.001
	09/27/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.01	<0.003	<0.01	0.00043	<0.002	<0.001	<0.003	<0.001	0.0028	0.00067	<0.001
	06/14/17	8260B/8011/504.1/EDB	<0.001	<0.001	<0.001	<0.001	0.00031	<0.004	<0.004	<0.01	<0.003	<0.01	0.0004	<0.002	<0.001	<0.003	<0.001	0.0023	0.00043	<0.001
	03/01/17	8260B	<0.001	<0.001	<0.001	<0.001	0.00018	0.00044	0.00032	<0.01	<0.003	<0.01	0.00051	<0.002	<0.001	<0.003	<0.001	0.0017	<0.001	<0.001
	11/06/16	8260B	0.018	0.00032	<0.001	<0.01	**0.0028**	**0.0016**	<0.004	<0.01	<0.003	<0.01	0.0012				<0.001	0.0028	<0.001	<0.001
	09/13/16	8260B/8011/504.1/EDB	0.0036	0.00032	<0.001	<0.01	0.0011	**0.0026**	0.00093	0.0081	0.0011	0.0088	0.0011				<0.001	0.0036	<0.001	<0.001
	06/10/16	8260B	0.0012	0.0002	<0.001	<0.001	<0.002	<0.004	<0.004	0.0068		0.002	0.00069				<0.001	0.0056	0.00045	<0.001
	02/26/16	8260B	0.011	<0.005	<0.005	<0.005	<0.01	<0.02	<0.02	<0.05		<0.05					<0.005	0.0052	<0.005	<0.005
	11/03/15	8260B	0.009	<0.001	<0.001		**0.002**	<0.004	<0.004	<0.01		<0.01					<0.00	0.0031	0.0013	<0.001
	08/18/15	8260B	0.022	<0.005	<0.005		<0.01	<0.02	<0.02	<0.05		<0.05					<0.005		<0.005	<0.005
	06/04/15	8260B	0.0095	0.0023	<0.001		**0.0039**	**0.0042**	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/17/15	8260B	0.034	0.046	<0.001		**0.036**	**0.0077**	**0.0063**	<0.01		<0.01					<0.001		<0.001	<0.001
	11/21/14	8260B	**0.12**	0.05	<0.001		**0.04**	**0.038**	**0.059**	<0.01		<0.01					<0.001		<0.001	<0.001
MKTF-36	11/30/17	8260B	**0.064**	0.014	<0.05	<0.05	**0.69**	**0.44**	**0.55**	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	09/27/17	8260B	0.023	<0.05	<0.05	<0.05	**0.6**	**0.38**	**0.45**	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	06/14/17	8260B	**0.12**	0.024	<0.05	<0.05	**0.53**	**0.34**	**0.39**	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	03/01/17	8260B	0.019	<0.05	<0.05	<0.05	**0.62**	**0.36**	**0.48**	<0.5	<0.15	<0.5	<0.05	<0.1	<0.05	<0.15	<0.05	<0.05	<0.05	<0.05
	11/08/16	8260B	**0.06**	0.013	<0.01	<0.01	**0.7**	**0.4**	**0.48**	<0.1		<0.1					<0.01		<0.01	<0.01

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	08/18/15	8260B	0.032	<0.01	<0.01		**0.82**	**0.38**	**0.65**	<0.1		<0.1					<0.01		<0.01	<0.01
	06/04/15	8260B	**0.065**	<0.02	<0.02		**0.58**	**0.34**	**0.58**	<0.2		<0.2					<0.02		<0.02	<0.02
	03/17/15	8260B	0.031	<0.01	<0.01		**0.43**	**0.26**	**0.51**	<0.1		<0.1					<0.01		<0.01	<0.01
	11/21/14	8260B	**0.27**	**0.062**	<0.01		**0.59**	**0.34**	**0.53**	<0.1		<0.1					<0.1		<0.1	<0.1
	11/03/16	8260B	**0.47**	**0.07**	**0.0093**	<0.01	**0.38**	**0.066**	**0.081**	<0.1		0.035					<0.01	0.0071	**0.026**	**0.11**
	11/03/16	8260B	**0.47**	**0.07**	**0.0093**	<0.01	**0.38**	**0.066**	**0.081**	<0.1		0.035					<0.01	0.0071	**0.026**	**0.11**
	08/19/15	8260B	**0.88**	**0.27**	**0.013**	<0.02	**1.5**	**0.15**	**0.3**	<0.1		<0.1					<0.01		0.018	**0.1**
	06/04/15	8260B	**0.95**	**0.33**	**0.011**	<0.01	**0.72**	**0.15**	**0.27**	<0.01		<0.1					<0.01		0.015	**0.1**
	03/17/15	8260B	**0.24**	**0.11**	**0.0091**	<0.001	**0.088**	**0.03**	**0.038**	<0.01		<0.01					<0.001		0.018	**0.081**
	11/21/14	8260B	**0.51**	**0.14**	**0.017**	**0.0015** [1]	**0.35**	**0.047**	**0.084**	<0.01		<0.01					<0.001		**0.034**	**0.21**
MKTF-37	03/01/17	8260B	**0.77**	**0.1**	**0.0083**	<0.005	**0.49**	**0.15**	**0.2**	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	0.016	**0.095**
MKTF-38	11/30/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	09/28/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0058	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	06/21/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0033	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	03/14/17	8260B	<0.001	<0.001	<0.001	<0.001	0.00014	<0.004	<0.004	0.0017	<0.003	<0.01	<0.001	<0.002	0.00016	<0.003	0.00088	<0.001	0.001	0.00019
	11/01/16	8260B	0.00012	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01			0.00013		0.0024	0.00037	0.0029	0.00053
	09/13/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	0.00079	0.00058	<0.01	0.0011	<0.01					0.0018		0.0021	0.00049
	06/08/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	**0.0052**	0.0043	<0.01		<0.01					0.0023		0.0022	0.00039
	02/29/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					0.0013		0.00073	0.00011
	11/09/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/24/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/10/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/16/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/21/14	8260B	0.0046	0.0015	<0.001		0.0055	0.0088	**0.0098**	<0.01		<0.01					<0.001		<0.001	<0.001
MKTF-39	11/28/17	8260B	0.01	<0.005	<0.005	<0.005	**0.11**	**0.22**	**0.093**	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005
	09/28/17	8260B	0.008	<0.005	<0.005	<0.005	**0.11**	**0.17**	**0.066**	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	0.002	<0.005
	06/08/17	8260B	0.029	<0.005	<0.005	<0.005	**0.11**	**0.24**	**0.098**	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005
	03/14/17	8260B	0.027	<0.005	<0.005	<0.005	**0.11**	**0.27**	**0.1**	<0.05	<0.015	<0.05	<0.005	<0.01	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005
	11/01/16	8260B	0.024	<0.005	<0.005	<0.005	**0.086**	**0.15**	**0.049**	<0.05	<0.015	<0.05			<0.005		<0.005		<0.005	<0.005
	09/13/16	8260B	0.039	<0.005	<0.005	<0.005	**0.08**	**0.16**	**0.056**	<0.05	0.0046	<0.05			<0.005		0.0014		<0.005	<0.005
	06/08/16	8260B	**0.082**	0.00021	<0.001	<0.001	**0.097**	**0.19**	**0.075**	<0.01		<0.01			<0.001		0.00086		0.00099	0.00048
	03/03/16	8260B	**0.066**	<0.001	<0.001	<0.001	**73**	**0.14**	**0.053**	<0.01		<0.01			0.00017		0.00078		0.0011	0.00032
	11/09/15	8260B	**0.085**	<0.001	<0.001		**0.11**	**0.18**	**0.063**	<0.01		<0.01			<0.001		<0.001		<0.001	<0.001
	08/23/15	8260B	**0.098**	<0.001	<0.001		**0.1**	**0.11**	**0.04**	<0.01		<0.01			<0.001		<0.001		<0.001	<0.001
	06/10/15	8260B	**0.12**	<0.002	<0.002		**0.096**	**0.13**	**0.066**	<0.02		<0.02			<0.002		<0.002		<0.002	<0.002
	03/16/15	8260B	**0.064**	<0.002	<0.002		**0.044**	**0.091**	0.013	<0.02		<0.02			0.0022		<0.002		<0.002	<0.002
	11/18/14	8260B	0.043	<0.005	<0.005		**0.12**	**0.17**	**0.13**	<0.05		<0.05					<0.005		<0.005	<0.005
MKTF-40	11/21/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0027	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.00059	<0.001
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0055	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.00081	<0.001
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0046	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.00066	<0.001
	03/07/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0023	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.00062	<0.001
	10/31/16	8260B	<0.001	<0.001	0.00037	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			0.0002		<0.001		0.00064	<0.001
	09/08/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			<0.001		<0.001		0.0065	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			<0.001		<0.001		0.00062	<0.001
	02/23/16	8260B	<0.001	<0.001	0.00037	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			0.00019		<0.001		0.00082	<0.001
	11/04/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/21/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	06/10/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/21/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
MKTF-41	11/27/17	8260B	<0.001	<0.001	0.0028	<0.001	<0.002	<0.004	<0.004	0.0017	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.0034	**0.0053**
	09/25/17	8260B	<0.001	<0.001	0.0027	<0.001	0.0003	0.0004	0.00039	0.0034	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.0034	0.0043
	06/06/17	8260B/8011/504.1/EDB	<0.001	<0.001	0.0027	<0.001	<0.002	<0.004	<0.004	0.0039	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.0034	0.0048
	03/07/17	8260B	<0.001	<0.001	0.0026	<0.001	<0.002	<0.004	<0.004	0.001	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	0.0036	**0.0053**
	10/31/16	8260B	<0.001	<0.001	0.0024	<0.01	<0.002	<0.004	<0.004	<0.01		<0.01			0.00014		<0.001		0.0027	**0.0054**
	09/09/16	8260B/8011/504.1/EDB	<0.001	<0.001	0.0024	<0.01	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0025	**0.0061**
	06/09/16	8260B	<0.001	<0.001	0.0022	<0.00001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0027	0.0034
	02/24/16	8260B	<0.001	<0.001	0.0019	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0026	0.0041
	11/05/15	8260B	<0.001	<0.001	0.0023		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0031	0.0038
	08/21/15	8260B	<0.001	<0.001	0.0013		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0018	0.0021
	06/09/15	8260B	<0.001	<0.001	0.0013		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0017	0.0019
	03/12/15	8260B	<0.001	<0.001	0.0013		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0018	0.0016
	11/18/14	8260B	<0.001	<0.001	0.002		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.0036	0.0038
MKTF-42	11/27/17	8260B	0.011	0.0052	0.0013	<0.001	**0.037**	**0.016**	0.014	0.03	<0.003	0.0071	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	0.00023
	09/25/17	8260B	0.018	0.0065	0.0017	<0.001	**0.062**	**0.035**	0.026	0.037	<0.003	0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	0.00019
	06/06/17	8260B	0.0047	0.0024	0.0015	<0.001	**0.016**	**0.016**	0.0052	0.035	<0.003	0.0099	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	03/07/17	8260B	0.004	0.0034	0.0013	<0.001	**0.024**	**0.019**	0.0073	0.028	<0.003	0.009	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	10/31/16	8260B	0.0083	0.005	0.0011		**0.032**	**0.028**	0.013	0.014	<0.003	<0.01					<0.001		<0.001	<0.001
	09/09/16	8260B	0.0066	0.0029	0.00098	<0.001	**0.026**	**0.013**	0.0083	0.031	<0.003	0.0083					<0.001		<0.001	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	**0.00012**	<0.002	<0.004	<0.004	<0.01	<0.003	<0.01					<0.001		<0.001	<0.001
	02/24/16	8260B	0.0066	0.0038	0.00079	<0.001	**0.028**	**0.016**	0.011	0.023	0.0016	0.0056					<0.001		<0.001	<0.001
	11/05/15	8260B	0.0083	0.005	0.0011		**0.032**	**0.028**	0.013	0.014		<0.01					<0.001		<0.001	<0.001
	08/21/15	8260B	0.006	0.0041	<0.001		**0.021**	**0.016**	0.0079	0.014		<0.01					<0.001		<0.001	<0.001
	06/09/15	8260B	0.0034	0.0028	<0.001		**0.009**	**0.0075**	0.0042	<0.01		<0.01					<0.001		<0.001	<0.001
	03/11/15	8260B	0.0039	0.0026	<0.001		**0.014**	**0.0075**	0.0061	0.01		<0.01					<0.001		<0.001	<0.001
	11/18/14	8260B	0.027	<0.01	<0.01		**0.035**	**0.073**	**0.058**	<0.1		<0.1					<0.01		<0.01	<0.01
MKTF-43	11/27/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0036	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0091	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	06/06/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0054	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	03/08/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0037	<0.003	<0.01	<0.001	<0.002	0.00016	<0.003	<0.001	<0.001	<0.001	<0.001
	10/31/16	8260B	0.0053	0.0027	0.0011	<0.001	0.024	**0.013**	0.0072	0.03		0.01			<0.001		<0.001		<0.001	<0.001
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			<0.001		<0.001		<0.001	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01			<0.001		<0.001		<0.001	<0.001
	02/24/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0023		<0.01			0.00018		<0.001		<0.001	<0.001
	11/05/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/21/15	8260B	<0.001	<0.001	<0.001		<0.002	**0.0059**	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/10/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	03/11/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/18/14	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
MKTF-44	11/28/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0021	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	09/25/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0026	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0038	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	03/08/17	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	0.0017	<0.003	<0.01	<0.001	<0.002	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001
	11/01/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		0.00035	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2,4-Trimethyl benzene (mg/L)	1,3,5-Trimethyl benzene (mg/L)	1,2-Dichloro ethane (EDC) (mg/L)	1,2-Dibro moethane (EDB) (mg/L)	Naphtha-lene (mg/L)	1-Methyl naphthalene (mg/L)	2-Methyl naphthalene (mg/L)	Acetone (mg/L)	Bromo methane (mg/L)	*(Methyl ethyl ketone)* 2-Butanone (mg/L)	Chloro benzene (mg/L)	Chloroethane (mg/L)	Chloro-form (mg/L)	Chloro-methane (mg/L)	cis-1,2-DCE (mg/L)	1,4-Dichloro benzene (mg/L)	1,1-Dichloro ethane (mg/L)	1,1-Dichloro ethene (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	0.01	0.0001	NE	NE	NE	NE	NE	NE	NE	NE	0.1	NE	**0.005**	NE	**0.025**	**0.005**
40 CFR 141.62 MCL			NE	NE	**0.005**	**0.00005**	NE	NE	NE	NE	NE	NE	NE	NE	**0.08**	NE	0.07	**0.075**	NE	0.007
NMED Tap Water (MARCH 2017)			NE	NE	0.0017	0.0000747	**0.00165**	0.114	0.035	**14.1**	**0.00754**	**5.56**	**0.0776**	**20.9**	0.00229	**0.0203**	0.0365	0.00482	0.0275	0.284
EPA RSL for Tap Water (MAY 2018)			**0.056**	**0.06**	0.00017	0.0000075	0.00017	**0.0011**	**0.036**	14	0.0075	5.6	0.078	21	0.00022	0.19	NE	0.00048	0.0028	0.28
Well ID	**DATE SAMPLED**	**METHOD**																		
	09/09/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/09/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	02/24/16	8260B	<0.001	<0.001	<0.001	<0.001	<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	11/09/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	08/17/15	8260B	<0.001	<0.001	<0.001		<0.002	<0.004	<0.004	<0.01		<0.01					<0.001		<0.001	<0.001
	06/10/15	8260B	<0.002	<0.002	<0.002		<0.004	<0.008	<0.008	<0.02		<0.02					<0.002		<0.002	<0.002
	03/12/15	8260B	<0.002	<0.002	<0.002		<0.004	<0.008	<0.008	<0.02		<0.02					<0.002		<0.002	<0.002
	11/21/14	8260B	<0.002	<0.002	<0.002		<0.004	<0.008	<0.008	<0.02		<0.02					<0.002		<0.002	<0.002

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above the applicable standards

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Water of 10,000 mg/l TDS Concentration or Less.

a) Human Health Standards; b) Other Standards for Domestic Water

40 CFR 141.62 Detection Limits for Inorganic Contaminants

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations and Remediations Table A-1

NOTES

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
MKTF-1	09/07/16	8260B/8011/504.1/EDB			0.012	<0.01	0.00098	<0.003	<0.03	0.025	0.0032	0.00059		0.00028		0.00061	<0.001	0.0025	**0.0011**
	02/24/16	8260B			0.046	<0.05		**0.016**	0.022	0.16	0.0082	<0.5		<0.05		<0.05	<0.05	<0.05	**0.022**
	11/04/15	8260B			0.047	<0.005			<0.015	0.1	0.0084			<0.005		<0.005	<0.005	<0.005	**0.012**
	08/21/15	8260B			0.045	<0.005			0.019	0.13	0.011			<0.005		<0.005	<0.005	<0.005	<0.005
	06/09/15	8260B			<0.05	<0.05			<0.15	0.11	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	03/11/15	8260B			<0.05	<0.05			<0.15	0.11	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	06/06/14	8260B			<0.05	<0.05			<0.15	0.14	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
MKTF-2	11/20/17	8260B	<0.005	<0.05	0.021	0.0011	<0.05	<0.015	0.0049	0.059	0.0027	<0.005	<0.005	<0.005	<0.005	<0.005	0.00095	0.0024	**0.0039**
	10/03/17	8260B	<0.005	<0.05	0.017	0.00088	<0.05	0.0018	0.0045	0.047	0.0021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0019	**0.0051**
	03/16/17	8260B/8011/504.1/EDB	<0.01	<0.1	0.033	0.0026	<0.1	<0.03	0.0091	0.096	0.0052	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0042	**0.0051**
	10/28/16	8260B/8011/504.1/EDB		<0.1	0.0062	<0.01	<0.01	<0.03	<0.03	0.012	0.0018	<0.01		<0.01		0.001	<0.01	0.0035	<0.01
	09/07/16	8260B		<0.1	0.012	<0.01	0.00098	<0.003	<0.03	0.025	0.0032	0.00059		0.00028		0.00061	<0.001	0.0025	**0.0011**
	06/10/16	8260B		<0.05	0.013	0.0016		<0.015	0.0049	0.037	0.0024			<0.005		<0.005	<0.005	0.0029	<0.005
	02/24/16	8260B		0.0018	0.004	<0.005		0.0017	<0.015	<0.005	<0.005			<0.005		0.0017	0.0019	**0.0073**	**0.0016**
	11/04/15	8260B			0.0097	<0.001			<0.003	0.013	0.0016			<0.001		0.0019	<0.001	0.0035	**0.0019**
	08/21/15	8260B			0.0072	<0.001			<0.003	0.0056	0.0013			<0.001		<0.001	0.0012	**0.0053**	**0.0013**
	06/09/15	8260B			0.0097	<0.001			0.0032	0.029	0.0017			<0.001		<0.001	<0.001	0.0025	**0.0014**
	03/11/15	8260B			<0.002	<0.002			<0.006	<0.002	<0.002			<0.002		0.0023	<0.002	0.0024	<0.002
	11/14/14	8260B			0.0016	<0.001			<0.003	0.0012	<0.001			<0.001		0.0036	0.0024	**0.0071**	**0.0097**
	09/18/14	8260B			0.03	<0.005			<0.015	0.13	0.0068			<0.005		<0.005	<0.005	<0.005	<0.005
	06/06/14	8260B			0.0031	<0.001			<0.003	0.009	<0.001			<0.001		0.0035	0.0012	0.0041	0.001
	04/08/14	8260B			<0.002	<0.002			<0.006	<0.002	<0.002			<0.002		0.0022	<0.002	0.0034	<0.002
MKTF-4	11/28/17	8260B	<0.005	<0.05	0.029	0.0055	<0.05	<0.015	0.01	0.073	0.006	0.0017	0.00072	<0.005	<0.005	<0.005	<0.005	0.0022	<0.005
	09/26/17	8260B	<0.005	<0.05	0.03	0.005	<0.05	<0.015	0.01	0.077	0.0058	0.0014	<0.005	<0.005	<0.005	<0.005	<0.005	0.0013	<0.005
	06/08/17	8260B	<0.005	<0.05	0.019	0.0041	<0.05	<0.015	0.0062	0.041	0.0036	0.0013	<0.005	<0.005	<0.005	<0.005	<0.005	0.0014	<0.005
	03/02/17	8260B	<0.005	<0.05	0.023	0.0037	<0.05	<0.015	0.0059	0.06	0.0052	0.00086	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	11/02/16	8260B		<0.05	0.024	0.0037			0.0061	0.043	0.0045	0.0015		<0.01		<0.005	<0.005	<0.005	<0.005
	09/11/16	8260B		0.024	0.0033	<0.05			0.0055	0.054	0.0038	0.00058		<0.005		<0.005	<0.005	<0.005	<0.005
	06/09/16	8260B			0.021	0.0043			0.0087	0.045	0.0046	<0.01		<0.01		<0.01	<0.01	<0.01	<0.01
	02/29/16	8260B			0.025	0.0038			0.0064	0.052	0.0041	0.0067		<0.005		<0.005	<0.005	<0.005	<0.005
	11/03/15	8260B			0.033	<0.01			<0.03	0.067	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	08/18/15	8260B			0.016	<0.005			<0.015	0.021	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	06/04/15	8260B			0.021	<0.01			<0.03	0.037	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	03/16/15	8260B			0.01	<0.01			<0.03	0.021	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	11/13/14	8260B			0.016	<0.1			<0.03	0.029	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	09/15/14	8260B			0.011	<0.005			<0.015	0.019	<0.005			<0.005		<0.005	<0.005	**0.0051**	<0.005
	06/04/14	8260B			0.02	<0.01			<0.03	0.046	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	04/11/14	8260B			0.028	<0.02			<0.06	0.077	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
MKTF-9	11/28/17	8260B	<0.01	<0.1	0.017	0.0043	<0.1	<0.03	0.0095	0.034	0.0058	0.0022	<0.01	0.0026	<0.01	0.029	<0.01	0.0044	<0.01
	09/28/17	8206B	<0.01	<0.1	0.021	0.0025	<0.1	<0.03	0.0084	0.043	0.004	<0.01	<0.01	0.0019	<0.01	0.013	<0.01	<0.01	<0.01
	06/12/17	8260B	<0.01	<0.1	0.019	0.0024	<0.1	<0.03	0.0086	0.042	0.0044	<0.01	<0.01	<0.01	<0.01	0.017	<0.01	0.0027	<0.01
	03/15/17	8260B	<0.01	<0.1	0.02	0.0035	<0.1	<0.03	0.01	0.038	0.0053	<0.01	<0.01	0.0033	<0.01	0.02	<0.01	**0.0054**	<0.01
	11/02/16	8260B			0.014	0.0029			0.0065	0.023	0.005			**0.0053**		0.042	<0.01	0.0036	<0.01
	09/11/16	8260B			0.016	<0.01			0.005	0.027	0.0031			0.0038		0.037	<0.01	0.0045	<0.01
	06/09/16	8206B			0.016	0.0024			0.0068	0.029	0.0044			**0.0065**		0.04	<0.001	**0.0062**	<0.001
	02/29/16	8260B			0.018	0.0024			0.0072	0.032	0.004			**0.0052**		0.046	<0.01	0.0044	<0.01
	11/03/15	8260B			0.019	0.0032			0.009	0.038	0.0064			**0.0067**		0.048	<0.001	**0.0061**	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	08/18/15	8260B			0.017	<0.005			<0.015	0.029	0.0054			**0.0062**		0.052	<0.005	**0.0059**	<0.005
	06/04/15	8260B			0.015	<0.005			<0.015	0.022	<0.005			**0.0078**		**0.067**	<0.005	**0.0076**	<0.005
	03/16/15	8260B			0.0074	<0.005			<0.015	0.013	<0.005			**0.0071**		**0.13**	<0.005	**0.009**	<0.005
	11/14/14	8260B			0.014	<0.01			<0.03	0.03	<0.01			<0.01		**0.096**	<0.01	**0.011**	<0.01
	09/18/14	8260B			<0.01	<0.01			<0.03	0.014	<0.01			<0.01		**0.11**	<0.01	<0.01	<0.01
	06/05/14	8260B			0.017	<0.01			<0.03	0.033	<0.01			<0.01		**0.065**	<0.01	<0.01	<0.01
	04/14/14	8260B			0.013	<0.005			<0.015	0.026	<0.005			<0.005		**0.072**	<0.005	**0.0089**	<0.005
MKTF-10	11/28/17	8260B	<0.1	<1	0.068	0.024	<1	<0.3	0.034	0.14	0.023	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	09/28/17	8260B	<0.1	<1	0.053	<0.1	<1	<0.3	<0.3	0.13	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	06/08/17	8260B	<0.1	<1	0.055	0.012	<1	<0.3	0.018	0.12	0.011	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	03/02/17	8260B	<0.1	<1	0.04	<0.1	0.084	<0.3	<0.3	0.11	0.033	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	11/02/16	8260B			0.049	<0.01	0.062	<0.3	0.032	0.13	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	09/11/16	8260B			0.042	<0.1	0.12	<0.3	<0.3	0.12	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	06/09/16	8260B			0.052	0.0086	0.072	<0.06	0.021	0.13	0.011			<0.02		<0.02	<0.02	<0.02	<0.02
	02/29/16	8260B			0.034	<0.1		**0.025**	0.018	0.12	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	11/03/15	8260B			<0.05	<0.05			<0.15	0.12	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	08/18/15	8260B			0.054	<0.05			<0.15	0.14	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	06/04/15	8260B			0.054	<0.05			<0.15	0.13	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	03/16/15	8260B			0.051	<0.05			<0.15	0.14	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	11/14/14	8260B			0.12	0.034			0.084	0.36	0.04			<0.02		<0.02	<0.02	<0.2	<0.02
	09/18/14	8260B			<0.05	<0.05			<0.15	0.068	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	06/06/14	8260B			0.019	<0.01			<0.03	0.038	<0.01			<0.01		0.015	<0.01	<0.01	<0.01
	04/11/14	8260B			<0.05	<0.05			<0.15	0.13	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
MKTF-11	11/28/17	8260B	<0.02	<0.2	0.027	0.0056	0.029	<0.06	0.01	0.068	0.012	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.03**
	09/26/17	8260B	<0.02	<0.2	0.025	0.004	0.047	<0.06	0.0084	0.065	0.0088	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.022**
	06/08/17	8260B	<0.02	<0.2	0.018	0.0029	0.016	<0.06	0.0067	0.042	0.0086	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.042**
	03/02/17	8260B	<0.02	0.021	0.023	<0.02	<0.2	<0.06	0.0043	0.067	0.014	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.054**
	11/02/16	8260B			0.021	<0.05	0.026	<0.15	0.017	0.056	0.017			<0.05		<0.05	<0.05	<0.05	**0.051**
	09/11/16	8260B			0.019	<0.05		<0.15	<0.15	0.058	<0.05			<0.05		<0.05	<0.05	<0.05	**0.056**
	06/09/16	8260B			0.022	0.0035		<0.03	0.0095	0.058	0.0089			<0.01		<0.01	<0.01	<0.01	**0.062**
	02/29/16	8260B			<0.1	<0.1		**0.028**	<0.3	0.058	<0.1			<0.1		<0.1	<0.1	<0.1	**0.049**
	11/03/15	8260B			<0.05	<0.05			<0.15	0.087	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	08/18/15	8260B			0.022	<0.02			<0.06	0.051	<0.02			<0.02		<0.02	<0.02	<0.02	**0.049**
	06/04/15	8260B			0.036	<0.02			<0.06	0.099	<0.02			<0.02		<0.02	<0.02	<0.02	**0.034**
	03/16/15	8260B			0.033	<0.02			<0.06	0.094	<0.02			<0.02		<0.02	<0.02	<0.02	**0.045**
	11/13/14	8260B			0.029	<0.02			<0.06	0.078	<0.02			<0.02		<0.02	<0.02	<0.02	**0.054**
	09/15/14	8260B			<0.05	<0.05			<0.15	0.069	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	06/05/14	8260B			0.029	<0.005			<0.015	0.068	0.0078			<0.005		0.014	<0.005	<0.005	**0.018**
	04/11/14	8260B			<0.05	<0.05			<0.15	0.097	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
MKTF-13	03/15/17	8260B	<0.01	<0.1	0.04	0.009	<0.1	<0.03	0.015	0.083	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MKTF-15	11/28/17	8260B	<0.1	<1	0.12	0.027	<1	<0.3	0.031	0.17	0.03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.018**
	06/08/17	8260B	<0.1	<1	0.16	0.023	<1	<0.3	0.023	0.19	0.027	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	03/02/17	8260B	<0.1	<1	0.11	<0.1	<1	<0.3	<0.3	0.16	0.039	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.045**
	11/02/16	8260B			0.12	0.017	0.06		0.019	0.15	0.023			<0.05		<0.05	<0.05	<0.05	**0.024**
	09/11/16	8260B			0.12	<0.05	0.083		<0.15	0.14	0.0078			<0.05		<0.05	<0.05	<0.05	<0.05
	09/17/14	8260B			0.068	<0.05			<0.15	0.14	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	06/05/14	8260B			0.059	0.0059			<0.015	0.097	0.012			<0.005		<0.005	<0.005	<0.005	<0.005

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	04/10/14	8260B			0.053	<0.01			<0.03	0.094	0.012			<0.01		<0.01	<0.01	<0.01	<0.01
MKTF-16	11/29/17	8260B	<0.1	<1	0.033	<0.1	<1	<0.3	<0.3	0.067	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	09/26/17	8260B	<0.1	<1	0.031	<0.1	<1	<0.3	<0.3	0.088	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	06/08/17	8260B	<0.1	<1	0.013	<0.1	<1	<0.3	<0.3	0.031	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	03/14/17	8260B	<0.1	<1	0.033	<0.1	<1	<0.3	<0.3	0.086	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	11/03/16	8260B			0.015	<0.1			<0.3	0.052	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	09/12/16	8260B			0.019	<0.1			<0.3	0.082	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	06/09/16	8260B			0.022	0.005			0.016	0.067	0.0059			<0.02		<0.02	<0.02	<0.02	<0.02
	02/29/16	8260B			<0.1	<0.1			<0.3	0.059	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	11/03/15	8260B			<0.05	<0.05			<0.15	0.092	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	08/23/15	8260B			<0.1	<0.1			<0.3	0.11	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	06/08/15	8260B			<0.05	<0.05			<0.15	0.084	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	03/16/15	8260B			<0.05	<0.05			<0.15	0.11	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	11/18/14	8260B			<0.05	<0.05			<0.15	0.09	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	09/17/14	8260B			<0.05	<0.05			<0.15	0.12	<0.05			<0.05		<0.05	<0.02	<0.05	<0.05
	06/05/14	8260B			<0.05	<0.05			<0.15	0.15	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	04/10/14	8260B			0.053	<0.02			<0.06	0.099	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
MKTF-17	12/01/17	8260B	<0.005	<0.05	0.0097	0.0015	<0.05	<0.015	0.0016	0.016	0.0025	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	09/26/17	8260B	<0.005	<0.05	0.049	0.0022	<0.05	<0.015	0.0049	0.11	0.0087	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	06/14/17	8260B	<0.005	<0.05	0.035	0.0021	<0.05	<0.015	0.0035	0.077	0.0059	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	03/15/17	8260B	<0.01	<0.1	0.01	0.0022	<0.1	<0.03	0.0018	0.016	0.0022	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	11/08/16	8260B			0.02	0.0023			0.0027	0.032	0.0035	<0.005		<0.005		<0.005	<0.005	<0.005	<0.005
	09/13/16	8260B			0.033	0.0034			0.0039	0.05	0.0054	0.0031		<0.01		<0.01	<0.01	<0.01	<0.01
	06/10/16	8260B			0.023	0.002			0.0016	0.043	0.0029			<0.001		<0.001	<0.001	<0.001	<0.001
	02/26/16	8260B			<0.005	0.001			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	11/03/15	8260B			0.022	0.0024			<0.006	0.041	0.005			<0.002		<0.002	<0.002	<0.002	<0.002
	08/18/15	8260B			0.019	0.0019			<0.003	0.034	0.0026			<0.001		<0.001	<0.001	<0.001	<0.001
	06/08/15	8260B			0.0011	<0.001			<0.003	0.0014	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/12/15	8260B			<0.001	0.0012			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/18/14	8260B			0.0091	0.003			<0.003	0.013	0.0021			<0.001		<0.001	<0.001	<0.001	<0.001
	09/18/14	8260B			0.029	<0.01			<0.03	0.066	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	06/06/14	8260B			0.03	<0.01			<0.03	0.06	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	04/09/14	8260B			0.037	<0.01			<0.03	0.096	0.01			<0.01		<0.01	<0.01	<0.01	<0.01
MKTF-18	06/14/17	8260B	<0.002	<0.02	0.0042	0.00065	<0.02	<0.006	0.0031	0.0073	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
	03/01/17	8260B	<0.001	<0.01	0.0047	0.001	<0.01	<0.003	0.003	0.0083	0.003	<0.001	0.00031	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/08/16	8260B			0.002	0.00099			0.0013	0.0026	0.0015		0.00032	<0.002		<0.002	<0.002	<0.002	<0.002
	09/13/16	8260B			0.0024	0.00091			0.0013	0.003	0.0016		0.00037	<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/16	8260B			0.0036	0.0011			0.0022	0.0053	0.0023		0.00031	<0.001		<0.001	<0.001	<0.001	<0.001
	02/26/16	8260B			0.006	0.0017			0.003	0.0071	0.0032		<0.001	<0.001		<0.001	<0.001	<0.001	<0.001
	11/03/15	8260B			0.0067	0.0026			<0.006	0.011	0.0037			<0.002		<0.002	<0.002	<0.002	<0.002
	08/18/15	8260B			0.0077	0.0023			0.0044	0.012	0.0037			<0.001		<0.001	<0.001	<0.001	<0.001
	06/08/15	8260B			0.006	0.002			<0.003	0.0071	0.0019			<0.001		<0.001	<0.001	<0.001	<0.001
	03/17/15	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	11/18/14	8260B			0.0088	<0.015			<0.015	0.013	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	09/18/14	8260B			0.0078	<0.005			<0.015	0.011	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	06/06/14	8260B			<0.005	<0.005			<0.015	0.0066	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	04/14/14	8260B			0.0052	<0.005			<0.015	0.0076	<0.005			<0.005		<0.005	<0.05	<0.005	<0.005

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
MKTF-19	12/01/17	8260B	<0.01	<0.1	0.034	0.0063	<0.1	<0.03	0.014	0.1	0.0074	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	09/26/17	8260B	<0.01	<0.1	0.026	0.0052	<0.1	<0.03	0.013	0.073	0.006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	06/14/17	8260B	<0.01	<0.1	0.03	0.0042	<0.1	<0.03	0.01	0.081	0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	03/15/17	8260B	<0.02	<0.2	0.024	0.0058	<0.2	<0.06	0.011	0.054	0.0052	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	11/08/16	8260B			0.032	0.0062		<0.06	0.014	0.084	0.0088	<0.02		<0.02		<0.02	<0.02	<0.02	<0.02
	09/13/16	8260B			0.035	0.0069		<0.06	0.014	0.085	0.009	0.0033		<0.02		<0.02	<0.02	<0.02	<0.02
	06/10/16	8260B			0.034	0.0054		<0.03	0.017	0.09	0.0065			<0.01		<0.01	<0.01	<0.01	<0.01
	02/25/16	8260B			0.033	0.0059		**0.0056**	0.017	0.099	0.0075			<0.02		<0.02	<0.02	<0.02	<0.02
	11/03/15	8260B			0.026	<0.01			<0.03	0.073	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	08/18/15	8260B			0.031	<0.01			<0.03	0.08	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	06/08/15	8260B			0.029	<0.01			<0.03	0.062	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	03/12/15	8260B			0.018	<0.01			<0.03	0.037	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	11/18/14	8260B			<0.05	<0.05			<0.15	0.11	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	09/24/14	8260B			<0.05	<0.05			<0.15	0.1	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	04/09/14	8260B			<0.05	<0.05			<0.15	0.086	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
MKTF-20	11/29/17	8260B	<0.1	<1	0.028	<0.1	<1	<0.3	0.032	0.057	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	09/26/17	8260B	<0.1	<1	<0.1	<0.1	<1	<0.3	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	06/12/17	8260B	<0.1	<1	<0.1	<0.1	<1	<0.3	<0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	03/14/17	8260B	<0.1	<1	0.014	<0.1	<1	<0.3	0.019	0.037	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	11/03/16	8260B		<1.0	0.035	<0.1		<0.3	<0.3	0.11	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	09/12/16	8260B		<1.0	0.028	<0.1		<0.3	<0.3	0.11	<0.1			<0.1		<0.1	<0.1	<0.1	<0.1
	06/09/16	8260B		<0.1	0.02	0.00045		<0.3	0.02	0.058	0.00043			<0.01		<0.01	<0.01	<0.01	<0.01
	03/01/16	8260B		**0.053**	0.018	<0.05		**0.0099**	0.011	0.073	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	06/08/15	8260B			<0.05	<0.05			<0.15	<0.05	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	03/16/15	8260B			<0.05	<0.05			<0.15	<0.05	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	11/18/14	8260B			<0.05	<0.05			<0.15	0.12	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	04/11/14	8260B			0.076	<0.05			<0.15	0.26	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
MKTF-21	11/28/17	8260B	<0.05	<0.5	0.018	<0.05	<0.5	<0.15	<0.15	0.029	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	09/26/17	8260B	<0.05	<0.5	0.018	<0.05	<0.5	<0.15	<0.15	0.033	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	06/21/17	8260B	<0.05	<0.5	0.019	<0.05	<0.5	<0.15	<0.15	0.031	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/14/17	8260B	<0.05	<0.5	0.013	<0.05	<0.5	<0.15	<0.15	0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	11/03/16	8260B		<0.5	0.0085	<0.05	0.032	<0.15	<0.15	0.019	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	09/12/16	8260B		<0.5	0.0082	<0.05	0.048	<0.15	<0.15	0.021	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
	06/09/16	8260B		<0.1	0.0074	<0.01	0.043	<0.15	0.0066	0.013	0.0016			<0.01		<0.01	<0.01	<0.01	<0.01
	03/01/16	8260B		0.026	0.0027	<0.01	0.05	0.002	0.0017	0.0069	<0.01			<0.01		<0.01	<0.1	<0.01	<0.01
	06/10/15	8260B			<0.01	<0.01			<0.03	0.015	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	03/16/15	8260B			<0.01	<0.01			<0.03	0.016	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	04/11/14	8260B			0.1	<0.05			<0.15	0.38	<0.05			<0.05		<0.05	<0.05	<0.05	<0.05
MKTF-22	11/28/17	8260B	<0.01	<0.1	0.01	0.0036	<0.1	<0.03	0.011	0.023	0.0061	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	10/03/17	8260B	<0.01	<0.1	0.015	0.0023	<0.1	0.0033	0.013	0.042	0.0066	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	06/08/17	8260B	<0.01	<0.1	0.0064	0.0017	<0.1	<0.03	0.0051	0.013	0.0027	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	03/08/17	8260B	<0.01	<0.1	0.019	0.0032	<0.1	<0.03	0.015	0.05	0.0076	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	11/01/16	8260B			0.018	0.0041			0.013	0.044	0.0078	0.0021		<0.01	0.003	<0.01	<0.01	<0.01	<0.01
	09/10/16	8260B			0.018	<0.02			0.0085	0.043	0.0042			<0.02		<0.02	<0.02	<0.02	<0.02
	06/10/16	8260B			0.021	0.0038			0.014	0.051	0.0074			<0.01		<0.01	<0.01	<0.01	<0.01
	02/25/16	8260B			0.02	0.0037			0.013	0.05	0.0071			<0.02		<0.02	<0.02	<0.02	<0.02
	11/09/15	8260B			<0.02	<0.02			<0.06	0.032	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	08/20/15	8260B			<0.02	<0.02			<0.06	<0.02	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
	06/09/15	8260B			<0.02	<0.02			<0.06	0.033	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
	03/12/15	8260B			<0.02	<0.02			<0.06	0.031	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
	11/17/14	8260B			<0.01	<0.01			<0.03	0.013	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	04/10/14	8260B			0.015	<0.01			<0.03	0.033	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
MKTF-23	06/10/16	8260B			0.033	0.02			0.074	0.065	0.022			0.0015		0.016	<0.01	0.0043	<0.01
	02/25/16	8260B			0.029	0.0097			0.017	0.048	0.01			<0.02		0.014	<0.02	<0.02	<0.02
	11/09/15	8260B			0.048	<0.02			<0.06	0.092	<0.02			<0.02		0.027	<0.02	<0.02	<0.02
	08/21/15	8260B			0.029	<0.02			<0.06	0.054	<0.02			<0.02		0.031	<0.02	<0.02	<0.02
	06/09/15	8260B			0.41	<0.01			<0.03	0.073	0.01			<0.01		0.034	<0.01	<0.01	<0.01
	03/12/15	8260B			0.044	<0.01			<0.03	0.093	0.01			<0.01		0.049	<0.01	<0.01	<0.01
	11/17/14	8260B			0.034	<0.01			<0.03	0.066	<0.01			<0.01		0.024	<0.01	<0.01	**0.022**
	09/23/14	8260B			0.026	<0.01			<0.03	0.058	<0.01			<0.01		0.024	<0.01	<0.01	<0.01
MKTF-24	11/20/17	8260B	<0.01	<0.1	0.042	0.0015	<0.1	<0.03	0.014	0.091	0.0079	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**0.031**
	10/03/17	8260B	<0.02	<0.2	0.019	<0.02	<0.2	<0.06	0.0046	0.034	0.0031	<0.02	<0.02	<0.02	<0.02	0.0043	<0.02	<0.02	**0.018**
	06/05/17	8260B/8011/504.1/EDB	<0.02	<0.2	0.035	0.0027	<0.2	<0.06	0.015	0.089	0.0088	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.027**
	03/29/17	8260B	<0.02	<0.2	0.01	<0.02	<0.2	<0.06	<0.06	0.018	0.0069	<0.02	<0.02	<0.02	<0.02	0.0031	<0.02	<0.02	**0.016**
	10/28/16	8260B			0.039	<0.02			0.017	0.093	0.012			<0.02		<0.02	<0.02	<0.02	<0.02
	09/07/16	8260B/8011/504.1/EDB			0.035	<0.02			0.015	0.065	0.011			<0.02		0.0035	<0.02	<0.02	<0.02
	06/08/16	8260B			0.013	<0.005			0.0042	0.022	0.0032			<0.005		0.0036	0.0014	0.0043	**0.0049**
	02/22/16	8260B			0.037	<0.02			0.014	0.094	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
	11/04/15	8260B			<0.02	<0.02			<0.06	0.033	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
	08/20/15	8260B			<0.02	<0.02			<0.06	0.028	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
	06/10/15	8260B			0.011	<0.005			<0.015	0.016	<0.005			<0.005		0.011	<0.005	<0.005	<0.005
	03/11/15	8260B			0.016	<0.005			<0.015	0.024	<0.005			<0.005		0.01	<0.005	<0.005	<0.005
	11/14/14	8260B			0.018	<0.001			0.0058	0.028	0.004			<0.001		0.0046	0.0011	0.0049	**0.014**
	09/24/14	8260B			0.024	<0.002			0.0087	0.039	0.0065			<0.002		<0.002	<0.002	0.005	<0.003
	04/08/14	8260B			0.02	<0.001			0.0091	0.038	0.005			0.0019		0.021	0.0014	**0.0052**	<0.001
MKTF-25	11/21/17	8260B	<0.005	<0.05	0.048	0.00053	<0.05	<0.015	0.014	0.057	0.007	<0.005	<0.005	0.0019	<0.005	0.016	0.0012	**0.021**	0.0032
	09/25/17	8260B	<0.001	<0.01	0.046	0.00089	<0.01	<0.003	0.015	0.057	0.0075	0.00017	0.00012	0.0023	<0.001	0.02	0.0012	**0.027**	**0.0031**
	06/05/17	8260B/8011/504.1/EDB	<0.005	<0.05	0.022	<0.005	<0.05	<0.015	0.0083	0.019	0.0036	<0.005	<0.005	0.00076	<0.005	0.017	0.0013	**0.019**	0.00096
	03/29/17	8260B	<0.005	<0.05	0.027	<0.005	<0.05	<0.015	0.011	0.025	0.0053	<0.005	<0.005	0.00084	<0.005	0.021	0.0013	**0.017**	0.0027
	11/01/16	8260B			0.023	<0.005			0.008	0.028	0.0054			0.0027		0.014	<0.01	**0.018**	<0.01
	09/09/16	8260B/8011/504.1/EDB			0.025	<0.01			0.009	0.032	0.0059			0.0021		0.0059	<0.01	**0.011**	**0.0059**
	06/09/16	8260B			0.093	0.0024			0.029	0.086	0.015			**0.006**		**0.064**	<0.01	**0.064**	**0.0066**
	02/23/16	8260B			0.047	<0.005			0.016	0.055	0.0056			0.0023		0.046	0.0014	**0.029**	**0.0034**
	11/05/15	8260B			0.049	<0.005			0.016	0.044	0.0084			<0.005		0.045	<0.005	**0.036**	<0.005
	08/21/15	8260B			0.044	<0.005			<0.015	0.057	0.0083			<0.005		**0.061**	<0.005	**0.037**	<0.005
	06/10/15	8260B			0.04	<0.005			<0.015	0.042	0.0061			<0.005		0.05	<0.005	**0.029**	<0.005
	03/11/15	8260B			0.037	<0.005			0.016	0.051	0.0073			<0.005		0.053	<0.005	**0.031**	<0.005
	11/14/14	8260B			0.04	<0.005			<0.015	0.037	0.0066			<0.005		0.023	<0.005	**0.027**	**0.046**
	09/23/14	8260B			0.038	<0.01			<0.03	0.041	<0.01			<0.01		0.03	<0.01	**0.024**	<0.01
	04/08/14	8260B			0.034	<0.002			0.014	0.039	0.0058			0.0033		**0.076**	<0.002	**0.03**	<0.002
MKTF-26	06/09/16	8260B			0.0022	<0.005		<0.015	<0.015	0.0015	<0.005			<0.005		0.0012	0.0015	0.0031	**0.0086**
	02/22/16	8260B			0.0012	<0.005		0.0011	<0.015	<0.005	<0.005			<0.005		<0.005	0.0013	0.0023	**0.0071**
	11/04/15	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	**0.0076**
	08/20/15	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	**0.0063**

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	06/10/15	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	**0.0068**
	03/11/15	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	11/14/14	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	**0.017**
	09/24/14	8260B			0.0073	<0.001			<0.003	0.005	0.0013			<0.001		0.0025	0.0011	0.0017	<0.001
	04/08/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0017	0.0014	0.0029	<0.001
MKTF-27	11/20/17	8260B	0.00014	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/03/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/29/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/16	8260B	0.00024		<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/07/16	8260B	0.00041		<0.001	<0.001			<0.003	<0.001	0.00031			<0.001		<0.001	<0.001	<0.001	<0.001
	06/08/16	8260B	<0.001		<0.001	<0.001			<0.003	<0.001	0.00016			<0.001		<0.001	<0.001	<0.001	<0.001
	02/22/16	8260B	0.00019		<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/04/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/20/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/14/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/24/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	04/08/14	8260B			<0.001	<0.002			<0.006	<0.002	<0.002			<0.001		<0.002	<0.002	<0.002	<0.001
MKTF-28	11/20/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/03/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/29/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/16	8260B			<0.001	<0.001			<0.001	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/08/16	8260B			<0.001	<0.001			<0.001	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/08/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	02/23/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/04/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/20/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/14/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/24/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
MKTF-29	11/20/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/03/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/29/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/28/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/07/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	02/23/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/04/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/20/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/24/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	04/09/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.0.01		<0.001	<0.001	<0.001	<0.001
MKTF-30	11/20/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.00032	<0.001	0.0015	0.00064	0.0041	<0.001
	10/03/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.00027	<0.001	0.0015	0.00069	0.0041	<0.001
	06/05/17	8260B/8011/504.1/EDB	<0.002	<0.02	<0.002	<0.002	<0.02	0.001	<0.006	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.00072	0.00034	0.0038	<0.002
	03/29/17	8260B/8011/504.1/EDB	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.00022	<0.001	0.0016	0.00089	**0.0059**	<0.001
	10/28/16	8260B/8011/504.1/EDB			<0.001	<0.001			<0.003	<0.001	<0.001			0.00047		0.0026	0.00091	**0.0069**	<0.001
	09/07/16	8260B/8011/504.1/EDB			<0.001	<0.001			<0.003	<0.001	<0.001			0.00066		0.0027	0.00096	**0.0079**	**0.0018**
	06/09/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.01			0.00077		0.0041	0.0012	**0.0088**	<0.001
	02/23/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			0.00065		0.0037	0.0014	**0.008**	<0.001
	11/04/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0033	0.0014	**0.0088**	<0.001
	08/20/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0025	0.001	**0.0064**	<0.001
	06/10/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0029	<0.001	**0.0062**	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0019	<0.001	0.0036	<0.001
	11/17/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.003	0.0011	0.0044	**0.0048**
	09/24/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0025	0.0011	0.004	<0.001
	04/09/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0014	<0.001
MKTF-31	11/21/17	8260B	0.00019	<0.01	0.0016	<0.001	<0.01	0.00029	0.00017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0046	0.0024	0.0041	0.00029
	09/25/17	8260B	<0.001	<0.01	0.0018	<0.001	<0.01	<0.003	0.00035	<0.001	0.00054	<0.001	<0.001	<0.001	<0.001	0.0053	0.0027	0.0048	<0.001
	06/05/17	8260B	<0.001	<0.01	0.0011	<0.001	<0.01	<0.003	0.00024	<0.001	0.00036	<0.001	<0.001	<0.001	<0.001	0.0051	0.0023	0.0043	<0.001
	03/07/17	8260B	<0.001	<0.01	0.001	<0.001	<0.01	<0.003	0.00027	<0.001	0.00035	<0.001	<0.001	<0.001	<0.001	0.0047	0.0022	0.0041	<0.001
	10/31/16	8260B	<0.001		0.00071	<0.001			0.00032	<0.001	0.00037			<0.001		0.0048	0.0022	0.0037	<0.001
	09/08/16	8260B	<0.001		0.0016	<0.001			<0.003	<0.001	0.00066			<0.001		0.0056	0.0024	0.0038	<0.001
	06/09/16	8260B	<0.001		0.00094	<0.001			0.00026	<0.001	0.00042			<0.001		0.0055	0.0024	0.004	<0.001
	02/23/16	8260B	0.0002		0.00084	<0.001			<0.003	<0.001	<0.001			<0.001		0.0056	0.0024	0.0036	0.00026
	11/04/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.005	0.0021	0.0035	<0.001
	08/21/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0048	0.0017	0.0032	<0.001
	06/10/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0049	0.0016	0.0031	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0039	0.0015	0.0025	<0.001
	11/17/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0039	0.0016	0.0024	0.0019
	09/23/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0037	0.0016	0.0024	<0.001
	04/08/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0058	0.0018	0.003	<0.001
MKTF-32	11/27/17	8260B	0.00014	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	0.00066	<0.001	<0.001	<0.001	<0.001	0.00029	0.0012	0.00019	<0.001
	09/25/17	8260B	<0.001	<0.01	0.00012	<0.001	<0.01	<0.003	<0.003	<0.001	0.00079	<0.001	<0.001	<0.001	<0.001	0.00047	0.0014	0.0003	<0.001
	06/06/17	8260B/8011/504.1/EDB	<0.001	<0.01	0.00013	<0.001	<0.01	<0.003	<0.003	<0.001	0.00063	<0.001	<0.001	<0.001	<0.001	0.00057	0.0014	0.00026	<0.001
	03/07/17	8260B	<0.001	<0.01	0.00022	<0.001	<0.01	<0.003	<0.003	<0.001	0.00081	<0.001	<0.001	<0.001	<0.001	0.00058	0.0014	0.00024	<0.001
	10/31/16	8260B			0.00022	<0.001			<0.003	<0.001	0.00086			<0.001		0.00047	0.0016	<0.001	<0.001
	09/09/16	8260B/8011/504.1/EDB			0.00027	<0.002			<0.006	<0.002	0.0011			<0.002		0.00061	0.0011	<0.002	<0.002
	06/09/16	8260B			0.00054	<0.002			<0.006	<0.002	0.001			<0.002		0.0012	0.0019	<0.002	<0.002
	02/24/16	8260B			0.0021	<0.001			0.00017	<0.001	0.00093			<0.001		0.00055	0.0016	<0.001	<0.001
	11/05/15	8260B			<0.001	<0.001			<0.003	<0.001	0.0015			<0.001		0.0011	0.0022	<0.001	<0.001
	08/21/15	8260B			<0.002	<0.002			<0.006	<0.002	<0.002			<0.002		<0.002	<0.002	<0.002	<0.002
	06/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	0.0021	<0.001	<0.001
	03/12/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		0.0011	0.0017	<0.001	<0.001
	11/17/14	8260B			0.0011	<0.001			<0.003	<0.001	<0.001			<0.001		0.0011	0.0025	<0.001	**0.002**
	09/23/14	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	04/09/14	8260B			0.0025	<0.001			<0.003	<0.001	<0.001			<0.001		0.0015	0.0023	<0.001	<0.001
MKTF-33	11/28/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	0.00021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	09/25/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	0.00029	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/08/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	0.00033	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/08/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	0.00047	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/01/16	8260B			<0.001	0.0002			0.00042	0.00044	0.00095	0.00028		0.00018		<0.001	<0.001	<0.001	<0.001
	09/10/16	8260B			<0.001	<0.001			<0.003	<0.001	0.00081			<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/16	8260B			<0.001	<0.001			<0.003	<0.001	0.0006			<0.001		<0.001	<0.001	<0.001	<0.001
	02/25/16	8260B			<0.001	<0.001			<0.003	<0.001	0.0016			<0.001		<0.001	<0.001	<0.001	<0.001
	11/09/15	8260B			<0.001	<0.001			<0.001	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/21/15	8260B			<0.001	<0.001			<0.001	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/12/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/17/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/23/14	8260B			<0.005	<0.005			<0.015	<0.005	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	04/10/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
MKTF-34	12/01/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.00014	<0.001	<0.001	<0.001	0.0026	<0.001
	09/26/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	0.00014	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0019	<0.001
	06/14/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
	03/01/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0022	<0.001
	11/08/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			0.00022		<0.001	<0.001	0.0048	<0.001
	09/13/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0019	<0.001
	06/10/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.002	<0.001
	02/25/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0018	<0.001
	11/03/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0023	<0.001
	08/18/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0019	<0.001
	06/08/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0017	<0.001
	03/12/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0012	<0.001
	11/17/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0014	<0.001
	09/24/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0022	<0.001
	04/09/14	8260B			<0.002	<0.001			<0.006	<0.002	<0.002			<0.002		<0.002	<0.002	0.0029	<0.002
MKTF-35	11/30/17	8260B	<0.001	<0.01	0.00048	<0.001	<0.01	<0.003	<0.003	0.00026	0.0015	<0.001	0.00024	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	09/27/17	8260B	<0.001	<0.01	0.00037	<0.001	<0.01	<0.003	<0.003	0.00013	0.0012	<0.001	0.00014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/14/17	8260B/8011/504.1/EDB	<0.001	<0.01	0.0011	<0.001	<0.01	0.00011	0.00019	0.0027	0.0014	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/01/17	8260B	<0.001	<0.01	0.0014	0.00016	<0.01	0.00066	<0.003	0.0038	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/06/16	8260B			0.0039	0.00049			0.00045	0.011	0.0021	<0.001	0.00025	<0.001		<0.001	<0.001	<0.001	<0.001
	09/13/16	8260B/8011/504.1/EDB			0.0012	0.00029			0.00032	0.0025	0.0014	0.00025	0.00018	<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/16	8260B			0.0018	0.00041			0.00053	0.0045	0.0019		0.00019	<0.001		<0.001	<0.001	<0.001	<0.001
	02/26/16	8260B			0.0034	<0.005			0.0016	0.012	0.0024		<0.005	<0.005		<0.005	<0.005	<0.005	<0.005
	11/03/15	8260B			0.0055	<0.001			<0.003	0.016	0.0026			<0.001		<0.001	<0.001	<0.001	<0.001
	08/18/15	8260B			0.01	<0.005			<0.015	0.036	<0.005			<0.005		<0.005	<0.005	<0.005	<0.005
	06/04/15	8260B			0.0084	<0.001			<0.003	0.022	0.0017			<0.001		<0.001	<0.001	<0.001	<0.001
	03/17/15	8260B			0.0082	<0.001			<0.003	0.035	0.0018			<0.001		<0.001	<0.001	<0.001	<0.001
	11/21/14	8260B			0.0051	<0.001			0.0061	0.028	0.0027			<0.001		<0.001	<0.001	<0.001	<0.001
MKTF-36	11/30/17	8260B	<0.05	<0.5	0.04	<0.05	<0.5	<0.15	0.018	0.083	0.011	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	09/27/17	8260B	<0.05	<0.5	0.032	<0.05	<0.5	<0.15	0.011	0.067	0.0064	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	06/14/17	8260B	<0.05	<0.5	0.028	<0.05	<0.5	<0.15	0.0076	0.085	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	03/01/17	8260B	<0.05	<0.5	0.031	<0.05	<0.5	<0.15	<0.15	0.078	0.018	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	11/08/16	8260B			0.028	<0.01			0.008	0.064	0.0058			<0.01		<0.01	<0.01	<0.01	<0.01

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	08/18/15	8260B			0.033	<0.01			<0.03	0.073	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	06/04/15	8260B			0.044	<0.02			<0.06	0.091	<0.02			<0.02		<0.02	<0.02	<0.02	<0.02
	03/17/15	8260B			0.03	<0.01			<0.03	0.081	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	11/21/14	8260B			0.041	<0.1			<0.03	0.099	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
	11/03/16	8260B			0.073	0.0055			0.027	0.078	0.011			<0.01		0.0081	<0.01	**0.2**	<0.01
	11/03/16	8260B			0.073	0.0055			0.027	0.078	0.011			<0.01		0.0081	<0.01	**0.2**	<0.01
	08/19/15	8260B			0.2	0.017			0.11	0.18	0.035			<0.02		**1.013**	<0.02	**1.27**	<0.02
	06/04/15	8260B			0.15	0.021			0.14	0.19	0.045			<0.01		0.019	<0.01	**0.17**	<0.01
	03/17/15	8260B			0.047	0.0045			0.02	0.056	0.0073			<0.001		0.0087	0.0022	**0.12**	<0.001
	11/21/14	8260B			0.078	0.0048			0.026	0.082	0.011			<0.001		<0.001	0.0017	**0.3**	<0.001
MKTF-37	03/01/17	8260B	<0.005	<0.05	0.082	0.0064	<0.05	<0.015	0.049	0.11	0.015	<0.005	<0.005	<0.005	<0.005	0.024	<0.005	**0.21**	<0.005
MKTF-38	11/30/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	0.00016	0.00019	<0.001	<0.001	<0.001	<0.001	<0.001
	09/28/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/21/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	0.00089	<0.001	0.00022	0.00016	<0.001	<0.001	<0.001	<0.001	<0.001
	03/14/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	0.00058	<0.001	<0.001	<0.001	<0.001	<0.001
	11/01/16	8260B			<0.001	<0.001			<0.003	0.00021	<0.001			0.0002	0.0002	<0.001	<0.001	0.00022	<0.001
	09/13/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			0.00021		<0.001	<0.001	0.0002	<0.001
	06/08/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			0.0009		<0.001	<0.001	0.00023	0.00067
	02/29/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			0.0011		<0.001	<0.001	<0.001	0.00037
	11/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/24/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/16/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/21/14	8260B			<0.001	0.0014			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	0.0011	<0.001
MKTF-39	11/28/17	8260B	<0.005	<0.05	0.022	0.0033	<0.05	<0.015	0.0085	0.031	0.015	<0.005	0.001	<0.005	<0.005	<0.005	<0.005	<0.005	0.00096
	09/28/17	8260B	<0.005	<0.05	0.022	0.003	<0.05	<0.015	0.0077	0.03	0.013	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0019**
	06/08/17	8260B	<0.005	<0.05	0.028	0.0082	<0.05	<0.015	0.016	0.04	0.025	<0.005	0.00067	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	03/14/17	8260B	<0.005	<0.05	0.03	0.0087	<0.05	<0.015	0.016	0.043	0.027	<0.005	0.00082	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	11/01/16	8260B			0.023	0.0054		<0.015	0.0076	0.028	0.012		0.00072	<0.005		<0.005	<0.005	<0.005	<0.001
	09/13/16	8260B			0.025	0.0079		<0.015	0.01	0.031	0.016		0.00071	<0.005		<0.005	<0.005	<0.005	**0.003**
	06/08/16	8260B			0.024	0.008		<0.003	0.01	0.033	0.015		<0.001	<0.001		<0.001	<0.001	<0.001	**0.0021**
	03/03/16	8260B			0.024	0.0074		0.00019	0.0074	0.03	0.013		0.00036	<0.001		<0.001	<0.001	<0.001	**0.0024**
	11/09/15	8260B			0.024	0.0084		<0.003	0.0066	0.027	0.012			<0.001		<0.001	<0.001	<0.001	<0.001
	08/23/15	8260B			0.02	0.0073		<0.003	0.0038	0.023	0.0097			<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/15	8260B			0.02	0.0081		<0.006	0.0071	0.028	0.012			<0.002		<0.002	<0.002	<0.002	<0.002
	03/16/15	8260B			0.011	0.0052		**0.0063**	<0.006	0.014	0.0057			<0.002		<0.002	<0.002	<0.002	<0.002
	11/18/14	8260B			0.015	<0.005			<0.015	0.019	0.0055			<0.005		<0.005	<0.005	<0.005	<0.005
MKTF-40	11/21/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	09/25/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/07/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/31/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/08/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	02/23/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/04/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/21/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	06/10/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/21/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
MKTF-41	11/27/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00057	<0.001	<0.001
	09/25/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00063	<0.001	<0.001
	06/06/17	8260B/8011/504.1/EDB	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00047	<0.001	<0.001
	03/07/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00052	<0.001	<0.001
	10/31/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	0.00055	<0.001	<0.001
	09/09/16	8260B/8011/504.1/EDB			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	0.00053	<0.001	<0.001
	06/09/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	0.00054	<0.001	<0.001
	02/24/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	0.00028	<0.001	<0.001
	11/05/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/21/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/12/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/18/14	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
MKTF-42	11/27/17	8260B	<0.001	0.0026	0.00073	0.0037	0.0034	<0.003	0.00037	0.00083	0.00026	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	09/25/17	8260B	<0.001	<0.01	0.0011	0.002	<0.01	<0.003	0.00059	0.0017	0.00046	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/06/17	8260B	<0.001	<0.01	0.00034	0.0032	0.0018	<0.003	<0.003	0.00037	0.00017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/07/17	8260B	<0.001	<0.01	0.00034	0.0031	0.0022	<0.003	<0.003	0.00028	0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/31/16	8260B			<0.001	0.0011			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	09/09/16	8260B		0.0022	0.00058	0.0018	0.0032		<0.003	0.00072	0.00041			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/16	8260B		<0.01	<0.001	<0.001	<0.01		<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	02/24/16	8260B		0.0016	0.00031	0.0011	0.0018		<0.003	0.00039	0.00017			<0.001		<0.001	<0.001	<0.001	<0.001
	11/05/15	8260B			<0.001	0.0011			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/21/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/18/14	8260B			<0.01	<0.01			<0.03	<0.01	<0.01			<0.01		<0.01	<0.01	<0.01	<0.01
MKTF-43	11/27/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	09/25/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/06/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/08/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	10/31/16	8260B		0.0042	0.00054	0.0023	0.0037		<0.003	0.00068	0.00034			<0.001		<0.001	<0.001	<0.001	<0.001
	09/09/16	8260B			<0.001	<0.001			<0.001	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/16	8260B			<0.001	<0.001			<0.001	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	02/24/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/05/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/21/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	03/11/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/18/14	8260B			<0.001	0.0036			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
MKTF-44	11/28/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	09/25/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	06/05/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	03/08/17	8260B	<0.001	<0.01	<0.001	<0.001	<0.01	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	11/01/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001

8.17.5 MKTF WELLS

Volatile Organic Compounds Analytical Results

STANDARDS			1,2-Dichloropropane (mg/L)	2-Hexanone (mg/L)	Isopropylbenzene (mg/L)	4-Isopropyltoluene (mg/L)	4-Methyl-2-pentanone (mg/L)	Methylene Chloride (mg/L)	n-Butylbenzene (mg/L)	n-Propylbenzene (mg/L)	sec-Butylbenzene (mg/L)	Styrene (mg/L)	tert-Butylbenzene (mg/L)	Tetrachloroethene (PCE) (mg/L)	1,2,4-Trichlorobenzene (mg/L)	1,1,1-Trichloroethane (mg/L)	1,1,2-Trichloroethane (mg/L)	Trichloroethene (TCE) (mg/L)	Vinyl Chloride (mg/L)
WQCC 20NMAC 6.2.3103			NE	NE	NE	NE	NE	0.1	NE	NE	NE	NE	NE	0.02	NE	**0.06**	0.01	NE	**0.001**
40 CFR 141.62 MCL			**0.005**	NE	NE	NE	NE	**0.005**	NE	NE	NE	**0.1**	NE	**0.005**	**0.07**	0.2	**0.005**	**0.005**	0.002
NMED Tap Water (MARCH 2017)			0.00438	NE	**0.447**	NE	**1.24**	0.106	NE	NE	NE	1.21	NE	0.0403	0.00398	8	0.000415	0.00259	0.00030
EPA RSL for Tap Water (MAY 2018)			0.00085	**0.038**	NE	NE	6.3	0.011	**1**	**0.66**	**2**	1.2	**0.69**	0.011	0.0012	8	0.00028	0.00049	0.000019
Well ID	**DATE SAMPLED**	**METHOD**																	
	09/09/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/09/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	02/24/16	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	11/09/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	08/17/15	8260B			<0.001	<0.001			<0.003	<0.001	<0.001			<0.001		<0.001	<0.001	<0.001	<0.001
	06/10/15	8260B			<0.002	<0.002			<0.006	<0.002	<0.002			<0.002		<0.002	<0.002	<0.002	<0.002
	03/12/15	8260B			<0.002	<0.002			<0.006	<0.002	<0.002			<0.002		<0.002	<0.002	<0.002	<0.002
	11/21/14	8260B			<0.002	<0.002			<0.006	<0.002	<0.002			<0.002		<0.002	<0.002	<0.002	<0.002

DEFINITIONS

NE = Not established

NA = Not analyzed

Bold and highlighted values represent values above th

STANDARDS

WQCC 20 NMAC 6.2.3103 - Standards for Ground Wat

a) Human Health Standards; b) Other Standards fo

40 CFR 141.62 Detection Limits for Inorganic Contami

EPA Regional Screening Level (RSL) Summary Table

NMED Risk Assessment Guidance for Investigations ar

NOTES

SECTION 9 WELL DATA DTW/ DTB MEASUREMENTS

The 2017 Well Data DTB/DTW Measurements has been updated with survey information submitted to and approved by NMED per notification received “Approval with Modifications, Requirement to Resurvey Groundwater Monitoring Wells and Recovery Wells issued on September 26, 2012. Western was required to resurvey the monitoring wells due to discrepancies found in applicable standards ground level elevation, well casing elevation, well casing bottom elevation and stick up lengths. All monitoring wells were surveyed by a licensed professional surveyor, DePauli Engineering on June 7, 2011, April 2014, September 2014, December 2014, and January 2016. The Well Data Table is attached as Section 9.1.

The additional wells from the hydrocarbon seep (MKTF series) and the two new wells STP1-NW and STP1- SW were surveyed by Hammon Enterprises Inc., professional surveyor on September 15, 2014, December 16, 2014 and on December 16, 2014.

TABLE 9.1
2017 DTB/DTW MEASUREMENTS

Date of Installation	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	2011 Survey [1] Ground Level Elevations (ft)	2011 Survey [1] Well Casing Rim Elevations (ft)	Stick-up length (ft)	2011 Survey [1] Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	SPH [2] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation [3] (ft)	Corrected Water Table [4] Elevation (factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)
11/10/03	BW-1A [5]	09/13/17	2.00	6,883.17	6,885.12	1.95	6,847.50	46.06	ND	NA	ND	DRY	NA	30 - 35
10/28/03	BW-1B [5]	09/13/17	2.00	6,883.17	6,885.78	2.61	6,818.33	76.29	ND	NA	ND	DRY	NA	54.6 - 64.6
11/10/03	BW-1C [5]	09/13/17	2.00	6,883.17	6,885.68	2.51	6,749.29	145.29	ND	NA	12.60	6,873.08	NA	125 -135
11/10/03	BW-2A	09/13/17	2.00	6,871.88	6,874.69	2.81	6,807.12	67.57	ND	NA	32.44	6,842.25	NA	55 - 65
10/28/03	BW-2B	09/13/17	2.00	6,871.66	6,874.50	2.84	6,782.24	92.26	ND	NA	28.28	6,846.22	NA	80 - 90
10/28/03	BW-2C	09/13/17	2.00	6,872.90	6,875.30	2.40	6,722.46	152.84	ND	NA	20.90	6,854.40	NA	139.5 - 149.5
06/15/04	BW-3A	09/13/17	2.00	6,875.94	6,878.39	2.45	6,826.04	52.35	ND	NA	ND	DRY	NA	39.5 - 49.5
10/15/03	BW-3B	09/13/17	2.00	6,876.16	6,878.59	2.43	6,809.19	69.40	ND	NA	33.38	6,845.21	NA	63 - 73
07/20/04	BW-3C	09/13/17	2.00	6,875.72	6,877.95	2.23	6,723.40	154.55	ND	NA	7.80	6,870.15	NA	144.5 - 154.5
09/25/81	OW-11	09/18/17	4.00	6,922.05	6,923.51	1.46	6,857.72	65.79	ND	NA	18.08	6,905.43	NA	43 - 65
12/15/80	OW-12	09/19/17	4.00	6,939.57	6,940.69	1.12	6,811.84	128.85	ND	NA	46.74	6,893.95	NA	117.8 - 137.8
10/14/81	MW-1	09/20/17	5.00	6,876.63	6,878.12	1.49	6,747.29	130.83	ND	NA	7.02	6,871.10	NA	117.72 - 127.72
10/15/81	MW-2	09/20/17	5.00	6,878.39	6,880.30	1.91	6,742.82	137.48	ND	NA	15.64	6,864.66	NA	112 - 122
10/16/81	MW-4	09/21/17	5.00	6,879.89	6,881.63	1.74	6,759.91	121.72	ND	NA	7.56	6,874.07	NA	101 - 121
07/21/86	MW-5	09/11/17	4.00	6,880.20	6,882.83	2.63	6,752.00	130.83	ND	NA	11.22	6,871.61	NA	115 - 125
09/26/85	SMW-2	09/11/17	2.00	6,881.63	6,883.97	2.34	6,831.17	52.80	ND	NA	24.79	6,859.18	NA	34.31 - 54.31
09/25/85	SMW-4	09/11/17	2.00	6,877.63	6,879.52	1.89	6,809.84	69.68	ND	NA	29.33	6,850.19	NA	51.7 - 71.7
10/05/09	OW-50	09/11/17	2.00	6,912.63	6,914.21	1.58	6,850.21	64.00	ND	NA	15.60	6,898.61	NA	48 - 63
10/05/09	OW-52	09/11/17	2.00	6,906.53	6,907.68	1.15	6,829.94	77.74	ND	NA	14.85	6,892.83	NA	64 - 79

TABLE 9.1
2017 DTB/DTW MEASUREMENTS

Date of Installation	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	2011 Survey [1] Ground Level Elevations (ft)	2011 Survey [1] Well Casing Rim Elevations (ft)	Stick-up length (ft)	2011 Survey [1] Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	SPH [2] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation [3] (ft)	Corrected Water Table [4] Elevation (factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)
01/05/81	OW-1*	02/27/17	4.00	6,866.32	6,866.62	0.30	6,772.07	94.55	ND	NA	1.71	6,864.91	NA	89.3 - 99.3
		05/31/17	4.00	6,866.32	6,866.62	0.30	6,772.07	94.55	ND	NA	1.77	6,864.85	NA	89.3 - 99.3
		09/06/17	4.00	6,866.32	6,866.62	0.30	6,772.07	94.55	ND	NA	1.70	6,864.92	NA	89.3 - 99.3
		12/08/17	4.00	6,866.32	6,866.62	0.30	6,772.07	94.55	ND	NA	1.71	6,864.91	NA	89.3 - 99.3
11/25/80	OW-10*	02/27/17	4.00	6,873.67	6,874.91	1.24	6,814.58	60.33	ND	NA	0.56	6,874.35	NA	40 - 60
		05/31/17	4.00	6,873.67	6,874.91	1.24	6,814.58	60.33	ND	NA	1.07	6,873.84	NA	40 - 60
		09/07/17	4.00	6,873.67	6,874.91	1.24	6,814.58	60.33	ND	NA	1.88	6,873.03	NA	40 - 60
		12/07/17	4.00	6,873.67	6,874.91	1.24	6,814.58	60.33	ND	NA	2.25	6,872.66	NA	40 - 60
12/10/80	OW-13	02/27/17	4.00	6,918.95	6,920.07	1.12	6,820.92	99.15	ND	NA	21.11	6,898.96	NA	78.2 - 98.2
		05/31/17	4.00	6,918.95	6,920.07	1.12	6,820.92	99.15	ND	NA	21.45	6,898.62	NA	78.2 - 98.2
		09/06/17	4.00	6,918.95	6,920.07	1.12	6,820.92	99.15	ND	NA	21.41	6,898.66	NA	78.2 - 98.2
		12/11/17	4.00	6,918.95	6,920.07	1.12	6,820.92	99.15	ND	NA	21.00	6,899.07	NA	78.2 - 98.2
12/17/80	OW-14	02/27/17	4.00	6,924.55	6,926.65	2.10	6,880.13	46.52	ND	NA	22.83	6,903.82	NA	35 - 45
		05/30/17	4.00	6,924.55	6,926.65	2.10	6,880.13	46.52	ND	NA	23.18	6,903.47	NA	35 - 45
		09/06/17	4.00	6,924.55	6,926.65	2.10	6,880.13	46.52	ND	NA	22.56	6,904.09	NA	35 - 45
		12/11/17	4.00	6,924.55	6,926.65	2.10	6,880.13	46.52	ND	NA	22.20	6,904.45	NA	35 - 45
08/23/96	OW-29	02/27/17	4.00	6,913.89	6,917.00	3.11	6,865.92	51.08	ND	NA	17.82	6,899.18	NA	37.5 - 47.5
		05/30/17	4.00	6,913.89	6,917.00	3.11	6,865.92	51.08	ND	NA	18.16	6,898.84	NA	37.5 - 47.5
		09/06/17	4.00	6,913.89	6,917.00	3.11	6,865.92	51.08	ND	NA	18.05	6,898.95	NA	37.5 - 47.5
		12/11/17	4.00	6,913.89	6,917.00	3.11	6,865.92	51.08	ND	NA	17.50	6,899.50	NA	37.5 - 47.5

TABLE 9.1
2017 DTB/DTW MEASUREMENTS

Date of Installation	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	2011 Survey [1] Ground Level Elevations (ft)	2011 Survey [1] Well Casing Rim Elevations (ft)	Stick-up length (ft)	2011 Survey [1] Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	SPH [2] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation [3] (ft)	Corrected Water Table [4] Elevation (factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)
08/28/96	OW-30	02/27/17	4.00	6,921.81	6,924.69	2.88	6,874.79	49.90	ND	NA	22.24	6,902.45	NA	37.9 - 47.9
		05/31/17	4.00	6,921.81	6,924.69	2.88	6,874.79	49.90	ND	NA	22.64	6,902.05	NA	37.9 - 47.9
		09/06/17	4.00	6,921.81	6,924.69	2.88	6,874.79	49.90	ND	NA	22.28	6,902.41	NA	37.9 - 47.9
		12/12/17	4.00	6,921.81	6,924.69	2.88	6,874.79	49.90	ND	NA	21.75	6,902.94	NA	37.9 - 47.9
07/08/04	GWM-1	03/16/17	2.00	6,910.22	6,912.61	2.39	6,886.41	26.20	21.74	0.30	22.04	6,890.57	6890.81	17.5 - 23.5
		06/02/17	2.00	6,910.22	6,912.61	2.39	6,886.41	26.20	21.54	0.44	21.98	6,890.63	6890.98	17.5 - 23.5
		09/08/17	2.00	6,910.22	6,912.61	2.39	6,886.41	26.20	21.49	0.22	21.71	6,890.90	6891.08	17.5 - 23.5
		12/04/17	2.00	6,910.22	6,912.61	2.39	6,886.41	26.20	19.70	1.00	20.70	6,891.91	6892.71	17.5 - 23.5
09/25/05	GWM-2	03/16/17	2.00	6,910.32	6,913.09	2.77	6,894.28	18.81	ND	NA	ND	DRY	NA	3.2 - 16.2
		06/02/17	2.00	6,910.32	6,913.09	2.77	6,894.28	18.81	ND	NA	ND	DRY	NA	3.2 - 16.2
		09/05/17	2.00	6,910.32	6,913.09	2.77	6,894.28	18.81	ND	NA	ND	DRY	NA	3.2 - 16.2
		12/04/17	2.00	6,910.32	6,913.09	2.77	6,894.28	18.81	ND	NA	ND	DRY	NA	3.2 - 16.2
09/25/05	GWM-3	03/16/17	2.00	6,907.35	6,910.25	2.90	6,892.45	17.80	ND	NA	ND	DRY	NA	3 - 15
		06/02/17	2.00	6,907.35	6,910.25	2.90	6,892.45	17.80	ND	NA	ND	DRY	NA	3 - 15
		09/05/17	2.00	6,907.35	6,910.25	2.90	6,892.45	17.80	ND	NA	ND	DRY	NA	3 - 15
		12/04/17	2.00	6,907.35	6,910.25	2.90	6,892.45	17.80	ND	NA	ND	DRY	NA	3 - 15
03/14/08	NAPIS-1	02/21/17	2.00	6,913.62	6,913.86	0.24	6,900.33	13.53	ND	NA	6.70	6,907.16	NA	3.7 - 13.7
		06/02/17	2.00	6,913.62	6,913.86	0.24	6,900.33	13.53	ND	NA	6.85	6,907.01	NA	3.7 - 13.7
		09/05/17	2.00	6,913.62	6,913.86	0.24	6,900.33	13.53	6.32	0.86	7.18	6,906.68	6907.37	3.7 - 13.7
		12/04/17	2.00	6,913.62	6,913.86	0.24	6,900.33	13.75	6.20	0.65	6.85	6,907.01	6907.53	3.7 - 13.7

TABLE 9.1
2017 DTB/DTW MEASUREMENTS

Date of Installation	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	2011 Survey [1] Ground Level Elevations (ft)	2011 Survey [1] Well Casing Rim Elevations (ft)	Stick-up length (ft)	2011 Survey [1] Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	SPH [2] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation [3] (ft)	Corrected Water Table [4] Elevation (factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)
03/14/08	NAPIS-2 [6]	02/21/17	2.00	6,913.40	6,912.65	-0.75	6,899.04	13.61	ND	NA	7.89	6,904.76	NA	4.2 - 14.2
		06/01/17	2.00	6,913.40	6,912.65	-0.75	6,899.04	13.61	ND	NA	8.35	6,904.30	NA	4.2 - 14.2
		09/05/17	2.00	6,913.40	6,912.65	-0.75	6,899.04	13.61	ND	NA	8.32	6,904.33	NA	4.2 - 14.2
		12/04/17	2.00	6,913.40	6,912.65	-0.75	6,899.04	14.60	ND	NA	7.98	6,904.67	NA	4.2 - 14.2
03/14/08	NAPIS-3 [6]	02/21/17	2.00	6,913.38	6,912.76	-0.62	6,882.34	30.42	ND	NA	9.20	6,903.56	NA	25.4 - 30-4
		06/01/17	2.00	6,913.38	6,912.76	-0.62	6,882.34	30.42	ND	NA	10.20	6,902.56	NA	25.4 - 30-4
		09/08/17	2.00	6,913.38	6,912.76	-0.62	6,882.34	30.42	ND	NA	9.10	6,903.66	NA	25.4 - 30-4
		12/14/17	2.00	6,913.38	6,912.76	-0.62	6,882.34	31.58	ND	NA	9.00	6,903.76	NA	25.4 - 30-4
06/11/07	KA-3 [6]	02/21/17	2.00	6,913.29	6,912.52	-0.77	6,889.32	23.20	ND	NA	7.37	6,905.15	NA	15 - 25
		06/01/17	2.00	6,913.29	6,912.52	-0.77	6,889.32	23.20	ND	NA	8.22	6,904.30	NA	15 - 25
		09/05/17	2.00	6,913.29	6,912.52	-0.77	6,889.32	23.20	ND	NA	8.21	6,904.31	NA	15 - 25
		12/04/17	2.00	6,913.29	6,912.52	-0.77	6,889.32	24.28	ND	NA	8.00	6,904.52	NA	15 - 25
07/17/12	OAPIS-1	02/21/17	2.00	6,914.37	6,916.73	2.36	6,888.37	28.30	ND	NA	11.60	6,905.13	NA	16 - 26
		06/01/17	2.00	6,914.37	6,916.73	2.36	6,888.37	28.30	ND	NA	11.46	6,905.27	NA	17 - 26
		09/05/17	2.00	6,914.37	6,916.73	2.36	6,888.37	28.30	ND	NA	11.09	6,905.64	NA	18 - 26
		12/04/17	2.00	6,914.37	6,916.73	2.36	6,888.37	27.78	ND	NA	11.88	6,904.85	NA	19 - 26
03/28/95	RW-1	03/16/17	4.00	6,942.86	6,946.06	3.20	6,903.02	43.04	27.05	3.50	30.55	6,915.51	6918.31	25 - 40
		06/20/17	4.00	6,942.86	6,946.06	3.20	6,903.02	43.04	26.77	1.65	28.42	6,917.64	6918.96	25 - 40
		09/19/17	4.00	6,942.86	6,946.06	3.20	6,903.02	43.04	26.52	1.08	27.60	6,918.46	6919.324	25 - 40
		12/12/17	4.00	6,942.86	6,946.06	3.20	6,903.02	43.04	26.50	1.00	27.50	6,918.56	6919.36	25 - 40

TABLE 9.1
2017 DTB/DTW MEASUREMENTS

Date of Installation	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	2011 Survey [1] Ground Level Elevations (ft)	2011 Survey [1] Well Casing Rim Elevations (ft)	Stick-up length (ft)	2011 Survey [1] Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	SPH [2] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation [3] (ft)	Corrected Water Table [4] Elevation (factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)
03/29/95	RW-2	03/16/17	4.00	6,926.40	6,928.53	2.13	6,888.73	39.80	ND	NA	21.65	6,906.88	NA	26.1 - 36.1
		06/20/17	4.00	6,926.40	6,928.53	2.13	6,888.73	39.80	ND	NA	21.19	6,907.34	NA	26.1 - 36.1
		09/19/17	4.00	6,926.40	6,928.53	2.13	6,888.73	39.80	ND	NA	20.71	6,907.82	NA	26.1 - 36.1
		12/05/17	4.00	6,926.40	6,928.53	2.13	6,888.73	40.00	ND	NA	20.34	6,908.19	NA	26.1 - 36.1
08/27/97	RW-5	03/16/17	4.00	6,941.53	6,943.57	2.04	6,903.98	39.59	ND	NA	27.53	6,916.04	NA	29.5 - 39.5
		06/20/17	4.00	6,941.53	6,943.57	2.04	6,903.98	39.59	25.30	8.00	33.30	6,910.27	6916.67	29.5 - 39.5
		09/19/17	4.00	6,941.53	6,943.57	2.04	6,903.98	39.59	25.46	6.19	31.65	6,911.92	6916.872	29.5 - 39.5
		12/12/17	4.00	6,941.53	6,943.57	2.04	6,903.98	39.59	24.75	9.25	34.00	6,909.57	6916.97	29.5 - 39.5
08/27/97	RW-6	03/16/17	4.00	6,941.96	6,944.01	2.05	6,903.11	40.90	ND	NA	27.57	6,916.44	NA	28.5 - 38.5
		06/20/17	4.00	6,941.96	6,944.01	2.05	6,903.11	40.90	25.50	8.12	33.62	6,910.39	6916.886	28.5 - 38.5
		09/19/17	4.00	6,941.96	6,944.01	2.05	6,903.11	40.90	25.89	5.08	30.97	6,913.04	6917.104	28.5 - 38.5
		12/12/17	4.00	6,941.96	6,944.01	2.05	6,903.11	40.90	24.83	9.02	33.85	6,910.16	6917.376	28.5 - 38.5
05/06/14	STP1-NW	02/21/17	2.00	6,904.50	6,904.47	-0.03	6,854.47	50.00	ND	NA	20.47	6,884.00	NA	20 - 50
		06/02/17	2.00	6,904.50	6,904.47	-0.03	6,854.47	50.00	ND	NA	20.66	6,883.81	NA	20 - 50
		09/05/17	2.00	6,904.50	6,904.47	-0.03	6,854.47	50.00	ND	NA	20.81	6,883.66	NA	20 - 50
		12/04/17	2.00	6,904.50	6,904.47	-0.03	6,854.47	49.74	ND	NA	20.55	6,883.92	NA	20 - 50
05/06/14	STP1-SW	02/21/17	2.00	6,912.40	6,912.38	-0.02	6,880.38	29.10	ND	NA	ND	NA	NA	15 - 30
		06/02/17	2.00	6,912.40	6,912.38	-0.02	6,880.38	29.10	ND	NA	NA	NA	NA	15 - 30
		09/05/17	2.00	6,912.40	6,912.38	-0.02	6,880.38	29.10	ND	NA	ND	NA	NA	15 - 30
		12/04/17	2.00	6,912.40	6,912.38	-0.02	6,880.38	29.10	ND	NA	NA	NA	NA	15 - 30

TABLE 9.1
2017 DTB/DTW MEASUREMENTS

Date of Installation	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	2011 Survey [1] Ground Level Elevations (ft)	2011 Survey [1] Well Casing Rim Elevations (ft)	Stick-up length (ft)	2011 Survey [1] Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	SPH [2] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation [3] (ft)	Corrected Water Table [4] Elevation (factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)
05/31/16	OW-53	03/29/17	2.00	6,911.93	6,914.38	2.45	6,945.83	33.90	ND	NA	DRY	NA	NA	16 - 31
		06/21/17	2.00	6,911.93	6,914.38	2.45	6,945.83	33.90	ND	NA	DRY	NA	NA	16 - 31
		09/11/17	2.00	6,911.93	6,914.38	2.45	6,945.83	33.90	ND	NA	DRY	NA	NA	16 - 31
		12/05/17	2.00	6,911.93	6,914.38	2.45	6,945.83	33.90	ND	NA	DRY	NA	NA	16 - 31
06/01/16	OW-54	03/29/17	2.00	6,916.36	6,918.92	2.56	6,947.40	31.04	ND	NA	18.44	6,900.48	NA	13 - 28
		06/21/17	2.00	6,916.36	6,918.92	2.56	6,947.40	31.04	ND	NA	18.63	6,900.29	NA	13 - 28
		09/11/17	2.00	6,916.36	6,918.92	2.56	6,947.40	31.04	ND	NA	18.70	6,900.22	NA	13 - 28
		12/05/17	2.00	6,916.36	6,918.92	2.56	6,947.42	31.06	ND	NA	18.27	6,900.65	NA	13 - 28
06/01/16	OW-55	03/29/17	2.00	6,921.01	6,923.25	2.24	6,951.71	30.70	ND	NA	18.39	6,904.86	NA	13 - 28
		06/21/17	2.00	6,921.01	6,923.25	2.24	6,951.71	30.70	ND	NA	18.47	6,904.78	NA	13 - 28
		09/11/17	2.00	6,921.01	6,923.25	2.24	6,951.71	30.70	ND	NA	18.49	6,904.76	NA	13 - 28
		12/05/17	2.00	6,921.01	6,923.25	2.24	6,951.91	30.90	ND	NA	18.05	6,905.20	NA	13 - 28
06/01/16	OW-56	03/29/17	2.00	6,917.79	6,920.18	2.39	6,936.38	18.59	ND	NA	12.29	6,907.89	NA	6 - 16
		06/21/17	2.00	6,917.79	6,920.18	2.39	6,936.38	18.59	ND	NA	13.53	6,906.65	NA	6 - 16
		09/11/17	2.00	6,917.79	6,920.18	2.39	6,936.38	18.59	ND	NA	14.50	6,905.68	NA	6 - 16
		12/05/17	2.00	6,917.79	6,920.18	2.39	6,936.37	18.58	ND	NA	13.43	6,906.75	NA	6 - 16
10/05/16	OW-57	03/30/17	2.00	6,930.64	6,933.10	2.46	6,958.99	28.35	ND	NA	NM	NA	NA	15 - 25
		06/20/17	2.00	6,930.64	6,933.10	2.46	6,958.99	28.35	ND	NA	20.52	6,912.58	NA	15 - 25
		09/19/17	2.00	6,930.64	6,933.10	2.46	6,958.99	28.35	ND	NA	20.15	6,912.95	NA	15 - 25
		12/05/17	2.00	6,930.64	6,933.10	2.46	6,958.99	28.35	ND	NA	20.11	6,912.99	NA	15 - 25
10/03/16	OW-58	03/29/17	2.00	6,934.71	6,934.50	-0.21	6,982.26	47.55	ND	NA	26.00	6,908.50	NA	38 - 48
		06/21/17	2.00	6,934.71	6,934.50	-0.21	6,982.26	47.55	ND	NA	25.14	6,909.36	NA	38 - 48
		09/19/17	2.00	6,934.71	6,934.50	-0.21	6,982.26	47.55	ND	NA	25.04	6,909.46	NA	38 - 48
		12/06/17	2.00	6,934.71	6,934.50	-0.21	6,982.21	47.50	ND	NA	24.67	6,909.83	NA	38 - 48

TABLE 9.1
2017 DTB/DTW MEASUREMENTS

Date of Installation	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	2011 Survey [1] Ground Level Elevations (ft)	2011 Survey [1] Well Casing Rim Elevations (ft)	Stick-up length (ft)	2011 Survey [1] Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)	SPH [2] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation [3] (ft)	Corrected Water Table [4] Elevation (factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)
06/29/17	OW-59	09/21/17	2.00	NS	NS	NS	NS	38.30	ND	NA	24.30	NS	NA	20 - 35
		12/05/17	2.00	NS	NS	NS	NS	38.50	ND	NA	24.30	NS	NA	20 - 35
06/29/17	OW-60	09/21/17	2.00	NS	NS	NS	NS	45.55	ND	NA	16.45	NS	NA	25 - 45
		12/05/17	2.00	NS	NS	NS	NS	45.70	ND	NA	16.40	NS	NA	25 - 45
06/29/17	BW-4A	09/21/17	2.00	NS	NS	NS	NS	38.80	ND	NA	DRY	NS	NA	21 - 36
		12/08/17	2.00	NS	NS	NS	NS	38.30	ND	NA	DRY	NS	NA	21 - 36
06/29/17	BW-4B	09/21/17	2.00	NS	NS	NS	NS	63.50	ND	NA	31.58	NS	NA	41 - 61
		12/08/17	2.00	NS	NS	NS	NS	63.50	ND	NA	37.95	NS	NA	41 - 61
06/29/17	BW-5A	09/21/17	2.00	NS	NS	NS	NS	23.00	ND	NA	DRY	NS	NA	10 - 20
		12/08/17	2.00	NS	NS	NS	NS	23.02	ND	NA	DRY	NS	NA	10 - 20
06/29/17	BW-5B	09/21/17	2.00	NS	NS	NS	NS	61.45	ND	NA	8.65	NS	NA	48 - 58
		12/08/17	2.00	NS	NS	NS	NS	61.45	ND	NA	9.00	NS	NA	48 - 58
06/29/17	BW-5C	09/21/17	2.00	NS	NS	NS	NS	76.35	ND	NA	2.99	NS	NA	64.3-74.30
		12/08/17	2.00	NS	NS	NS	NS	76.35	ND	NA	2.80	NS	NA	64.3-74.30

DEFINITIONS:

DTB - Depth to Bottom
DTW - Depth to Water
SPH = Separate Phase Hydrocarbons
* Wells also checked for Artesian flow conditions.

NA = Not Applicable NS = Not Surveyed NM = Not Measured
Negative number in Stick up Length column indicates well is flushmount and located at or below ground level.
Depth to Water Column - if 0.00 is indicated - means water is at top of casing (full) under artesian flow conditions.
Dry indicates no water was detected.

NOTES:

1. *Elevation data from NMED's "Approval with Modifications, Requirement to Resurvey Groundwater Monitoring Wells and Recovery Wells", dated 9/26/12.*
2. *Groundwater elevation - Depth to SPH = SPH Column Thickness.*
3. *2011 Survey Well Casing Rim elevation - depth to water measurement.*
4. *Corrected Water Table Elevation applies only if SPH thickness column measurement exists. (0.8 X SPH thickness + Groundwater Elevation)*
5. *Casings extended due to increased height from berm work. Changes in ground elevation, casing rim elevations, and well bottom casing elevations. Resurveyed on 9/15/2014 by HEI (Hammon Enterprises Inc.).*
6. *NAPIS-2, NAPIS-3, KA-3 - flush mount casings extended to prevent water from entering inside the vault on August 8, 2016.*
7. *OW-53 thru BW-5C - all new installations; OW-59 thru BW-5C - scheduled to be surveyed.*

TABLE 9.2
2017 DTB/DTW MEASUREMENTS FOR WELLS MKTF-01 THRU MKTF-45

Date of Installation	Date of Survey [1]	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Ground Elevation Inside Steel Sleeve (ft)	Stick-up length (ft)	Well Casing Bottom Elevation (ft)	Total Well Depth (ft)	Depth to [2] SPH (ft)	SPH [3] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation (ft)	Corrected [4] Water Table Elevation (Factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)	Stratigraphic unit in which screen exists
11/14/13	01/21/14	MKTF-01	03/14/17	4.00	6,918.28	6,920.67	6,920.67	2.39	6,903.25	17.42	4.65	0.16	4.81	6,915.86	6915.99	5 - 15	Chinle/Alluvium Interface
			06/07/17	4.00	6,918.28	6,920.67	6,920.67	2.39	6,903.25	17.42	4.89	0.53	5.42	6,915.25	6915.67	5 - 15	Chinle/Alluvium Interface
			10/03/17	4.00	6,918.28	6,920.67	6,920.67	2.39	6,903.25	17.42	6.20	0.36	6.56	6,914.11	6914.40	5 - 15	Chinle/Alluvium Interface
			11/20/17	4.00	6,918.28	6,920.67	6,920.67	2.39	6,903.25	17.42	4.62	0.33	4.95	6,915.72	6915.98	5 - 15	Chinle/Alluvium Interface
11/14/13	01/21/14	MKTF-02	03/16/17	4.00	6,915.00	6,917.45	6,917.18	2.45	6,896.97	20.48	ND	NA	7.34	6,910.11	NA	7 - 17	Chinle/Alluvium Interface
			06/07/17	4.00	6,915.00	6,917.45	6,917.18	2.45	6,896.97	20.48	7.10	0.01	7.11	6,910.34	6910.35	7 - 17	Chinle/Alluvium Interface
			10/03/17	4.00	6,915.00	6,917.45	6,917.18	2.45	6,896.97	20.48	ND	NA	6.67	6,910.78	NA	7 - 17	Chinle/Alluvium Interface
			11/20/17	4.00	6,915.00	6,917.45	6,917.18	2.45	6,897.10	20.35	ND	NA	7.00	6,910.45	NA	7 - 17	Chinle/Alluvium Interface
11/07/13	01/21/14	MKTF-03	03/02/17	4.00	6,931.73	6,931.69	6,930.85	-0.04	6,913.24	18.45	6.42	1.17	7.59	6,924.10	6925.04	3 - 18	Chinle/Alluvium Interface
			06/07/17	4.00	6,931.73	6,931.69	6,930.85	-0.04	6,913.24	18.45	6.95	1.30	8.25	6,923.44	6924.48	3 - 18	Chinle/Alluvium Interface
			09/26/17	4.00	6,931.73	6,931.69	6,930.85	-0.04	6,913.24	18.45	6.35	0.80	7.15	6,924.54	6925.18	3 - 18	Chinle/Alluvium Interface
			11/28/17	4.00	6,931.73	6,931.69	6,930.85	-0.04	6,913.24	18.45	7.00	0.95	7.95	6923.74	6924.50	3 - 18	Chinle/Alluvium Interface
11/12/13	01/21/14	MKTF-04	03/02/17	4.00	6,933.90	6,933.57	6,933.24	-0.33	6,911.42	22.15	ND	NA	8.31	6,925.26	NA	10 - 22	Chinle/Alluvium Interface
			06/07/17	4.00	6,933.90	6,933.57	6,933.24	-0.33	6,911.42	22.15	ND	NA	9.28	6,924.29	NA	10 - 22	Chinle/Alluvium Interface
			09/26/17	4.00	6,933.90	6,933.57	6,933.24	-0.33	6,911.42	22.15	ND	NA	8.80	6,924.77	NA	10 - 22	Chinle/Alluvium Interface
			11/29/17	4.00	6,933.90	6,933.57	6,933.24	-0.33	6,911.27	22.30	ND	NA	9.30	6,924.27	NA	10 - 22	Chinle/Alluvium Interface
11/12/13	01/21/14	MKTF-05	03/02/17	4.00	6,939.49	6,942.22	6,941.95	2.73	6,924.47	17.75	13.33	0.29	13.62	6,928.60	6928.83	4 - 14	Chinle/Alluvium Interface
			06/07/17	4.00	6,939.49	6,942.22	6,941.95	2.73	6,924.47	17.75	13.79	0.46	14.25	6,927.97	6928.34	4 - 14	Chinle/Alluvium Interface
			09/26/17	4.00	6,939.49	6,942.22	6,941.95	2.73	6,924.47	17.75	13.01	0.49	13.50	6,928.72	6929.11	4 - 14	Chinle/Alluvium Interface
			11/28/17	4.00	6,939.49	6,942.22	6,941.95	2.73	6,924.47	17.75	13.98	0.77	14.75	6,927.47	6928.09	4 - 14	Chinle/Alluvium Interface
11/11/13	01/21/14	MKTF-06	03/15/17	4.00	6,944.24	6,946.81	6,946.63	2.57	6,923.04	23.77	15.95	0.10	16.05	6,930.76	6930.84	8 - 20	Chinle/Alluvium Interface
			06/12/17	4.00	6,944.24	6,946.81	6,946.63	2.57	6,923.04	23.77	16.60	0.64	17.24	6,929.57	6930.08	8 - 20	Chinle/Alluvium Interface
			09/26/17	4.00	6,944.24	6,946.81	6,946.63	2.57	6,923.04	23.77	16.01	0.71	16.72	6,930.09	6930.66	8 - 20	Chinle/Alluvium Interface
			11/28/17	4.00	6,944.24	6,946.81	6,946.63	2.57	6,923.04	23.77	16.55	1.15	17.70	6,929.11	6930.03	8 - 20	Chinle/Alluvium Interface
11/11/13	01/21/14	MKTF-07	03/15/17	4.00	6,944.40	6,947.18	6,947.06	2.78	6,929.56	17.62	10.63	1.97	12.60	6,934.58	6936.16	4 - 14	Chinle/Alluvium Interface
			06/12/17	4.00	6,944.40	6,947.18	6,947.06	2.78	6,929.56	17.62	10.20	1.30	11.50	6,935.68	6936.72	4 - 14	Chinle/Alluvium Interface
			09/26/17	4.00	6,944.40	6,947.18	6,947.06	2.78	6,929.56	17.62	9.80	1.30	11.10	6,936.08	6937.12	4 - 14	Chinle/Alluvium Interface
			11/28/17	4.00	6,944.40	6,947.18	6,947.06	2.78	6,929.56	17.62	10.40	1.40	11.80	6,935.38	6936.50	4 - 14	Chinle/Alluvium Interface
11/11/13	01/21/14	MKTF-08	03/15/17	4.00	6,944.02	6,947.09	6,942.67	3.07	6,925.11	21.98	11.99	0.61	12.60	6,934.49	6934.98	8 - 18	Chinle/Alluvium Interface
			06/12/17	4.00	6,944.02	6,947.09	6,942.67	3.07	6,925.11	21.98	11.98	0.42	12.40	6,934.69	6935.03	8 - 18	Chinle/Alluvium Interface
			09/26/17	4.00	6,944.02	6,947.09	6,942.67	3.07	6,925.11	21.98	12.15	0.45	12.60	6,934.49	6934.85	8 - 18	Chinle/Alluvium Interface
			11/28/17	4.00	6,944.02	6,947.09	6,942.67	3.07	6,925.11	21.98	12.68	0.52	13.20	6,933.89	6934.31	8 - 18	Chinle/Alluvium Interface
11/11/13	01/21/14	MKTF-09	03/15/17	4.00	6,943.57	6,946.50	6,945.90	2.93	6,923.80	22.70	ND	NA	12.64	6,933.86	NA	7 - 19	Chinle/Alluvium Interface
			06/12/17	4.00	6,943.57	6,946.50	6,945.90	2.93	6,923.80	22.70	ND	NA	12.64	6,933.86	NA	7 - 19	Chinle/Alluvium Interface
			09/28/17	4.00	6,943.57	6,946.50	6,945.90	2.93	6,923.80	22.70	ND	NA	12.69	6,933.81	NA	7 - 19	Chinle/Alluvium Interface
			11/29/17	4.00	6,943.57	6,946.50	6,945.90	2.93	6,923.75	22.75	ND	NA	13.15	6,933.35	NA	7 - 19	Chinle/Alluvium Interface
10/31/13	01/21/14	MKTF-10	03/02/17	4.00	6,937.51	6,937.16	6,936.63	-0.35	6,921.17	15.99	ND	NA	7.47	6,929.69	NA	7 - 17	Chinle/Alluvium Interface
			06/07/17	4.00	6,937.51	6,937.16	6,936.63	-0.35	6,921.17	15.99	ND	NA	7.02	6,930.14	NA	7 - 17	Chinle/Alluvium Interface
			09/27/17	4.00	6,937.51	6,937.16	6,936.63	-0.35	6,921.17	15.99	ND	NA	6.78	6,930.38	NA	7 - 17	Chinle/Alluvium Interface
			11/29/17	4.00	6,937.51	6,937.16	6,936.63	-0.35	6,921.17	15.99	ND	NA	7.00	6,930.16	NA	7 - 17	Chinle/Alluvium Interface

TABLE 9.2
2017 DTB/DTW MEASUREMENTS FOR WELLS MKTF-01 THRU MKTF-45

Date of Installation	Date of Survey [1]	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Ground Elevation Inside Steel Sleeve (ft)	Stick-up length (ft)	Well Casing Bottom Elevation (ft)	Total Well Depth (ft)	Depth to [2] SPH (ft)	SPH [3] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation (ft)	Corrected [4] Water Table Elevation (Factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)	Stratigraphic unit in which screen exists
10/31/13	01/21/14	MKTF-11	03/02/17	4.00	6,931.61	6,931.34	6,930.86	-0.27	6,913.20	18.14	ND	NA	6.96	6,924.38	NA	8 - 18	Chinle/Alluvium Interface
			06/07/17	4.00	6,931.61	6,931.34	6,930.86	-0.27	6,913.20	18.14	ND	NA	7.39	6,923.95	NA	8 - 18	Chinle/Alluvium Interface
			09/26/17	4.00	6,931.61	6,931.34	6,930.86	-0.27	6,913.20	18.14	ND	NA	6.70	6,924.64	NA	8 - 18	Chinle/Alluvium Interface
			11/29/17	4.00	6,931.61	6,931.34	6,930.86	-0.27	6,913.20	18.14	ND	NA	8.00	6,923.34	NA	8 - 18	Chinle/Alluvium Interface
11/07/13	01/21/14	MKTF-12	03/15/17	4.00	6,939.70	6,942.11	6,941.88	2.41	6,916.51	25.60	17.75	0.06	17.81	6,924.30	6924.35	12 - 22	Chinle/Alluvium Interface
			06/07/17	4.00	6,939.70	6,942.11	6,941.88	2.41	6,916.51	25.60	18.60	0.19	18.79	6,923.32	6923.47	12 - 22	Chinle/Alluvium Interface
			10/03/17	4.00	6,939.70	6,942.11	6,941.88	2.41	6,916.51	25.60	17.30	0.13	17.43	6,924.68	6924.78	12 - 22	Chinle/Alluvium Interface
			11/27/17	4.00	6,939.70	6,942.11	6,941.88	2.41	6,916.51	25.60	18.43	0.13	18.56	6,923.55	6923.65	12 - 22	Chinle/Alluvium Interface
11/12/13	01/21/14	MKTF-13	03/15/17	4.00	6,933.67	6,935.18	6,934.83	1.51	6,913.93	21.25	ND	NA	12.60	6,922.58	NA	8 - 18	Chinle/Alluvium Interface
			06/07/17	4.00	6,933.67	6,935.18	6,934.83	1.51	6,913.93	21.25	13.35	0.06	13.41	6,921.77	6921.82	8 - 18	Chinle/Alluvium Interface
			10/03/17	4.00	6,933.67	6,935.18	6,934.83	1.51	6,913.93	21.25	11.91	0.03	11.94	6,923.24	6923.26	8 - 18	Chinle/Alluvium Interface
			11/27/17	4.00	6,933.67	6,935.18	6,934.83	1.51	6,913.93	21.25	13.14	0.01	13.15	6,922.03	6922.04	8 - 18	Chinle/Alluvium Interface
11/12/13	01/21/14	MKTF-14	03/08/17	4.00	6,925.65	6,928.02	6,927.80	2.37	6,910.56	17.46	5.77	0.98	6.75	6,921.27	6922.05	4 - 14	Chinle/Alluvium Interface
			06/07/17	4.00	6,925.65	6,928.02	6,927.80	2.37	6,910.56	17.46	6.68	0.84	7.52	6,920.50	6921.17	4 - 14	Chinle/Alluvium Interface
			10/03/17	4.00	6,925.65	6,928.02	6,927.80	2.37	6,910.56	17.46	5.70	0.41	6.11	6,921.91	6922.24	4 - 14	Chinle/Alluvium Interface
			11/27/17	4.00	6,925.65	6,928.02	6,927.80	2.37	6,910.56	17.46	6.56	0.37	6.93	6,921.09	6921.39	4 - 14	Chinle/Alluvium Interface
10/29/13	01/21/14	MKTF-15	03/02/17	2.00	6,943.74	6,943.48	6,943.19	-0.26	6,924.00	19.48	ND	NA	12.15	6,931.33	NA	9 - 19	Chinle/Alluvium Interface
			06/07/17	2.00	6,943.74	6,943.48	6,943.19	-0.26	6,924.00	19.48	ND	NA	11.93	6,931.55	NA	9 - 19	Chinle/Alluvium Interface
			09/26/17	2.00	6,943.74	6,943.48	6,943.19	-0.26	6,924.00	19.48	12.00	0.10	12.10	6,931.38	6931.46	9 - 19	Chinle/Alluvium Interface
			11/29/17	2.00	6,943.74	6,943.48	6,943.19	-0.26	6,924.00	19.48	ND	NA	12.13	6,931.35	NA	9 - 19	Chinle/Alluvium Interface
11/07/13	01/21/14	MKTF-16	03/14/17	2.00	6,951.00	6,950.58	6,950.58	-0.42	6,936.48	14.10	ND	NA	7.45	6,943.13	NA	4 - 14	Chinle/Alluvium Interface
			06/07/17	2.00	6,951.00	6,950.58	6,950.58	-0.42	6,936.48	14.10	ND	NA	7.66	6,942.92	NA	4 - 14	Chinle/Alluvium Interface
			09/26/17	2.00	6,951.00	6,950.58	6,950.58	-0.42	6,936.48	14.10	ND	NA	8.00	6,942.58	NA	4 - 14	Chinle/Alluvium Interface
			11/28/17	2.00	6,951.00	6,950.58	6,950.58	-0.42	6,936.48	14.10	ND	NA	8.22	6,942.36	NA	4 - 14	Chinle/Alluvium Interface
11/14/13	01/21/14	MKTF-17	03/08/17	2.00	6,945.79	6,945.76	6,945.64	-0.03	6,921.65	24.11	ND	NA	8.20	6,937.56	NA	14 - 24	Chinle/Alluvium Interface
			06/14/17	2.00	6,945.79	6,945.76	6,945.64	-0.03	6,921.65	24.11	ND	NA	9.98	6,935.78	NA	14 - 24	Chinle/Alluvium Interface
			09/26/17	2.00	6,945.79	6,945.76	6,945.64	-0.03	6,921.65	24.11	ND	NA	9.33	6,936.43	NA	14 - 24	Chinle/Alluvium Interface
			11/30/17	2.00	6,945.79	6,945.76	6,945.64	-0.03	6,921.11	24.65	ND	NA	13.68	6,932.08	NA	14 - 24	Chinle/Alluvium Interface
11/15/13	01/21/14	MKTF-18	03/01/17	2.00	6,950.97	6,950.65	6,950.17	-0.32	6,925.27	25.38	ND	NA	7.81	6,942.84	NA	17 - 27	Chinle/Alluvium Interface
			06/14/17	2.00	6,950.97	6,950.65	6,950.17	-0.32	6,925.27	25.38	ND	NA	6.30	6,944.35	NA	17 - 27	Chinle/Alluvium Interface
			09/27/17	2.00	6,950.97	6,950.65	6,950.17	-0.32	6,925.27	25.38	6.35	0.02	6.37	6,944.28	6944.30	17 - 27	Chinle/Alluvium Interface
			11/30/17	2.00	6,950.97	6,950.65	6,950.17	-0.32	6,925.27	25.38	6.29	0.01	6.30	6,944.35	6944.36	17 - 27	Chinle/Alluvium Interface
11/05/13	04/30/14	MKTF-19	03/08/17	2.00	6,944.89	6,944.67	6,944.34	-0.22	6,927.20	17.47	ND	NA	9.82	6,934.85	NA	10 - 20	Chinle/Alluvium Interface
			06/14/17	2.00	6,944.89	6,944.67	6,944.34	-0.22	6,927.20	17.47	ND	NA	10.58	6,934.09	NA	10 - 20	Chinle/Alluvium Interface
			09/26/17	2.00	6,944.89	6,944.67	6,944.34	-0.22	6,927.20	17.47	ND	NA	11.00	6,933.67	NA	10 - 20	Chinle/Alluvium Interface
			11/30/17	2.00	6,944.89	6,944.67	6,944.34	-0.22	6,926.47	18.20	ND	NA	11.70	6,932.97	NA	10 - 20	Chinle/Alluvium Interface
02/10/14	04/30/14	MKTF-20	03/14/17	4.00	6,951.89	6,951.78	6,951.17	-0.11	6,941.89	9.89	ND	NA	5.70	6,946.08	NA	2 - 10	Chinle/Alluvium Interface
			06/12/17	4.00	6,951.89	6,951.78	6,951.17	-0.11	6,941.89	9.89	ND	NA	5.57	6,946.21	NA	2 - 10	Chinle/Alluvium Interface
			09/26/17	4.00	6,951.89	6,951.78	6,951.17	-0.11	6,941.89	9.89	ND	NA	6.23	6,945.55	NA	2 - 10	Chinle/Alluvium Interface
			11/28/17	4.00	6,951.89	6,951.78	6,951.17	-0.11	6,942.20	9.58	ND	NA	6.53	6,945.25	NA	2 - 10	Chinle/Alluvium Interface

TABLE 9.2
2017 DTB/DTW MEASUREMENTS FOR WELLS MKTF-01 THRU MKTF-45

Date of Installation	Date of Survey [1]	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Ground Elevation Inside Steel Sleeve (ft)	Stick-up length (ft)	Well Casing Bottom Elevation (ft)	Total Well Depth (ft)	Depth to [2] SPH (ft)	SPH [3] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation (ft)	Corrected [4] Water Table Elevation (Factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)	Stratigraphic unit in which screen exists
02/10/14	04/30/14	MKTF-21	03/14/17	4.00	6,952.68	6,952.57	6,952.00	-0.11	6,942.68	9.89	ND	NA	5.50	6,947.07	NA	2 - 10	Chinle/Alluvium Interface
			06/21/17	4.00	6,952.68	6,952.57	6,952.00	-0.11	6,942.68	9.89	ND	NA	5.09	6,947.48	NA	2 - 10	Chinle/Alluvium Interface
			09/26/17	4.00	6,952.68	6,952.57	6,952.00	-0.11	6,942.68	9.89	ND	NA	5.69	6,946.88	NA	2 - 10	Chinle/Alluvium Interface
			11/28/17	4.00	6,952.68	6,952.57	6,952.00	-0.11	6,943.76	8.81	ND	NA	6.25	6,946.32	NA	2 - 10	Chinle/Alluvium Interface
11/08/13	04/30/14	MKTF-22	03/08/17	2.00	6,939.76	6,942.31	6,938.57	2.55	6,907.06	35.25	ND	NA	25.10	6,917.21	NA	22 - 32	Chinle/Alluvium Interface
			06/07/17	2.00	6,939.76	6,942.31	6,938.57	2.55	6,907.06	35.25	ND	NA	25.31	6,917.00	NA	22 - 32	Chinle/Alluvium Interface
			10/03/17	2.00	6,939.76	6,942.31	6,938.57	2.55	6,907.06	35.25	ND	NA	25.19	6,917.12	NA	22 - 32	Chinle/Alluvium Interface
			11/27/17	2.00	6,939.76	6,942.31	6,938.57	2.55	6,906.71	35.60	ND	NA	25.18	6,917.13	NA	22 - 32	Chinle/Alluvium Interface
11/04/13	04/30/14	MKTF-23	03/08/17	2.00	6,927.23	6,929.98	6,925.79	2.75	6,909.62	20.36	ND	NA	14.20	6,915.78	NA	7 - 17	Chinle/Alluvium Interface
			06/07/17	2.00	6,927.23	6,929.98	6,925.79	2.75	6,909.62	20.36	14.20	0.70	14.90	6,915.08	6915.64	7 - 17	Chinle/Alluvium Interface
			10/03/17	2.00	6,927.23	6,929.98	6,925.79	2.75	6,909.62	20.36	14.19	0.06	14.25	6,915.73	6915.78	7 - 17	Chinle/Alluvium Interface
			11/27/17	2.00	6,927.23	6,929.98	6,925.79	2.75	6,909.62	20.36	13.93	0.01	13.94	6,916.04	6916.05	7 - 17	Chinle/Alluvium Interface
10/29/13	04/30/14	MKTF-24	03/06/17	2.00	6,926.07	6,928.72	6,924.62	2.65	6,898.25	30.47	ND	NA	20.61	6,908.11	NA	18 - 28	Chinle/Alluvium Interface
			06/05/17	2.00	6,926.07	6,928.72	6,924.62	2.65	6,898.25	30.47	ND	NA	21.07	6,907.65	NA	18 - 28	Chinle/Alluvium Interface
			10/03/17	2.00	6,926.07	6,928.72	6,924.62	2.65	6,898.25	30.47	ND	NA	21.52	6,907.20	NA	18 - 28	Chinle/Alluvium Interface
			11/20/17	2.00	6,926.07	6,928.72	6,924.62	2.65	6,897.90	30.82	ND	NA	21.53	6,907.19	NA	18 - 28	Chinle/Alluvium Interface
10/30/13	04/30/14	MKTF-25	03/06/17	2.00	6,913.35	6,916.19	6,911.79	2.84	6,896.76	19.43	ND	NA	9.52	6,906.67	NA	6 - 16	Chinle/Alluvium Interface
			06/05/17	2.00	6,913.35	6,916.19	6,911.79	2.84	6,896.76	19.43	ND	NA	10.23	6,905.96	NA	6 - 16	Chinle/Alluvium Interface
			09/25/17	2.00	6,913.35	6,916.19	6,911.79	2.84	6,896.76	19.43	ND	NA	11.04	6,905.15	NA	6 - 16	Chinle/Alluvium Interface
			11/21/17	2.00	6,913.35	6,916.19	6,911.79	2.84	6,896.39	19.80	ND	NA	11.11	6,905.08	NA	6 - 16	Chinle/Alluvium Interface
10/30/13	04/30/14	MKTF-26	03/06/17	2.00	6,912.55	6,915.31	6,911.35	2.76	6,898.16	17.15	7.44	0.75	8.19	6,907.12	6907.72	4 - 14	Chinle/Alluvium Interface
			06/05/17	2.00	6,912.55	6,915.31	6,911.35	2.76	6,898.16	17.15	8.03	0.96	8.99	6,906.32	6907.09	4 - 14	Chinle/Alluvium Interface
			10/03/17	2.00	6,912.55	6,915.31	6,911.35	2.76	6,898.16	17.15	7.77	0.83	8.60	6,906.71	6907.37	4 - 14	Chinle/Alluvium Interface
			11/20/17	2.00	6,912.55	6,915.31	6,911.35	2.76	6,898.16	17.15	8.09	0.84	8.93	6,906.38	6907.05	4 - 14	Chinle/Alluvium Interface
10/30/13	04/30/14	MKTF-27	03/06/17	2.00	6,915.36	6,917.90	6,914.18	2.54	6,903.18	14.72	ND	NA	6.02	6,911.88	NA	1 - 12	Chinle/Alluvium Interface
			06/05/17	2.00	6,915.36	6,917.90	6,914.18	2.54	6,903.18	14.72	ND	NA	6.32	6,911.58	NA	1 - 12	Chinle/Alluvium Interface
			10/03/17	2.00	6,915.36	6,917.90	6,914.18	2.54	6,903.18	14.72	ND	NA	5.90	6,912.00	NA	1 - 12	Chinle/Alluvium Interface
			11/20/17	2.00	6,915.36	6,917.90	6,914.18	2.54	6,903.18	14.72	ND	NA	5.98	6,911.92	NA	1 - 12	Chinle/Alluvium Interface
04/02/14	04/30/14	MKTF-28	03/06/17	2.00	6,918.67	6,921.52	6,917.51	2.85	6,905.36	16.16	ND	NA	4.68	6,916.84	NA	3 - 13	Chinle/Alluvium Interface
			06/05/17	2.00	6,918.67	6,921.52	6,917.51	2.85	6,905.36	16.16	ND	NA	7.90	6,913.62	NA	3 - 13	Chinle/Alluvium Interface
			10/03/17	2.00	6,918.67	6,921.52	6,917.51	2.85	6,905.36	16.16	ND	NA	4.28	6,917.24	NA	3 - 13	Chinle/Alluvium Interface
			11/20/17	2.00	6,918.67	6,921.52	6,917.51	2.85	6,905.39	16.13	ND	NA	7.90	6,913.62	NA	3 - 13	Chinle/Alluvium Interface
04/02/14	04/30/14	MKTF-29	03/06/17	2.00	6,898.83	6,901.62	6,897.67	2.79	6,878.78	22.84	ND	NA	0.99	6,900.63	NA	10 - 20	Chinle/Alluvium Interface
			06/05/17	2.00	6,898.83	6,901.62	6,897.67	2.79	6,878.78	22.84	ND	NA	0.95	6,900.67	NA	10 - 20	Chinle/Alluvium Interface
			10/03/17	2.00	6,898.83	6,901.62	6,897.67	2.79	6,878.78	22.84	ND	NA	1.59	6,900.03	NA	10 - 20	Chinle/Alluvium Interface
			11/20/17	2.00	6,898.83	6,901.62	6,897.67	2.79	6,878.82	22.80	ND	NA	1.91	6,899.71	NA	10 - 20	Chinle/Alluvium Interface
04/01/14	04/30/14	MKTF-30	03/06/17	2.00	6,898.10	6,900.80	6,896.68	2.70	6,877.60	23.20	ND	NA	14.13	6,886.67	NA	10 - 20	Chinle/Alluvium Interface
			06/05/17	2.00	6,898.10	6,900.80	6,896.68	2.70	6,877.60	23.20	ND	NA	13.87	6,886.93	NA	10 - 20	Chinle/Alluvium Interface
			10/03/17	2.00	6,898.10	6,900.80	6,896.68	2.70	6,877.60	23.20	ND	NA	15.03	6,885.77	NA	10 - 20	Chinle/Alluvium Interface
			11/20/17	2.00	6,898.10	6,900.80	6,896.68	2.70	6,877.61	23.19	ND	NA	14.91	6,885.89	NA	10 - 20	Chinle/Alluvium Interface

TABLE 9.2
2017 DTB/DTW MEASUREMENTS FOR WELLS MKTF-01 THRU MKTF-45

Date of Installation	Date of Survey [1]	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Ground Elevation Inside Steel Sleeve (ft)	Stick-up length (ft)	Well Casing Bottom Elevation (ft)	Total Well Depth (ft)	Depth to [2] SPH (ft)	SPH [3] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation (ft)	Corrected [4] Water Table Elevation (Factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)	Stratigraphic unit in which screen exists
04/01/14	04/30/14	MKTF-31	03/07/17	2.00	6,904.26	6,906.87	6,903.11	2.61	6,884.06	22.81	ND	NA	7.84	6,899.03	NA	6 - 21	Chinle/Alluvium Interface
			06/05/17	2.00	6,904.26	6,906.87	6,903.11	2.61	6,884.06	22.81	ND	NA	7.58	6,899.29	NA	6 - 21	Chinle/Alluvium Interface
			09/25/17	2.00	6,904.26	6,906.87	6,903.11	2.61	6,883.06	23.81	ND	NA	8.29	6,898.58	NA	6 - 21	Chinle/Alluvium Interface
			11/21/17	2.00	6,904.26	6,906.87	6,903.11	2.61	6,887.57	19.30	ND	NA	8.15	6,898.72	NA	6 - 21	Chinle/Alluvium Interface
03/31/14	04/30/14	MKTF-32	03/07/17	2.00	6,908.44	6,911.11	6,907.16	2.67	6,883.36	27.75	ND	NA	13.70	6,897.41	NA	9 - 24	Chinle/Alluvium Interface
			06/06/17	2.00	6,908.44	6,911.11	6,907.16	2.67	6,883.36	27.75	ND	NA	13.79	6,897.32	NA	9 - 24	Chinle/Alluvium Interface
			09/25/17	2.00	6,908.44	6,911.11	6,907.16	2.67	6,882.36	28.75	ND	NA	14.11	6,897.00	NA	9- 24	Chinle/Alluvium Interface
			11/27/17	2.00	6,908.44	6,911.11	6,907.16	2.67	6,883.36	27.75	ND	NA	13.57	6,897.54	NA	9 - 24	Chinle/Alluvium Interface
04/03/14	04/30/14	MKTF-33	03/08/17	2.00	6,936.59	6,939.75	6,936.59	3.16	6,906.55	33.20	ND	NA	22.16	6,917.59	NA	20 - 30	Chinle/Alluvium Interface
			06/07/17	2.00	6,936.59	6,939.75	6,936.59	3.16	6,906.55	33.20	ND	NA	22.07	6,917.68	NA	20 - 30	Chinle/Alluvium Interface
			09/25/17	2.00	6,936.59	6,939.75	6,936.59	3.16	6,906.55	33.20	ND	NA	22.50	6,917.25	NA	20 - 30	Chinle/Alluvium Interface
			11/27/17	2.00	6,936.59	6,939.75	6,936.59	3.16	6,906.53	33.22	ND	NA	22.27	6,917.48	NA	20 - 30	Chinle/Alluvium Interface
03/31/14	04/30/14	MKTF-34	03/01/17	2.00	6,942.42	6,945.35	3,943.52	2.93	6,917.67	27.68	ND	NA	16.50	6,928.85	NA	9 - 24	Chinle/Alluvium Interface
			06/14/17	2.00	6,942.42	6,945.35	3,943.52	2.93	6,917.67	27.68	ND	NA	17.63	6,927.72	NA	9 - 24	Chinle/Alluvium Interface
			09/26/17	2.00	6,942.42	6,945.35	3,943.52	2.93	6,917.67	27.68	ND	NA	17.62	6,927.73	NA	9 - 24	Chinle/Alluvium Interface
			11/30/17	2.00	6,942.42	6,945.35	3,943.52	2.93	6,917.65	27.70	ND	NA	18.03	6,927.32	NA	9 - 24	Chinle/Alluvium Interface
11/19/14	12/16/14	MKTF-35	03/01/17	2.00	6,951.90	6,951.65	6,951.25	-0.25	6,935.20	16.45	ND	NA	6.18	6,945.47	NA	6 - 16	Chinle/Alluvium Interface
			06/14/17	2.00	6,951.90	6,951.65	6,951.25	-0.25	6,935.20	16.45	ND	NA	7.12	6,944.53	NA	6 - 16	Chinle/Alluvium Interface
			09/27/17	2.00	6,951.90	6,951.65	6,951.25	-0.25	6,935.20	16.45	ND	NA	7.70	6,943.95	NA	6 - 16	Chinle/Alluvium Interface
			11/30/17	2.00	6,951.90	6,951.65	6,951.25	-0.25	6,935.20	16.45	ND	NA	8.15	6,943.50	NA	6 - 16	Chinle/Alluvium Interface
11/19/14	12/16/14	MKTF-36	03/01/17	2.00	6,950.67	6,950.12	6,949.87	-0.55	6,934.67	15.45	ND	NA	5.56	6,944.56	NA	5 15	Chinle/Alluvium Interface
			06/14/17	2.00	6,950.67	6,950.12	6,949.87	-0.55	6,934.67	15.45	ND	NA	5.40	6,944.72	NA	5 15	Chinle/Alluvium Interface
			09/27/17	2.00	6,950.67	6,950.12	6,949.87	-0.55	6,934.67	15.45	ND	NA	5.80	6,944.32	NA	5 15	Chinle/Alluvium Interface
			11/30/17	2.00	6,950.67	6,950.12	6,949.87	-0.55	6,934.67	15.45	ND	NA	6.45	6,943.67	NA	5 15	Chinle/Alluvium Interface
11/18/14	12/16/14	MKTF-37	03/01/17	2.00	6,959.07	6,958.87	6,958.62	-0.20	6,934.27	24.60	ND	NA	6.90	6,951.97	NA	4 - 24	Chinle/Alluvium Interface
			06/14/17	2.00	6,959.07	6,958.87	6,958.62	-0.20	6,934.27	24.60	7.20	0.04	7.24	6,951.63	6951.66	4 - 24	Chinle/Alluvium Interface
			09/27/17	2.00	6,959.07	6,958.87	6,958.62	-0.20	6,934.27	24.60	7.83	0.06	7.89	6,950.98	6951.03	4 - 24	Chinle/Alluvium Interface
			11/30/17	2.00	6,959.07	6,958.87	6,958.62	-0.20	6,934.27	24.60	8.39	0.02	8.41	6,950.46	6950.48	4 - 24	Chinle/Alluvium Interface
11/20/14	12/16/14	MKTF-38	03/14/17	2.00	6,955.17	6,954.89	6,954.54	-0.28	6,934.60	20.29	ND	NA	6.41	6,948.48	NA	5 - 20	Chinle/Alluvium Interface
			06/21/17	2.00	6,955.17	6,954.89	6,954.54	-0.28	6,934.60	20.29	ND	NA	6.40	6,948.49	NA	5 - 20	Chinle/Alluvium Interface
			09/28/17	2.00	6,955.17	6,954.89	6,954.54	-0.28	6,934.60	20.29	ND	NA	6.32	6,948.57	NA	5 - 20	Chinle/Alluvium Interface
			11/30/17	2.00	6,955.17	6,954.89	6,954.54	-0.28	6,934.60	20.29	ND	NA	7.83	6,947.06	NA	5 - 20	Chinle/Alluvium Interface
11/14/14	12/16/14	MKTF-39	03/14/17	2.00	6,953.97	6,953.75	6,953.12	-0.22	6,938.55	15.20	ND	NA	6.44	6,947.31	NA	5 - 15	Chinle/Alluvium Interface
			06/08/17	2.00	6,953.97	6,953.75	6,953.12	-0.22	6,938.55	15.20	ND	NA	6.25	6,947.50	NA	5 - 15	Chinle/Alluvium Interface
			09/28/17	2.00	6,953.97	6,953.75	6,953.12	-0.22	6,938.55	15.20	ND	NA	7.32	6,946.43	NA	5 - 15	Chinle/Alluvium Interface
			11/28/17	2.00	6,953.97	6,953.75	6,953.12	-0.22	6,938.57	15.18	ND	NA	7.55	6,946.20	NA	5 - 15	Chinle/Alluvium Interface
11/13/14	12/16/14	MKTF-40	03/07/17	2.00	6,891.35	6,894.33	6,890.48	2.98	6,870.69	23.64	ND	NA	13.14	6,881.19	NA	5 - 20	Chinle/Alluvium Interface
			06/05/17	2.00	6,891.35	6,894.33	6,890.48	2.98	6,870.69	23.64	ND	NA	13.29	6,881.04	NA	5 - 20	Chinle/Alluvium Interface
			09/25/17	2.00	6,891.35	6,894.33	6,890.48	2.98	6,870.69	23.64	ND	NA	13.28	6,881.05	NA	5 - 20	Chinle/Alluvium Interface
			11/21/17	2.00	6,891.35	6,894.33	6,890.48	2.98	6,870.71	23.62	ND	NA	13.71	6,880.62	NA	5 - 20	Chinle/Alluvium Interface

TABLE 9.2
2017 DTB/DTW MEASUREMENTS FOR WELLS MKTF-01 THRU MKTF-45

Date of Installation	Date of Survey [1]	Well ID Number	Inspection or Sample Date	Casing Diameter (Inch)	Ground Level Elevations (ft)	Well Casing Rim Elevations (ft)	Ground Elevation Inside Steel Sleeve (ft)	Stick-up length (ft)	Well Casing Bottom Elevation (ft)	Total Well Depth (ft)	Depth to [2] SPH (ft)	SPH [3] Column Thickness (ft)	Depth to Water (ft)	Ground water Elevation (ft)	Corrected [4] Water Table Elevation (Factor 0.8) (ft)	Screened Interval Depth Top to Bottom (ft)	Stratigraphic unit in which screen exists
11/14/14	12/16/14	MKTF-41	03/07/17	2.00	6,891.11	6,893.64	6,889.80	2.53	6,853.54	40.10	ND	NA	19.60	6,874.04	NA	22 - 37	Chinle/Alluvium Interface
			06/06/17	2.00	6,891.11	6,893.64	6,889.80	2.53	6,853.54	40.10	ND	NA	18.49	6,875.15	NA	22 - 37	Chinle/Alluvium Interface
			09/25/17	2.00	6,891.11	6,893.64	6,889.80	2.53	6,853.54	40.10	ND	NA	20.25	6,873.39	NA	22 - 37	Chinle/Alluvium Interface
			11/27/17	2.00	6,891.11	6,893.64	6,889.80	2.53	6,853.93	39.71	ND	NA	19.81	6,873.83	NA	22 - 37	Chinle/Alluvium Interface
11/12/14	12/16/14	MKTF-42	03/07/17	2.00	6,890.42	6,892.95	6,888.75	2.53	6,859.80	33.15	ND	NA	15.72	6,877.23	NA	10 - 30	Chinle/Alluvium Interface
			06/06/17	2.00	6,890.42	6,892.95	6,888.75	2.53	6,859.80	33.15	ND	NA	17.12	6,875.83	NA	10 - 30	Chinle/Alluvium Interface
			09/25/17	2.00	6,890.42	6,892.95	6,888.75	2.53	6,859.80	33.15	ND	NA	16.83	6,876.12	NA	10 - 30	Chinle/Alluvium Interface
			11/27/17	2.00	6,890.42	6,892.95	6,888.75	2.53	6,859.77	33.18	ND	NA	16.81	6,876.14	NA	10 - 30	Chinle/Alluvium Interface
11/11/14	12/16/14	MKTF-43	03/08/17	2.00	6,874.12	6,876.90	6,873.22	2.78	6,861.47	15.43	ND	NA	5.34	6,871.56	NA	2 - 12	Chinle/Alluvium Interface
			06/06/17	2.00	6,874.12	6,876.90	6,873.22	2.78	6,861.47	15.43	ND	NA	3.62	6,873.28	NA	2 - 12	Chinle/Alluvium Interface
			09/25/17	2.00	6,874.12	6,876.90	6,873.22	2.78	6,861.47	15.43	ND	NA	4.14	6,872.76	NA	2 - 12	Chinle/Alluvium Interface
			11/27/17	2.00	6,874.12	6,876.90	6,873.22	2.78	6,861.52	15.38	ND	NA	5.65	6,871.25	NA	2 - 12	Chinle/Alluvium Interface
11/11/14	12/16/14	MKTF-44	03/08/17	2.00	6,867.41	6,869.95	6,866.06	2.54	6,818.80	51.15	ND	NA	25.39	6,844.56	NA	38 - 48	Chinle/Alluvium Interface
			06/05/17	2.00	6,867.41	6,869.95	6,866.06	2.54	6,818.80	51.15	ND	NA	32.90	6,837.05	NA	38 - 48	Chinle/Alluvium Interface
			09/25/17	2.00	6,867.41	6,869.95	6,866.06	2.54	6,818.80	51.15	ND	NA	30.18	6,839.77	NA	38 - 48	Chinle/Alluvium Interface
			11/27/17	2.00	6,867.41	6,869.95	6,866.06	2.54	6,818.79	51.16	ND	NA	33.70	6,836.25	NA	38 - 48	Chinle/Alluvium Interface
Pre-existing	12/16/14	MKTF-45	03/01/17	4.00	6,948.63	6,949.59	6,948.27	0.96	6,919.35	30.24	10.32	0.31	10.63	6,938.96	6939.21	Unknown	Chinle/Alluvium Interface
			06/14/17	4.00	6,948.63	6,949.59	6,948.27	0.96	6,919.35	30.24	11.50	0.50	12.00	6,937.59	6937.99	Unknown	Chinle/Alluvium Interface
			10/03/17	4.00	6,948.63	6,949.59	6,948.27	0.96	6,919.35	30.24	11.48	0.53	12.01	6,937.58	6938.00	Unknown	Chinle/Alluvium Interface
			11/30/17	4.00	6,948.63	6,949.59	6,948.27	0.96	6,919.35	30.24	12.76	0.47	13.23	6,936.36	6936.74	Unknown	Chinle/Alluvium Interface

DEFINITIONS:

DTB - Depth to Bottom
DTW - Depth to Water
ND - Not Dectected
NA - Not Applicable
SPH - Separate Phase Hydrocarbons

Negative number in Stick up Length column indicates well is flush mount and located at or below ground level
Depth to Water Column - if a measurement of 0.00 is indicated - means water level is at top of casing - Full.
Dry indicates no water was detected in the well.

NOTES:

1) Wells surveyed by a licensed professional surveyor-Hammon Enterprises, Inc. (HEI)
2) "0" indicates no SPH level.
3) Depth to SPH - Depth to Water Measurement = SPH Column Thickness.
4) Corrected Water Table Elevaton applies only if SPH thickness column measurement exists. (0.8 X SPH thickness + Groundwater Elevation)
5) 10/3/17 - Samples collected after end of third quarter due to rain storms and monitor well accessibility

SECTION 10 2018 MONITORING SCHEDULE

Table 1 in Section 10 details the approved Ground Water Monitoring Schedule for all wells at Gallup Refinery and details the analytical suite required for each sample site location.

Section 10 - Table 1 Monitor Schedule for 2017

Sampling Location ID	Frequency	Water Quality Parameters	General Monitoring and Sampling Comments.	Analytical Data Location
NAPI Secondary Containment (LDU) East, West, Oil Sump	Q - Quarterly		BTEX, DRO extended/GRO, WQCC Metals or check for fluids	Appendix G, Section 8.10
RW-1	Q		Measure depth to water (DTW), depth to product (DTP), BTEX + MTBE, GRO/DRO/MRO	Appendix G, Section 8.11
RW-2	Q		Same as RW-1	Appendix G, Section 8.11
RW-5	Q		Same as RW-1	Appendix G, Section 8.11
RW-6	Q		Same as RW-1	Appendix G, Section 8.11
OW-1	Q	pH, EC, DO, ORP, Temp, TDS	Visual Check for Artesian flow conditions; Major Cations/Anions, VOCs, GRO/DRO/MRO, WQCC Metals , EDC (ethylene dichloride) and EDB (1,2-dibromoethane)	Appendix G, Section 8.12
OW-10	Q	pH, EC, DO, ORP, Temp, TDS	Visual Check for Artesian flow conditions; Major Cations/Anions, VOCs, GRO/DRO/MRO, WQCC Metals, EDB/EDC	Appendix G, Section 8.12
OW-13	Q	pH, EC, DO, ORP, Temp, TDS	VOCs, WQCC Metals, GRO/DRO/MRO, EDB/EDC	Appendix G, Section 8.13
OW-14	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-13 + EDB	Appendix G, Section 8.13
OW-29	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-13 + EDB	Appendix G, Section 8.13
OW-30	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-13 + EDB	Appendix G, Section 8.13
GWM-1	Q	pH, EC, DO, ORP, Temp, TDS	VOCs, WQCC METALS, GRO/DRO EXTENDED, Major Cations/Anions	Appendix G, Section 8.7
GWM-2	Q	pH, EC, DO, ORP, Temp, TDS	Check for water. If water is detected report to OCD & NMED within 24 hours. Sample for VOCs, GRO/DRO/MRO, Major Cations/Anions	Appendix G, Section 8.7
GWM-3	Q	pH, EC, DO, ORP, Temp, TDS	Same as GWM-2	Appendix G, Section 8.7
NAPIS-1	Q	pH, EC, DO, ORP, Temp, TDS	Major Cations/Anions, BTEX, VOCs, SVOC, GRO/DRO/MRO, WQCC Metals	Appendix G, Section 8.8
NAPIS-2	Q	pH, EC, DO, ORP, Temp, TDS	Same as NAPIS-1	Appendix G, Section 8.8
NAPIS-3	Q	pH, EC, DO, ORP, Temp, TDS	Same as NAPIS-1	Appendix G, Section 8.8
KA-3	Q	pH, EC, DO, ORP, Temp, TDS	Same as NAPIS-1	Appendix G, Section 8.8
OAPIS-1	Q	pH, EC, DO, ORP, Temp, TDS	VOCs, SVOCs, GRO/DRO/MRO, WQCC Metals, Major Cations/Anions, Cyanide	Appendix G, Section 8.8
STP1-NW	Q	pH, EC, DO, ORP, Temp, TDS	VOCs, SVOCs, GRO/DRO/MRO, WQCC Metals, Major Cations/Anions	Appendix G, Section 8.16
STP1-SW	Q	pH, EC, DO, ORP, Temp, TDS	Same as STP1-NW	Appendix G, Section 8.16
MKTF-1	Q	pH, EC, DO, ORP, Temp, TDS	VOCs, SVOCs, GRO/DRO/MRO, WQCC Metals, Major Cations/Anions Ground Water samples will not be collected if SPH is present in any of the wells.	Appendix G, Section 8.17
MKTF-2	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-3	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-4	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-5	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-6	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-7	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-8	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-9	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-10	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-11	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-12	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-13	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-14	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17

Section 10 - Table 1 Monitor Schedule for 2017

Sampling Location ID	Frequency	Water Quality Parameters	General Monitoring and Sampling Comments.	Analytical Data Location
MKTF-15	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-16	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-17	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-18	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-19	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-20	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-21	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-22	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-23	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-24	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-25	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-26	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-27	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-28	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-29	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-30	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-31	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-32	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-33	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-34	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-35	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-36	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-37	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-38	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-39	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-40	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-41	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1 + EDB	Appendix G, Section 8.17
MKTF-42	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-43	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-44	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
MKTF-45	Q	pH, EC, DO, ORP, Temp, TDS	Same as MKTF-1	Appendix G, Section 8.17
BW to EP-2			NO LONGER IN SERVICE	
Pond 1 (EP-1)			NO LONGER IN SERVICE	Appendix G, Section 8.15
Evaporation Pond (EP-2 through EP-12B)	SA	pH, EC, DO, ORP, Temp, TDS	General Chemistry to include Nitrate and Nitrite, VOCs, SVOCs, BOD, COD, E-Coli Bacteria, WQCC Metals	Appendix G, Section 8.15
STP-1 to EP-2 (EP-2 Inlet) [2]	Q	8/24/15	VOCs, GRO/DRO/MRO, BOD, COD, TDS, WQCC METALS (Total/Dissolved)	Appendix G, Section 8.14

Section 10 - Table 1 Monitor Schedule for 2017

Sampling Location ID	Frequency	Water Quality Parameters	General Monitoring and Sampling Comments.	Analytical Data Location
Any temporary pond containing fluid	SA		General Chemistry to include Nitrate and Nitrite, VOCs, SVOCs, BOD, COD, E-Coli Bacteria, WQCC Metals	
BW-1A	A - Annual	pH, EC, DO, ORP, Temp, TDS	Major Cations/Anions, VOCs, WQCC Metals, DRO/GRO/DRO	Appendix G, Section 8.1
BW-1B	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
BW-1C	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
BW-2A	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
BW-2B	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
BW-2C	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
BW-3A	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
BW-3B	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
BW-3C	A	pH, EC, DO, ORP, Temp, TDS	Same as BW-1A	Appendix G, Section 8.1
MW-1	Annual and every 10 years beginning 2009 per RCRA Post Closure Permit	pH, EC, DO, ORP, Temp, TDS	Major Cations/Anions, VOCs, SVOCs, GRO/DRO/MRO, WQCC Metals, Cyanide. For RCRA 10 year requirements: Gen Chem, Modified Skinner List Metals (total and dissolved) including mercury and cyanide, Modified Skinner List VOCs, SVOCs, TPH	Appendix G, Section 8.2
MW-2	Annual and every 10 years beginning 2009 per RCRA Post Closure Permit	pH, EC, DO, ORP, Temp, TDS	Same as MW-1	Appendix G, Section 8.2
MW-4	Annual and every 10 years beginning 2009 per RCRA Post Closure Permit	pH, EC, DO, ORP, Temp, TDS	Same as MW-1	Appendix G, Section 8.2
MW-5	Annual and every 10 years beginning 2009 per RCRA Post Closure Permit	pH, EC, DO, ORP, Temp, TDS	Same as MW-1	Appendix G, Section 8.2
OW-11	A	pH, EC, DO, ORP, Temp, TDS	Major Cations/Anions, VOCs, WQCC Metals, GRO/DRO/MRO	Appendix G, Section 8.4
OW-12	A	pH, EC, DO, ORP, Temp, TDS	VOCs, WQCC Metals, GRO/DRO/MRO, General Chemistry	Appendix G, Section 8.4
OW-50 [1]	A	pH, EC, DO, ORP, Temp, TDS	VOCs, WQCC Metals, GRO/DRO/MRO, General Chemistry, EDB	Appendix G, Section 8.5
OW-52 [1]	A	pH, EC, DO, ORP, Temp, TDS	Same as OW-50	Appendix G, Section 8.5
SMW-2	A	pH, EC, DO, ORP, Temp, TDS	Major Cations/Anions, VOCs, SVOCs, GRO/DRO/MRO, WQCC Metals, Cyanide.	Appendix G, Section 8.3
SMW-4	Annual and every 10 years beginning 2009 per RCRA Post Closure Permit	pH, EC, DO, ORP, Temp, TDS	Major Cations/Anions, VOCS, GRO/DRO/MRO, WQCC Metals, Cyanide. For RCRA 10 year requirements: Gen Chem, Modified Skinner List Metals (total and dissolved) including mercury and cyanide, Modified Skinner List VOC, SVOC, TPH	Appendix G, Section 8.3
PW-2	Every 3 years. Start 2008	Last sampled 2017	VOCs, SVOCs, WQCC Metals, Cyanide, Nitrates	Appendix G, Section 8.6
PW-3	A		Same as PW-2	Appendix G, Section 8.6
PW-4	SA		Same as PW-2	Appendix G, Section 8.6
NEW WELLS [4]				
OW-53	Q	pH, EC, DO, ORP, Temp, TDS	VOCs, SVOCs, GRO/DRO/MRO, WQCC Metals, Major Cations/Anions Ground Water samples will not be collected if SPH is present in any of the wells.	Appendix G
OW-54	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-53	Appendix G
OW-55	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-54	Appendix G
OW-56	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-55	Appendix G
OW-57	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-56	Appendix G
OW-58	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-57	Appendix G
OW-59	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-58	Appendix G
OW-60	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-59	Appendix G

Section 10 - Table 1 Monitor Schedule for 2017

Sampling Location ID	Frequency	Water Quality Parameters	General Monitoring and Sampling Comments.	Analytical Data Location
OW-56	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-60	Appendix G
BW-4A	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-61	Appendix G
BW-4B	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-62	Appendix G
BW-5A	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-63	Appendix G
BW-5B	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-64	Appendix G
BW-5C	Q	pH, EC, DO, ORP, Temp, TDS	Same as OW-65	Appendix G

DEFINITIONS:

NA – Not Applicable	DTW = Depth to Water; DTP = Depth to Product	SVOCs – Semi-Volatile Organic Compounds including phenols – Method 8270
DO – Dissolved Oxygen (mg/L)	EP = Evaporation Ponds; BW = Boundary Well; RW = Recovery Well	BTEX – Benzene, toluene, ethylbenzene, Xylenes plus MTBE – Method 8021
ORP – Reduction Potential	MW = Monitor Well; OW – Observation Well; PW = Raw Water Production	WQCC Metals – include RCRA 8 metals – analyze as totals and dissolved
Temp – Temperature	STP-1 to EP-2 – samples collected at inlet to EP-2	General Chemistry – pH, specific conductance, cations, anions
EC – Electrical or Specific Conductivity	NAPIS-1= (KA-1R); NAPIS-2 = (KA-2R); NAPIS-3 = (KA-3R); KA-3	EPA Method 8011 – 1,2-Dibromethane (EDB) and 1,2 Dichloroethane (EDC)
TDS – Total Dissolved Solids	MKTF = observation wells for investigation of hydrocarbon seep	EPA Method 8081A - Pesticides
VOCs – Volatile Organic Compounds + MTBE – Method 8260	WQCC Metals – include RCRA 8 metals – analyze as totals and dissolved	

NOTES:

1. Discontinue analysis of uranium - per NMED directive (HWB-WRG-14-006), dated May 18, 2006.
2. Add analysis for EDB (EPA Method 8011) in all wells where EDC has been detected.
3. Add analysis for EPA Method 8081A - Pesticides.
4. New monitoring wells installed - added to monitoring plan

FIGURES

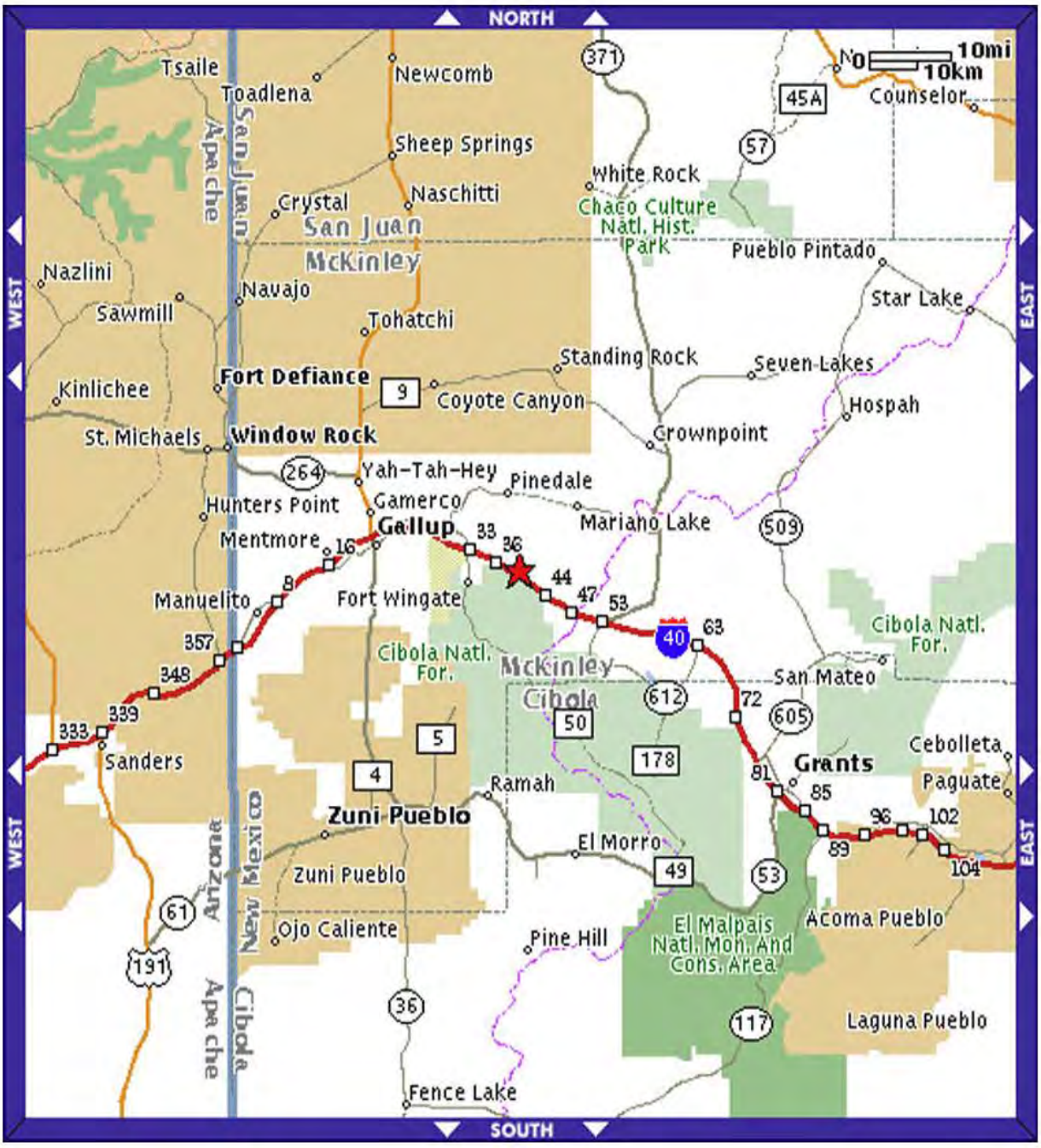


Figure 1: Regional map showing the location of the Gallup Refinery (red star along Interstate-40, 20 miles east of the City of Gallup).

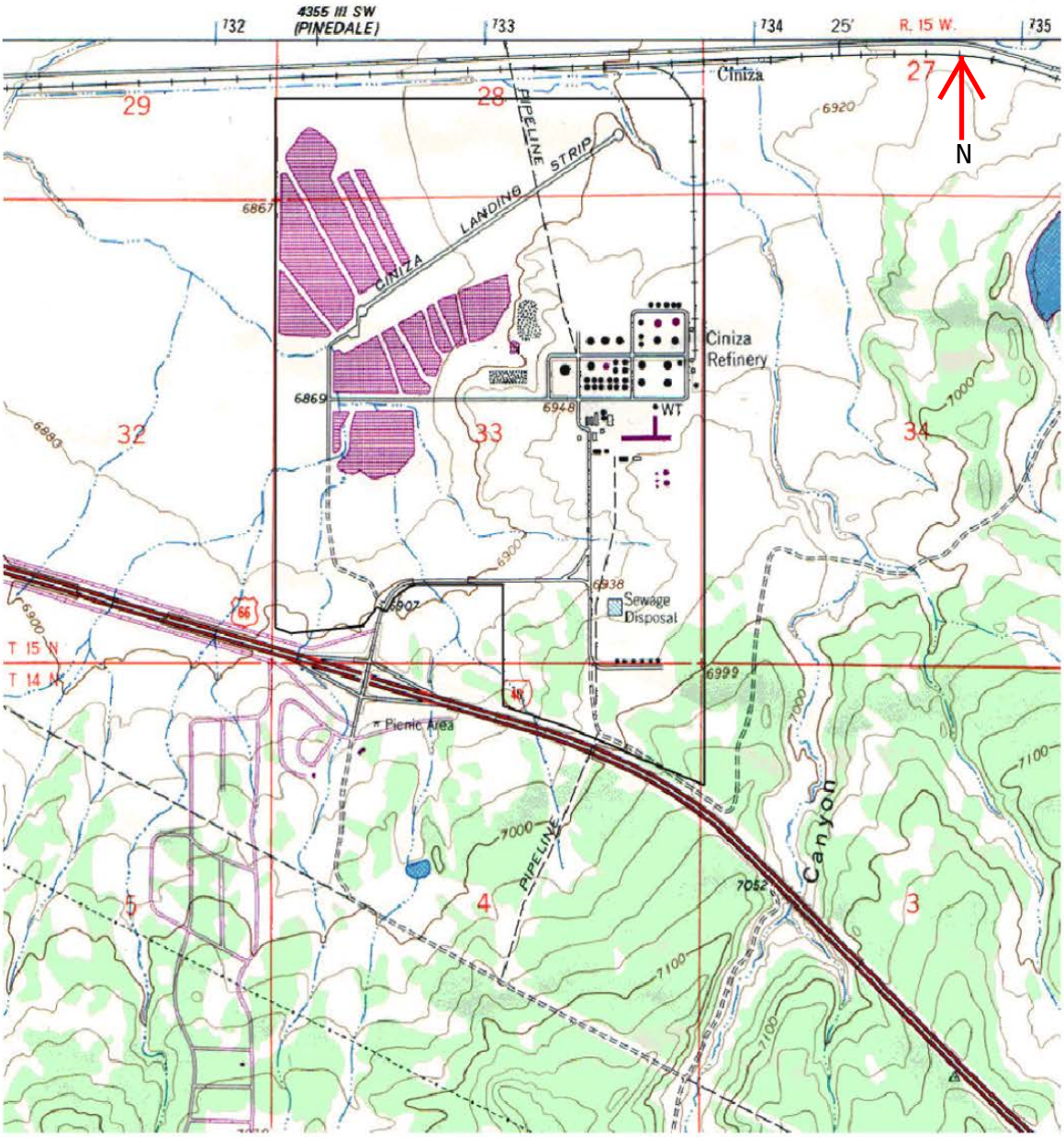
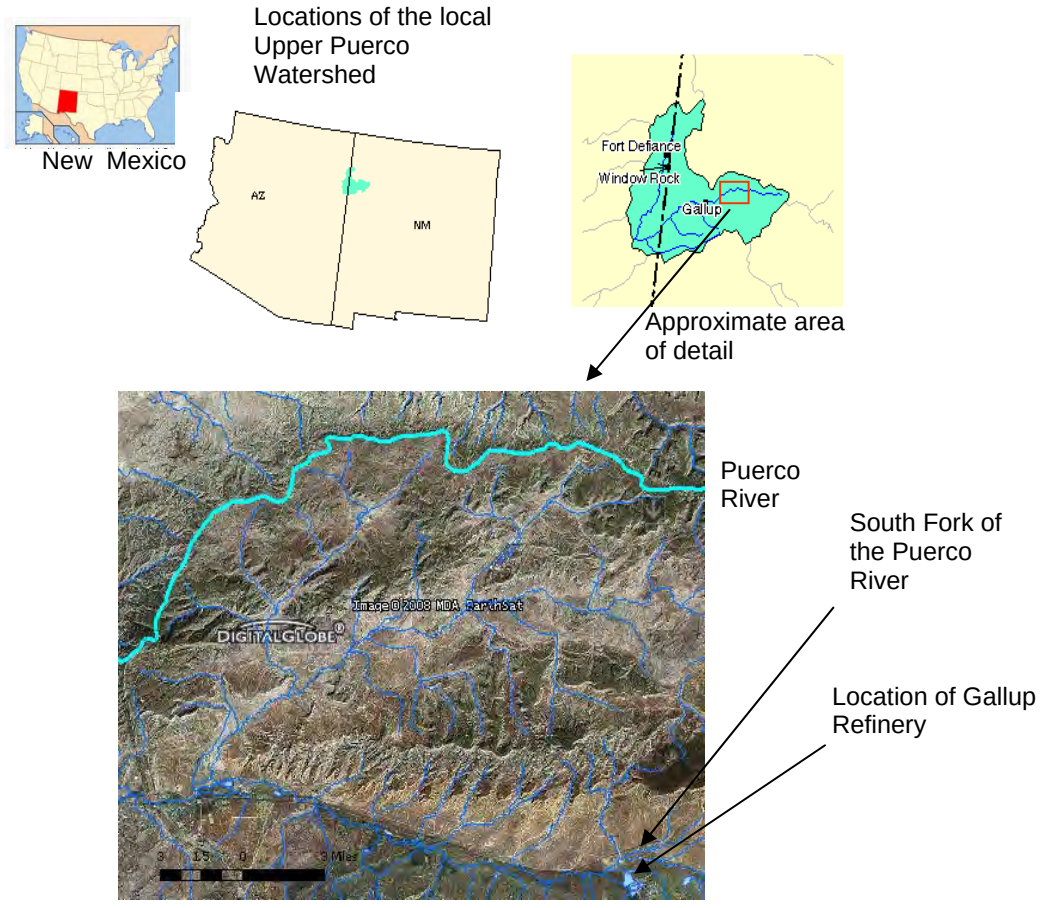


Figure 2: Topographic Map of the Gallup Refinery Site - USGS Topographical Map - Gallup Quadrangle (Revised 1980)

Figure 3: Aerial photograph of the Gallup Refinery

Figure 4: **Regional scale**: Flow lines and major surface water bodies (from: EPA Enviromapper - http://map24.epa.gov/EMR/?ZoomToWatershed=15020006) North is towards the top of the page.



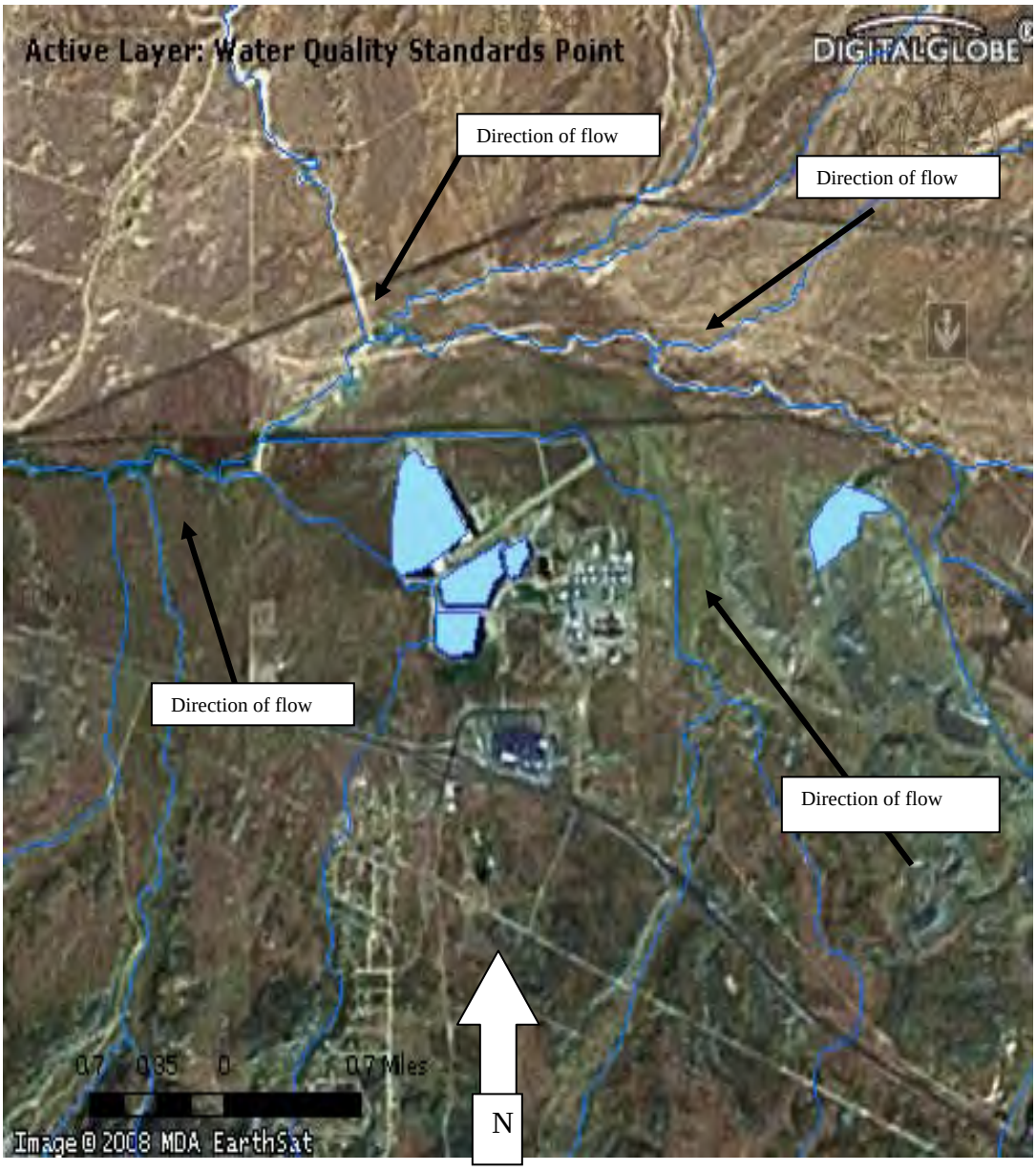
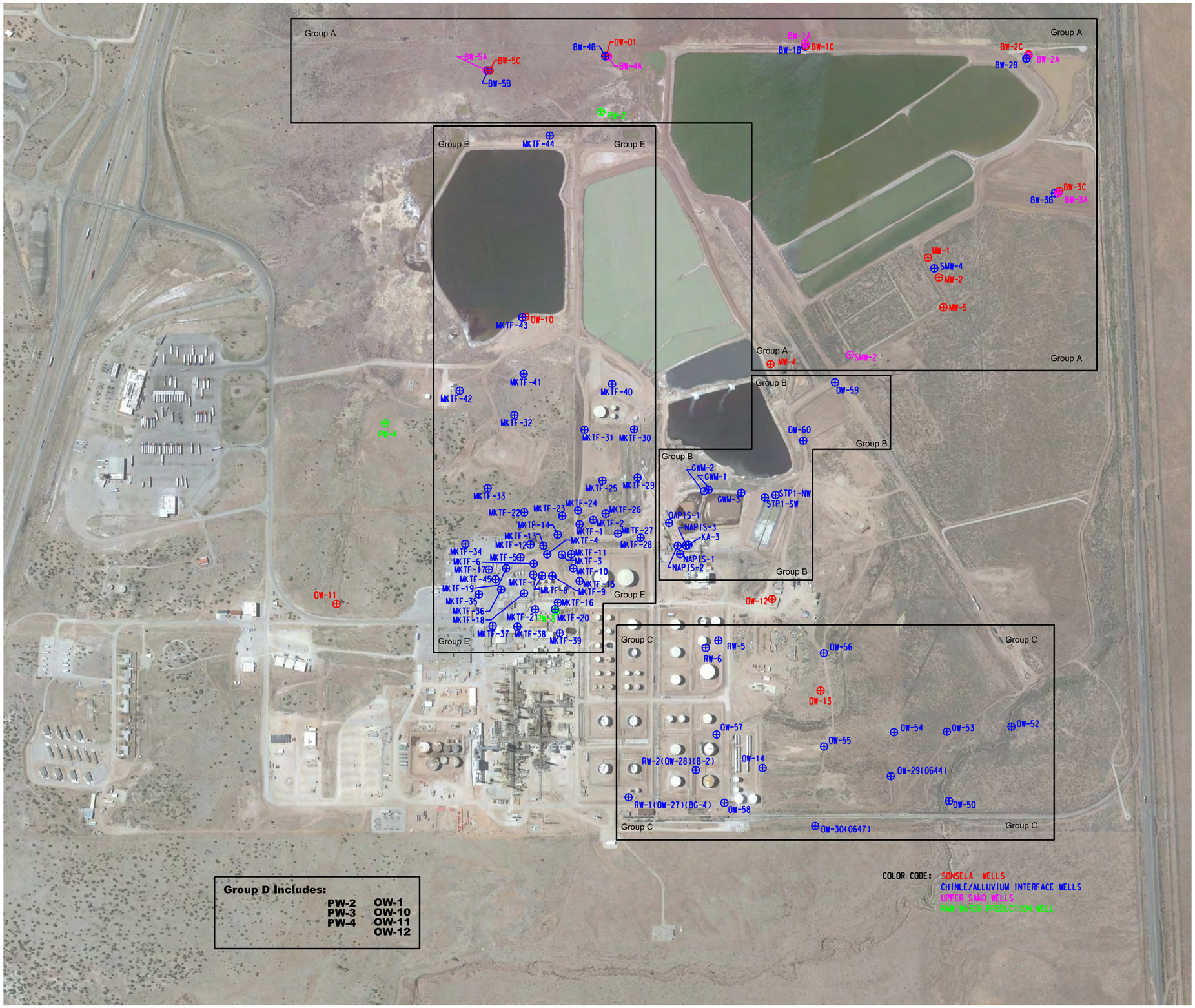


Figure 5: Localized scale: Flow lines and major surface water bodies (from: EPA Enviromapper - http://map24.epa.gov/EMR/?ZoomToWatershed=15020006) North is towards the top of the page. The pond to the east is Jon Myers' Livestock Pond.



This Line is 1" on Original

intertek psi
4601 Ripley
El Paso, Texas 79922
915-584-1317

1"=500'

Project #: 06251565

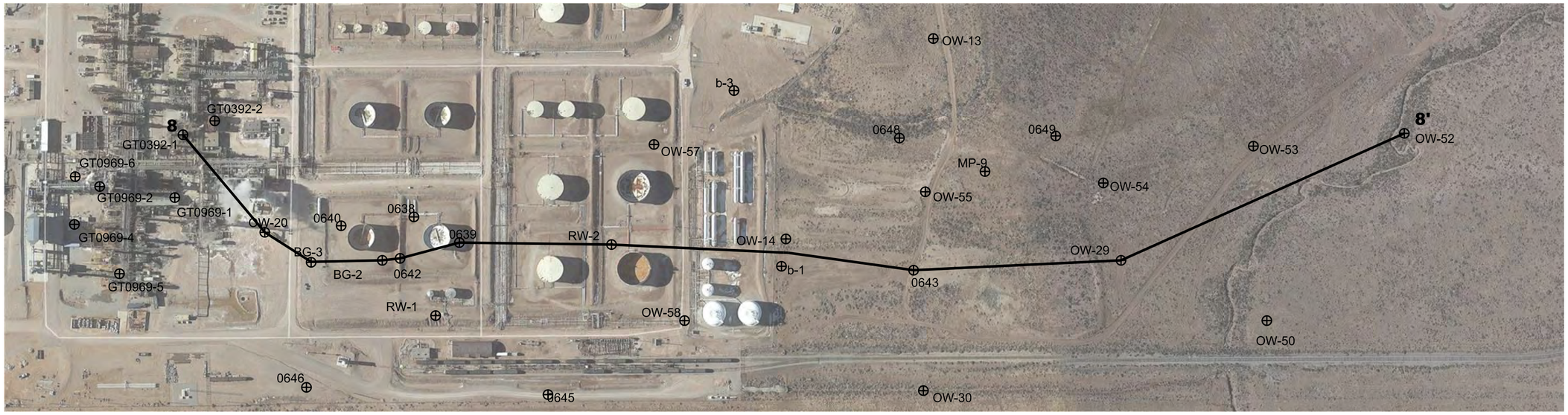
Figure 6

FACILITIES AND WELL GROUPS - 2017

MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 16, 2018



Profile East 8-8'

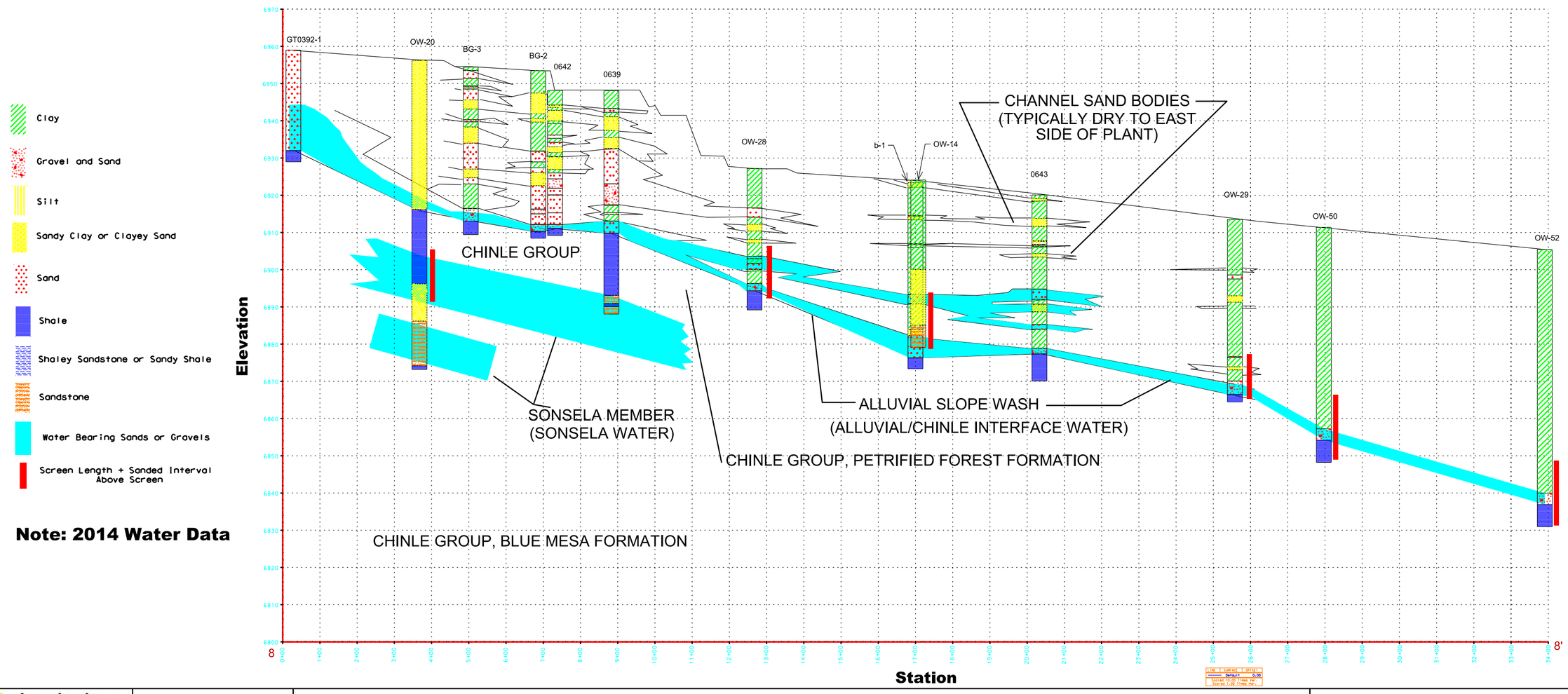


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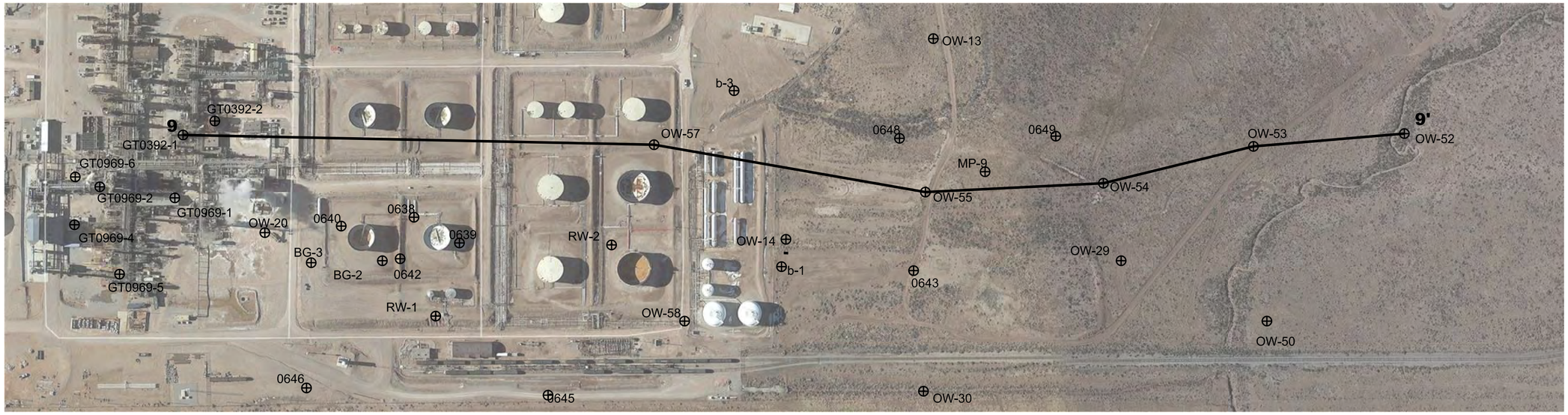
Figure 7

TYPICAL SOUTH-NORTH GEOLOGIC PROFILE (Profile 8)

MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018



Profile East 9-9'

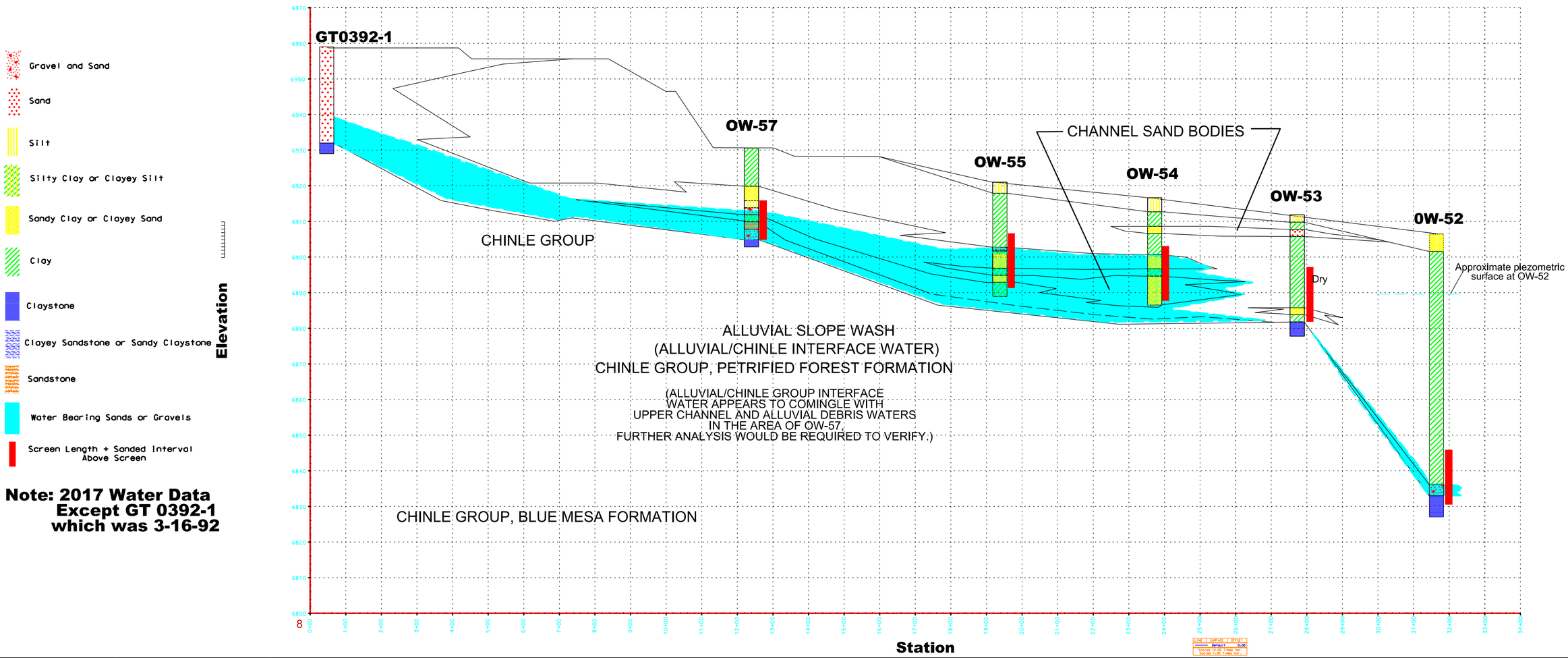


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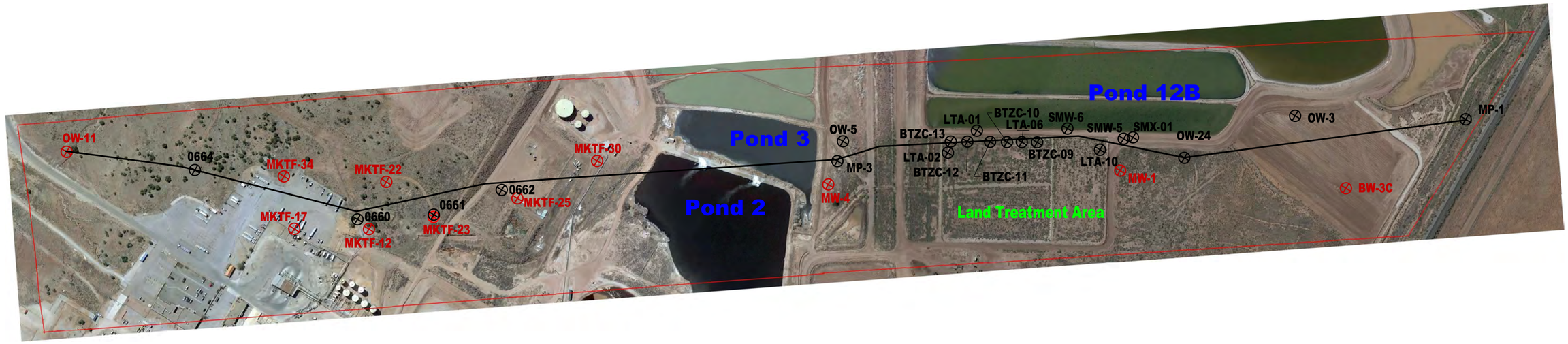
Figure 7A

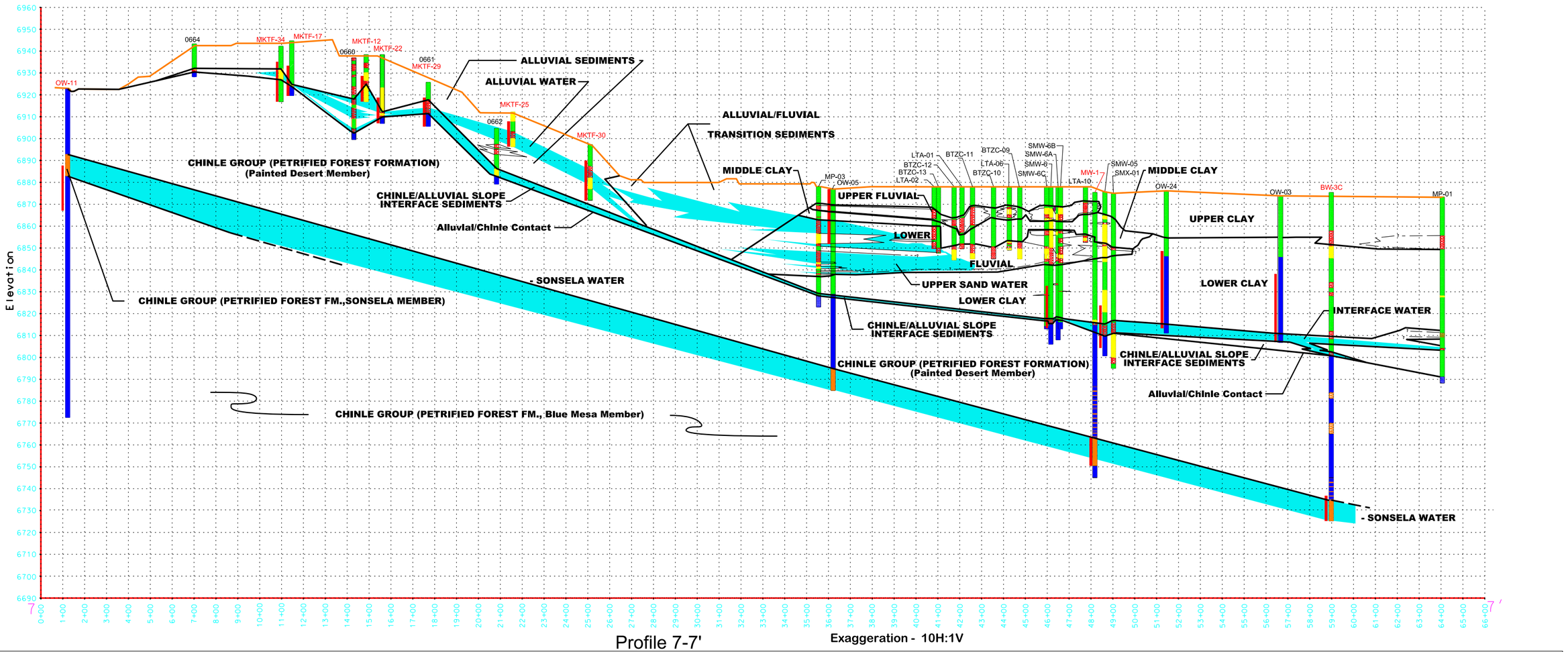
TYPICAL SOUTH-NORTH GEOLOGIC PROFILE (PROFILE 9)

MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018





LEGEND

- CLAY
- SAND
- SILT
- SANDY CLAY OR CLAYEY SAND
- SHALE (CHINLE GROUP)
- SANDSTONE (NOT PART OF THE SONSELA)
- SONSELA SANDSTONE MEMBER (CHINLE GROUP)
- PROFILE LINE
- WATER BEARING ZONE
- SCREENED INTERVAL
- OW-XX, MW-XX, MKTF-XX, BW-3C — ACTIVE MONITORING WELL
- LTA-10 — BORING OR CLOSED WELL

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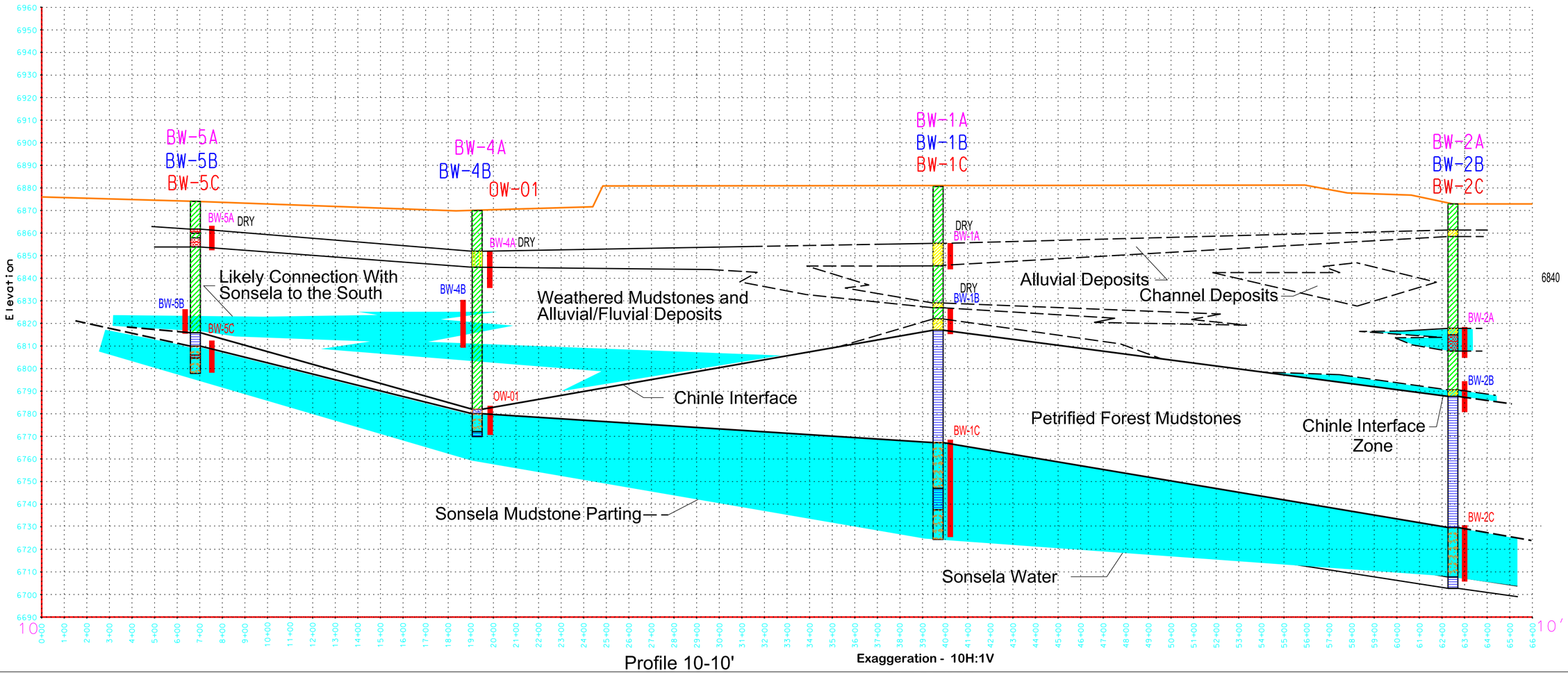
Figure 8

S - N SECTION - WESTERLY PLANT AREA (PROFILE 7)

MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018



LEGEND

- CLAY
- SAND
- SILT
- SANDY CLAY OR CLAYEY SAND
- CLAYEY SILT
- SHALE (CHINLE GROUP)
- SANDSTONE (NOT PART OF THE SONSELA)
- SONSELA SANDSTONE MEMBER (CHINLE GROUP)
- PROFILE LINE
- WATER BEARING ZONE
- SCREENED INTERVAL
- OW-XX — Upper Sand Well
- MW-XX — Alluvium/Chinle Interface Well
- MKTF-XX — Sonsela Well
- BW3-C — Production Well
- LTA-10 — BORING OR CLOSED WELL

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Figure 8A

S - N Section - EXTREME WEST PLANT AREA (PROFILE 10)

MARATHON - GALLUP REFINERY

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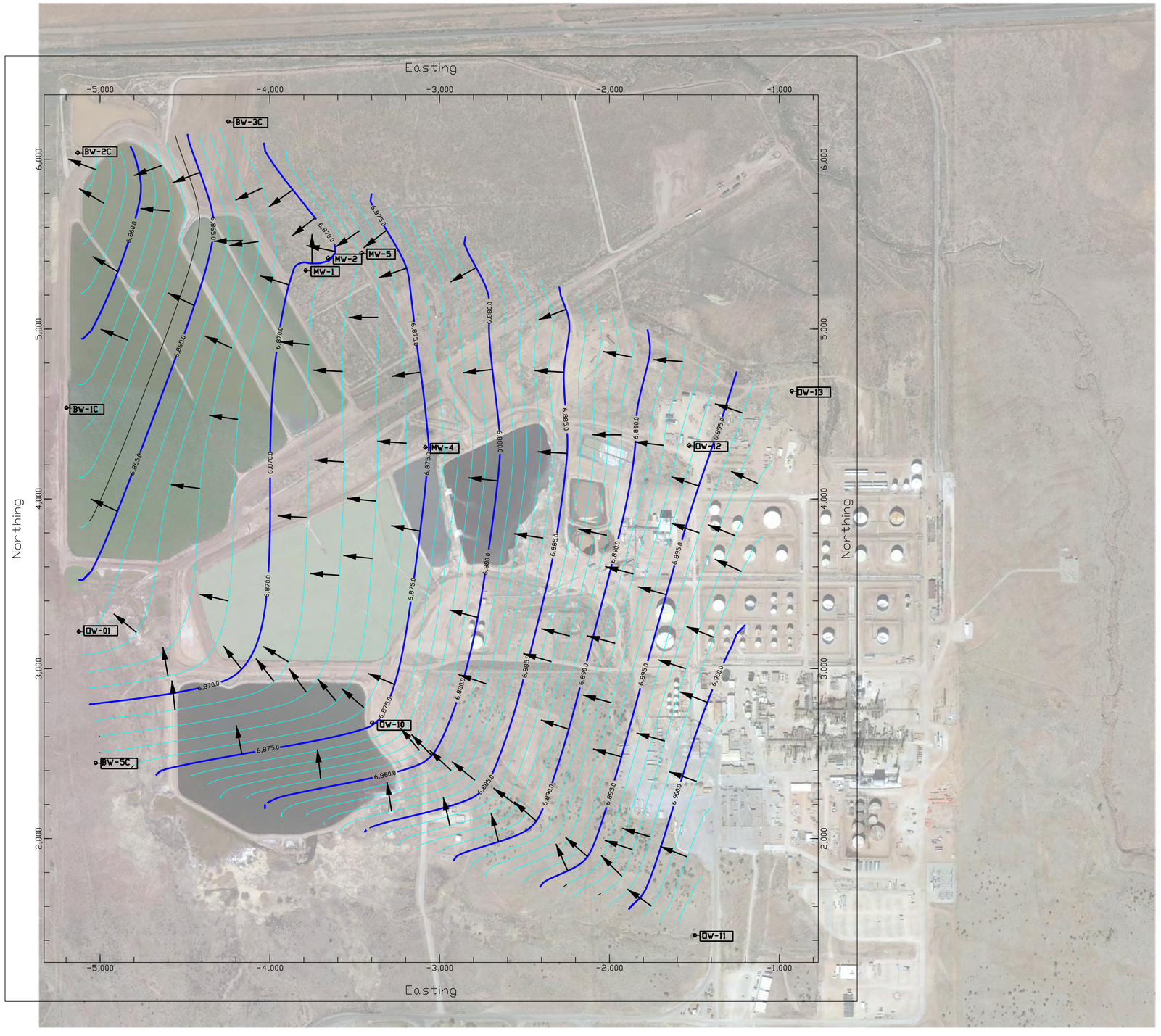
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018



SONSELA WELLS

FLOW DIRECTION: →

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N

1"=500'

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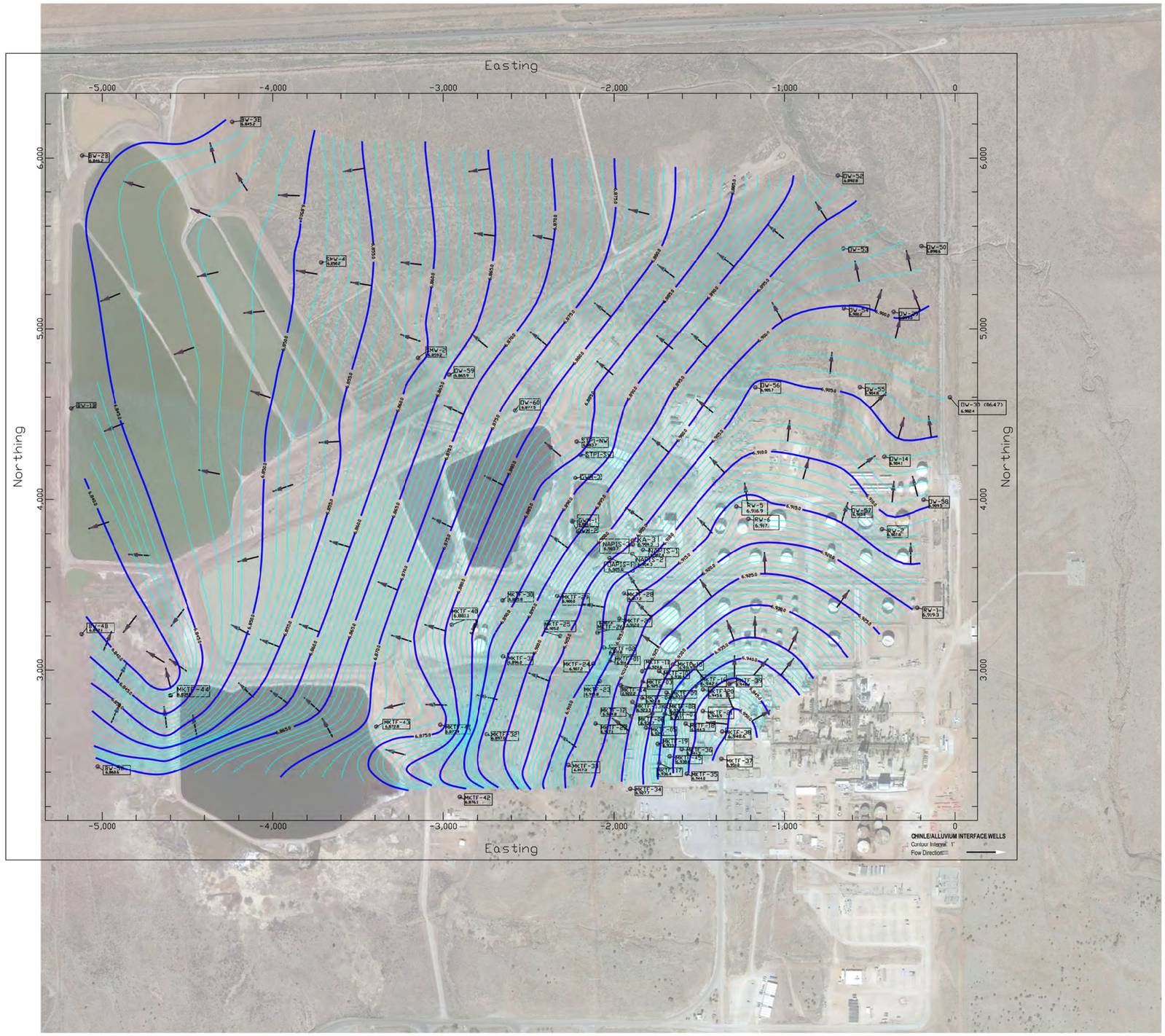
Figure 9
Sonsela Water Elevation Map - 2017
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 7, 2018



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N

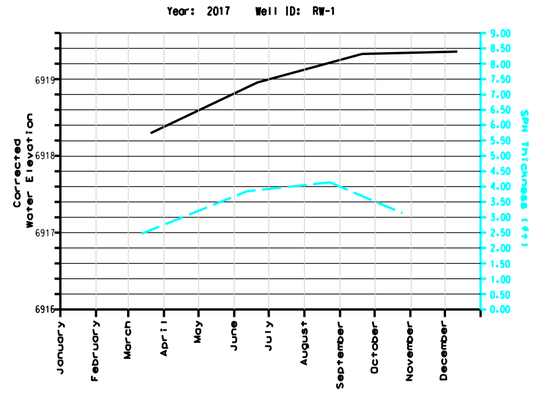
1"=500'

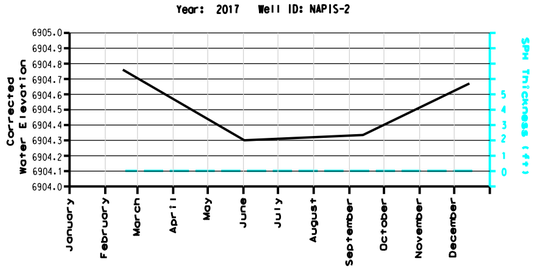
Project #: 06251565

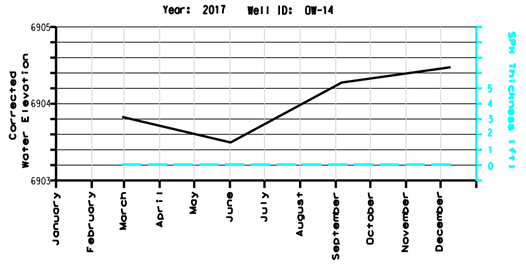
Figure 10
2017
Alluvium/Chinle Gp Interface Water Elevation Map
MARATHON - GALLUP REFINERY

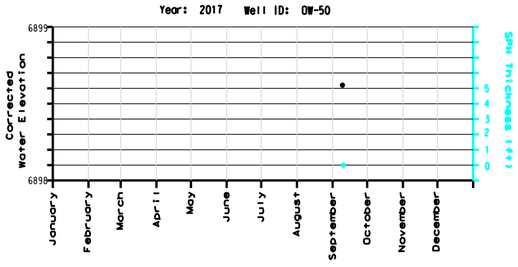
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

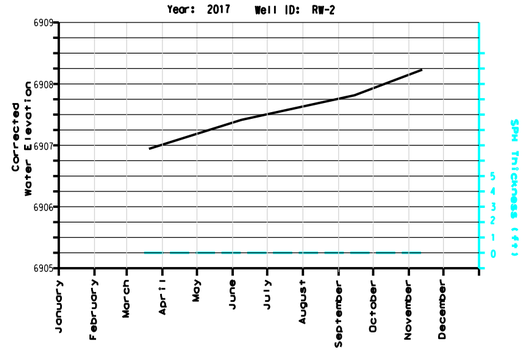
Date: November 14, 2018

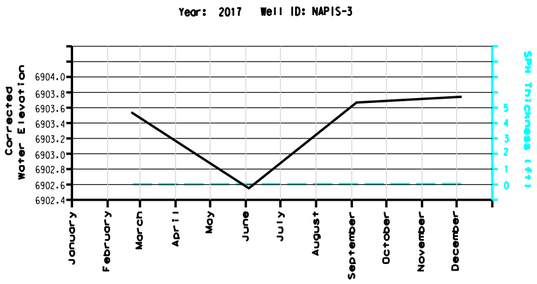


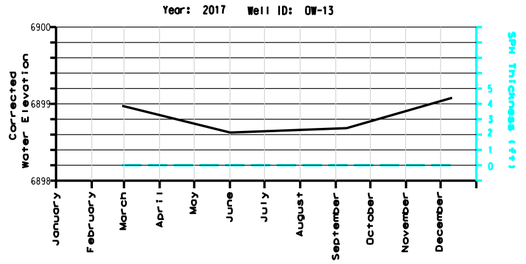


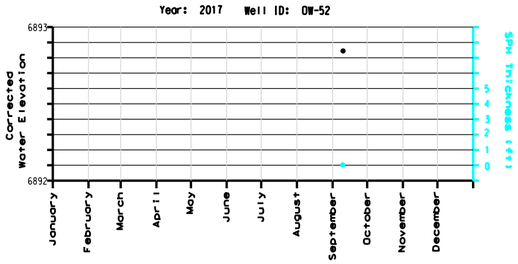


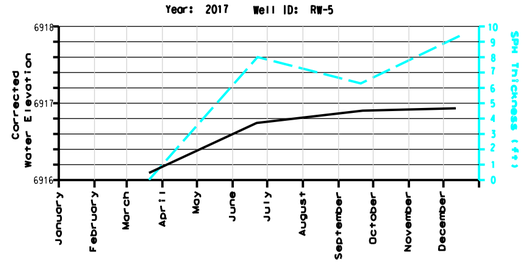


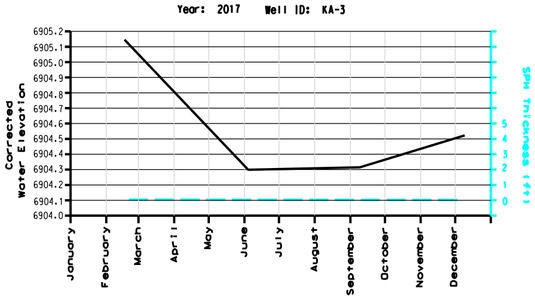


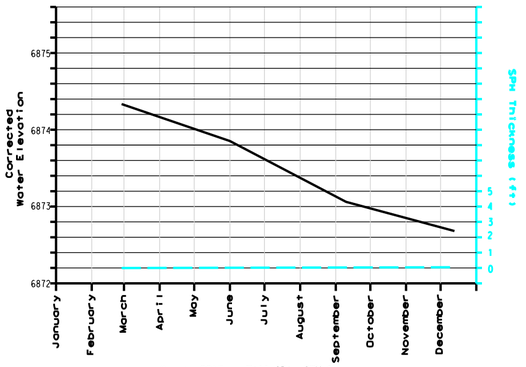


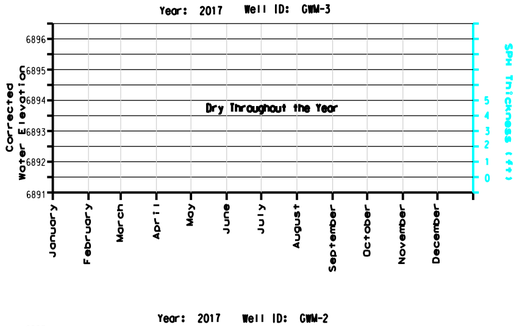


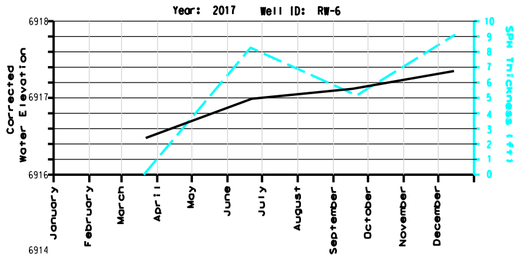


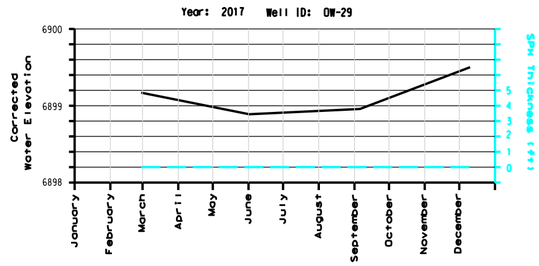


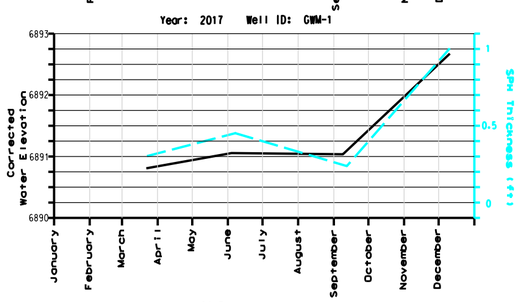


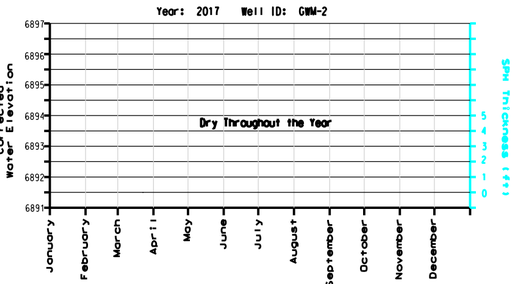


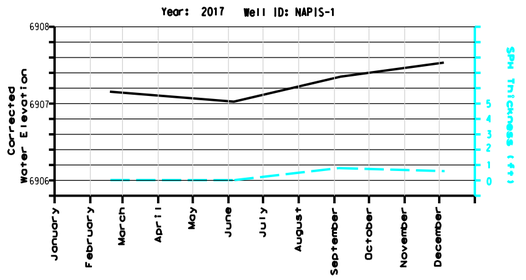


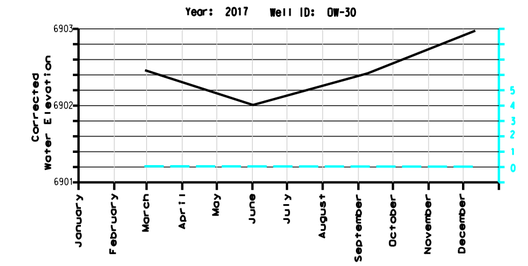


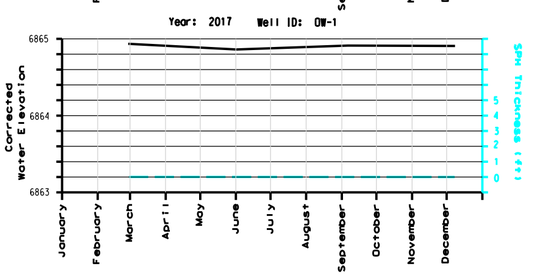












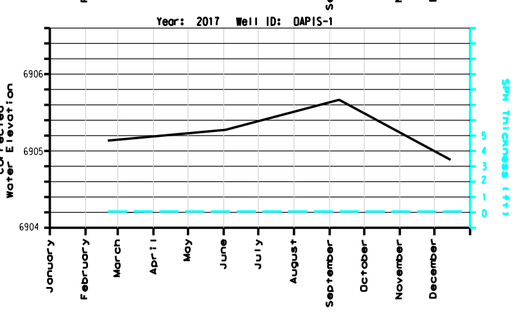


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Figure 11
GROUNDWATER ELEVATION VS TIME - 2017
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018

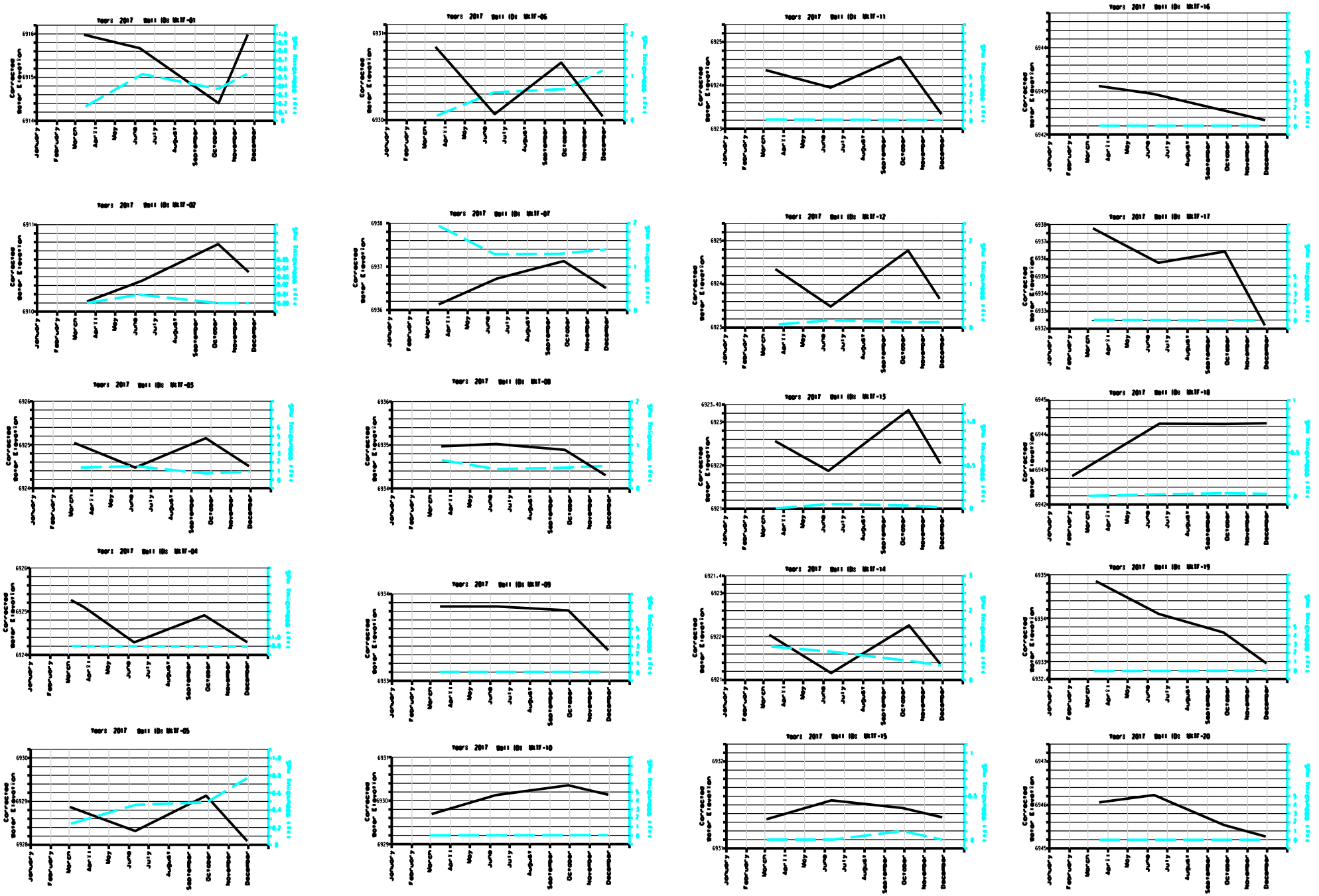

Figure 11A

GROUNDWATER ELEVATION VS TIME - 2017

MARATHON - GALLUP REFINERY

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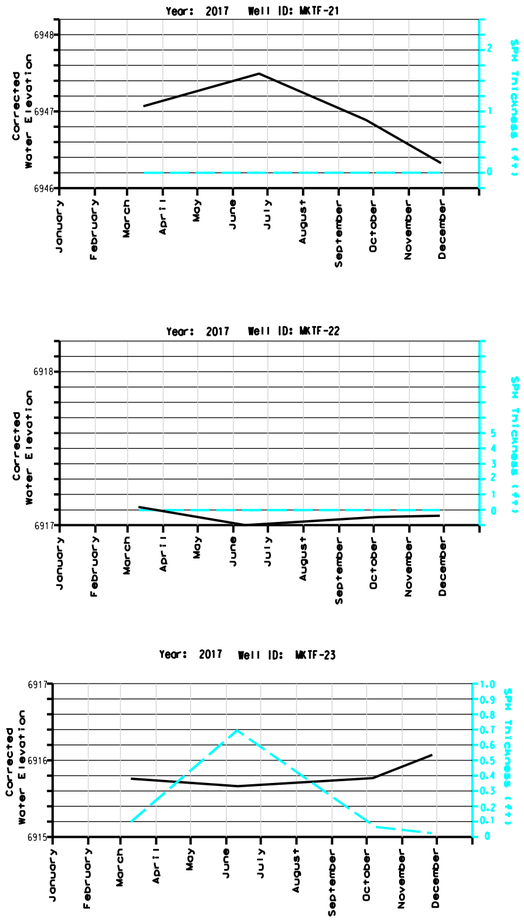
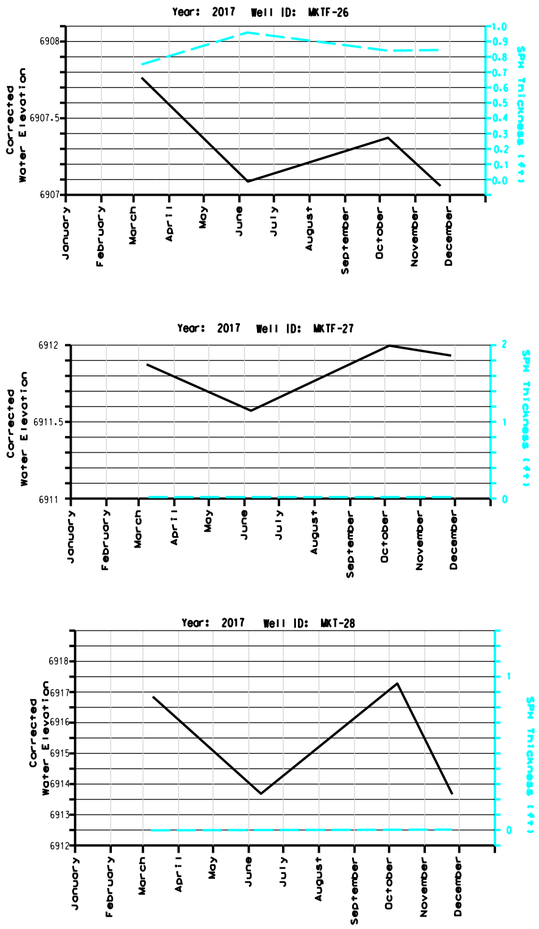
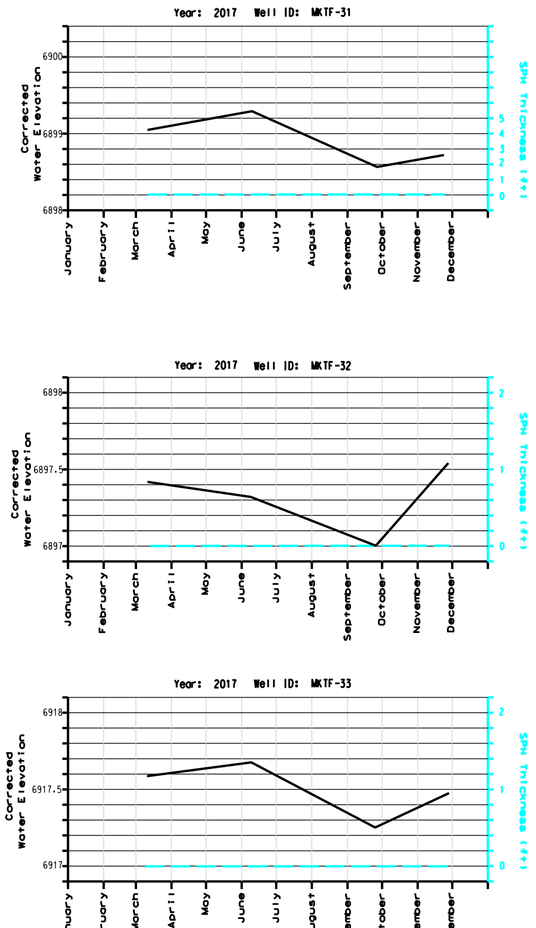
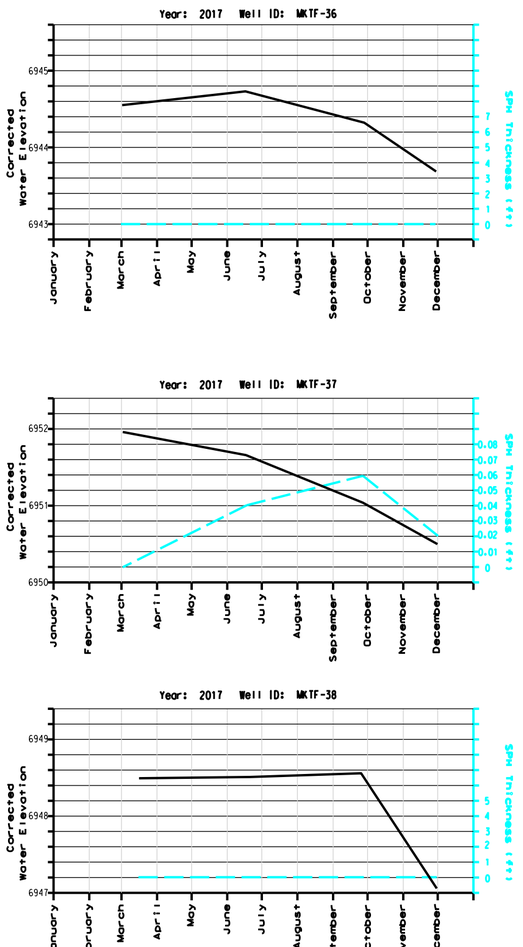
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

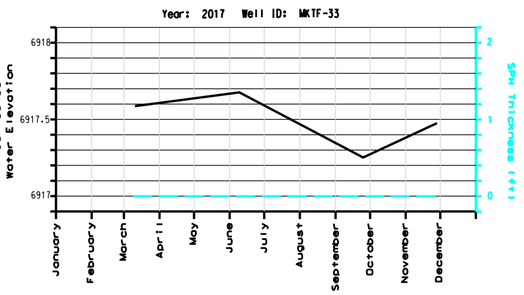
Date: November 15, 2018

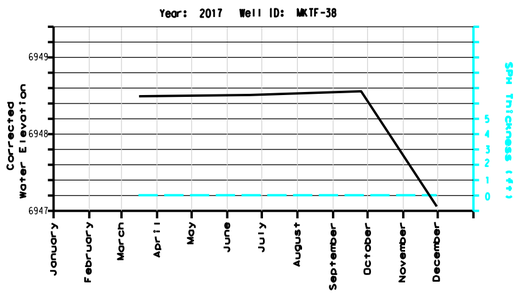


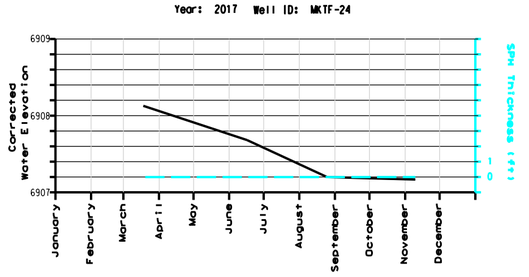


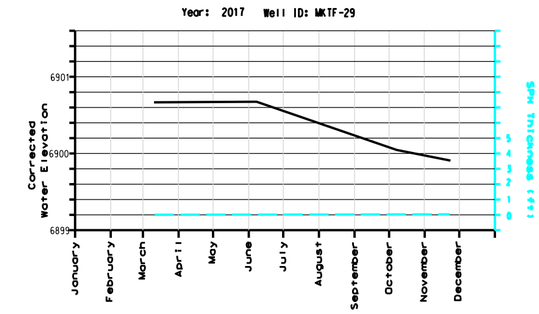


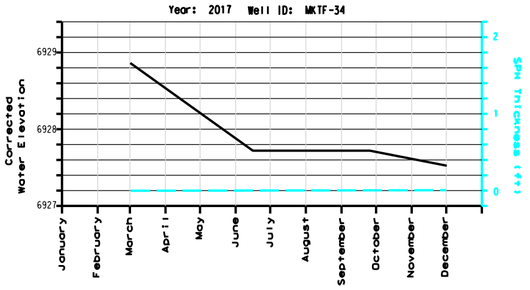


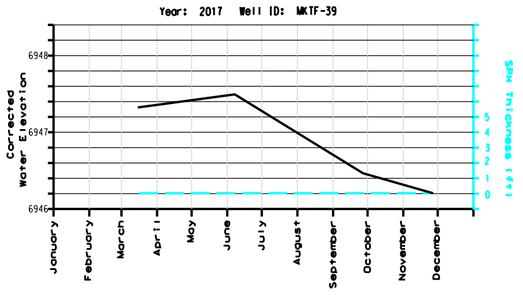


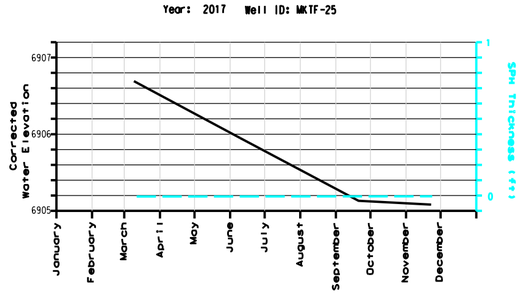


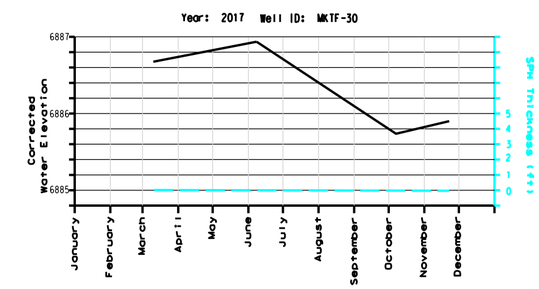


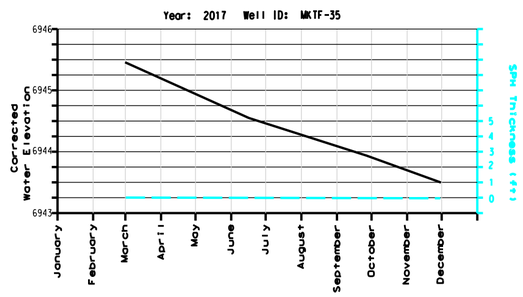












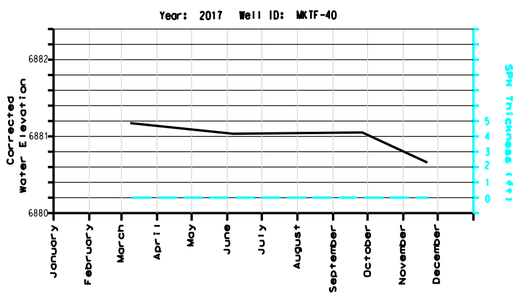


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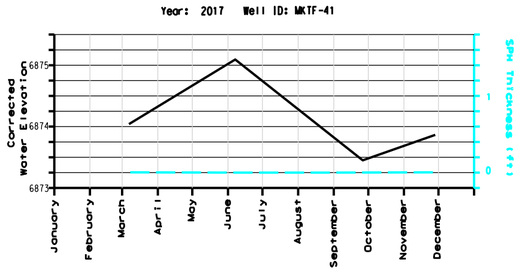
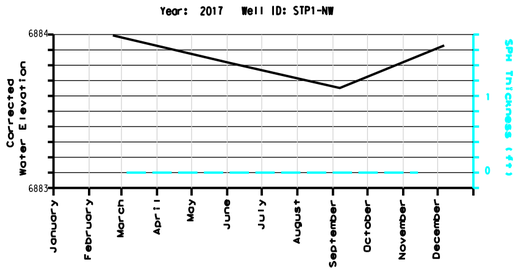
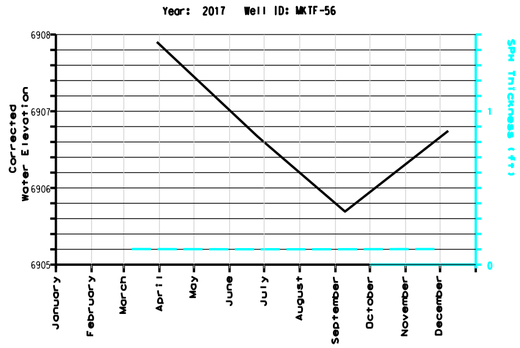
Figure 11B
GROUNDWATER ELEVATION VS TIME - 2017
MARATHON - GALLUP REFINERY

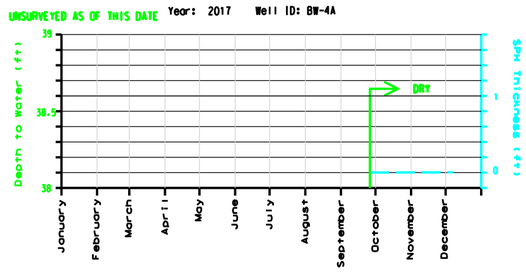
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

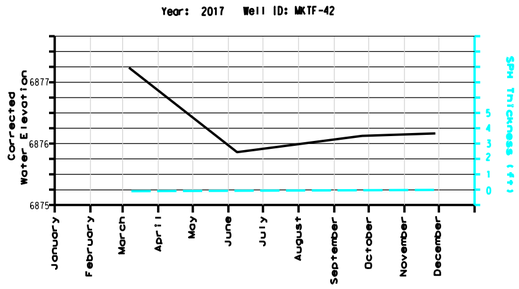
Date: November 15, 2018

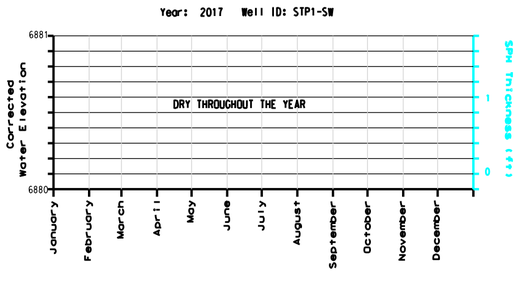


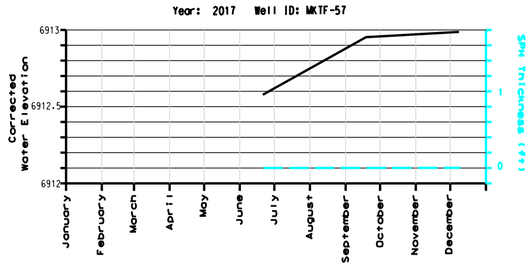


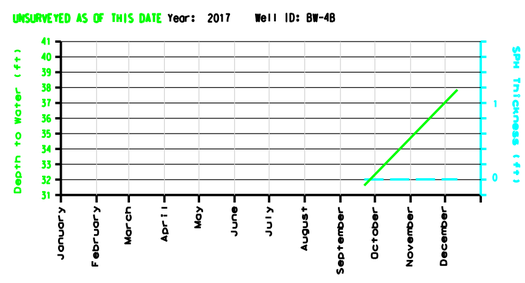


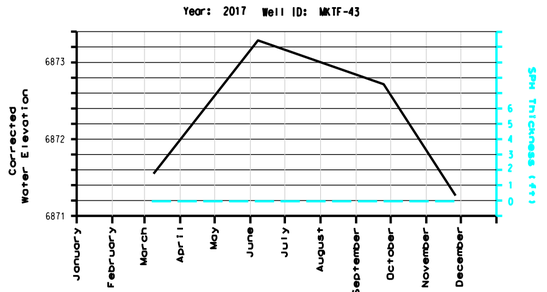


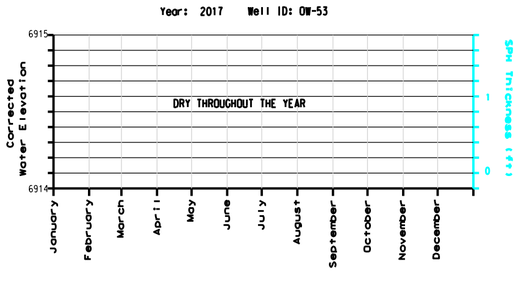


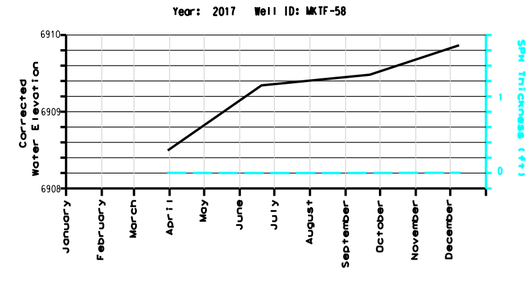


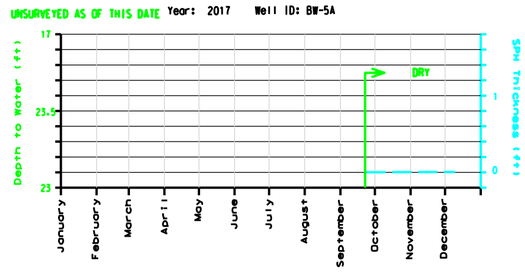


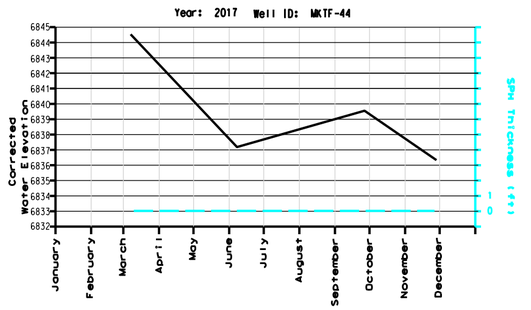


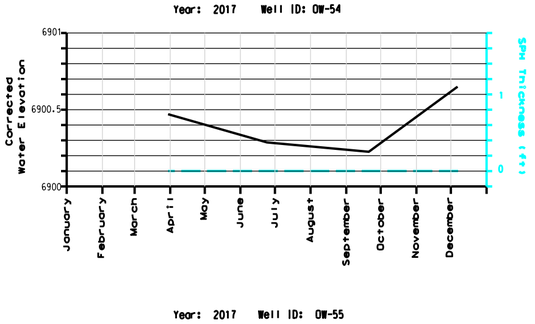


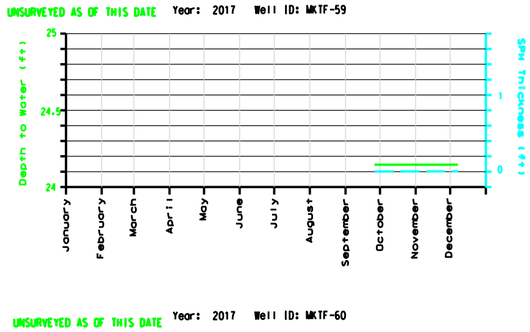


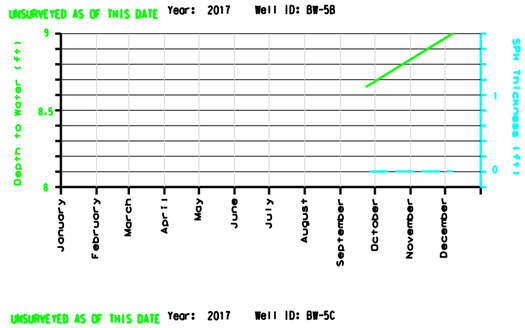


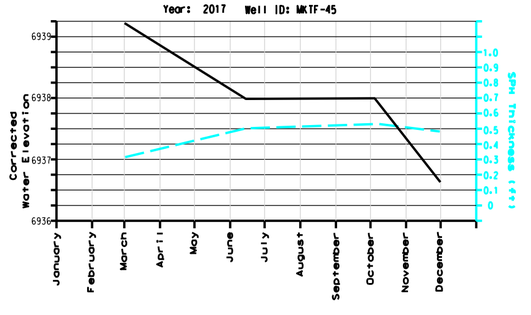


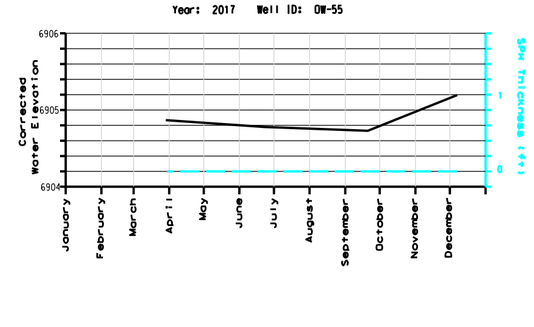


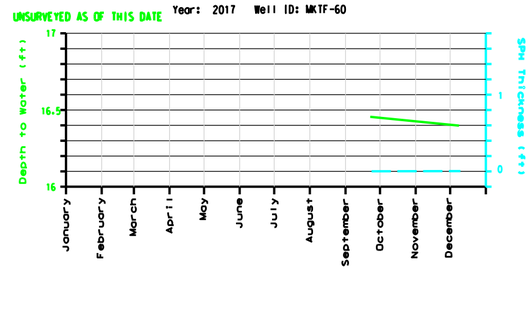












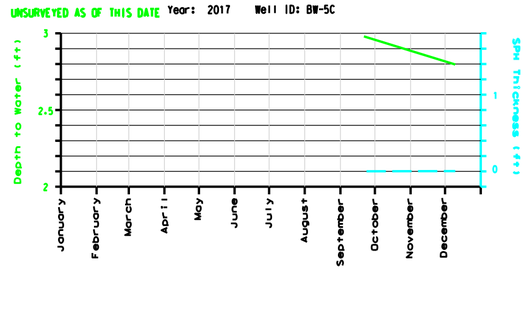


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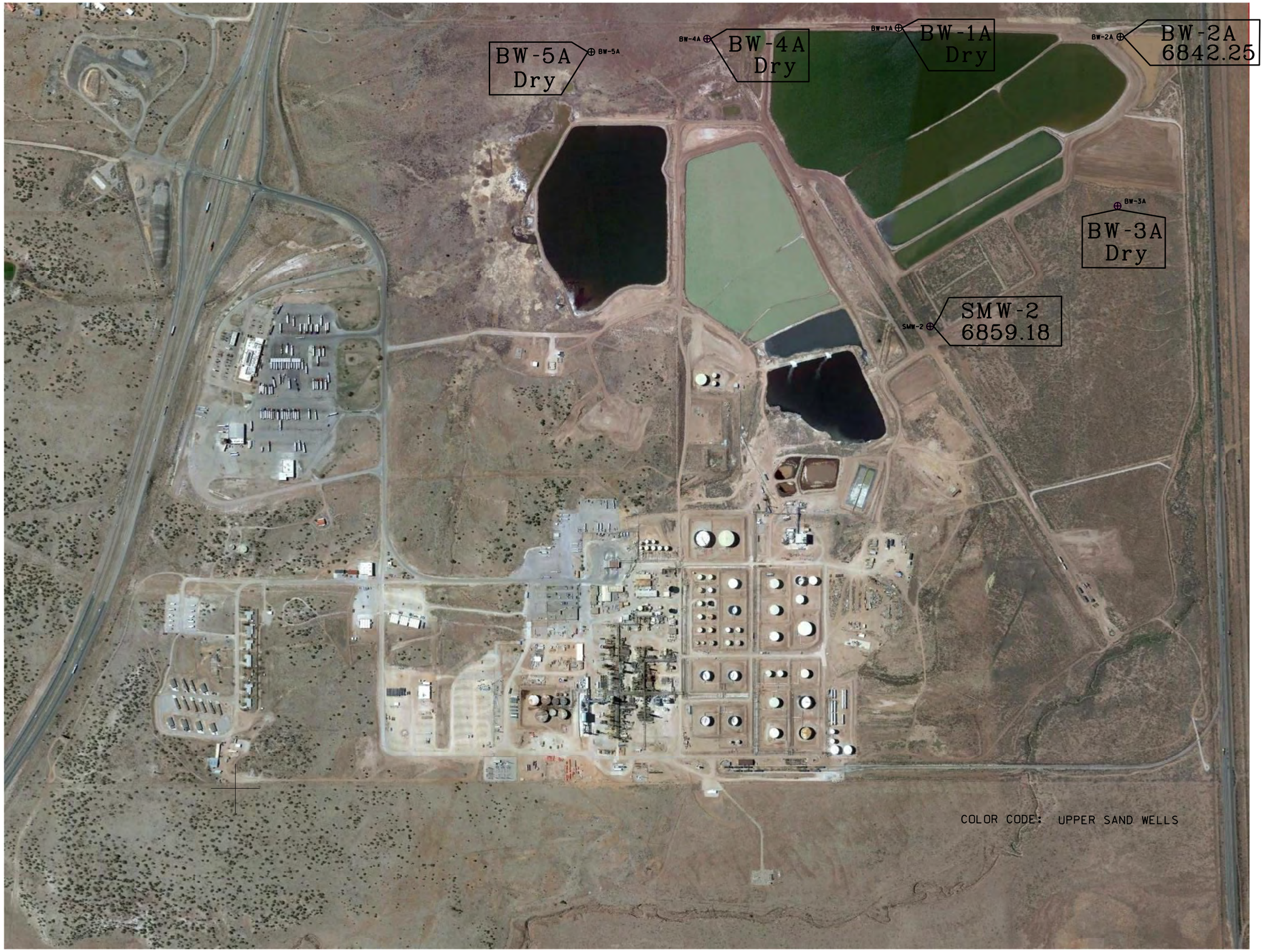
Figure 11C
GROUNDWATER ELEVATION VS TIME - 2017
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018



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1"=500'

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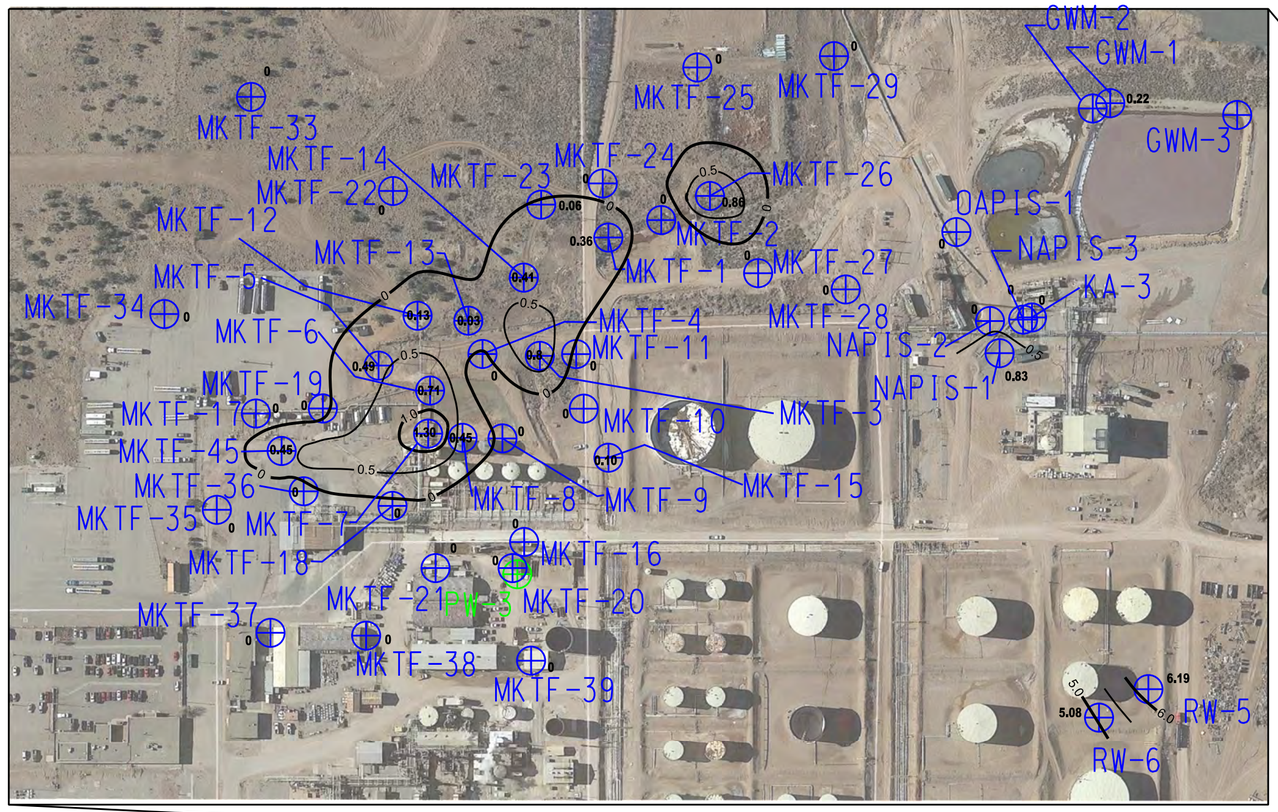
Figure 12
ALLUVIAL/FLUVIAL UPPER SAND WATER - 2017
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301
Date: November 15, 2017



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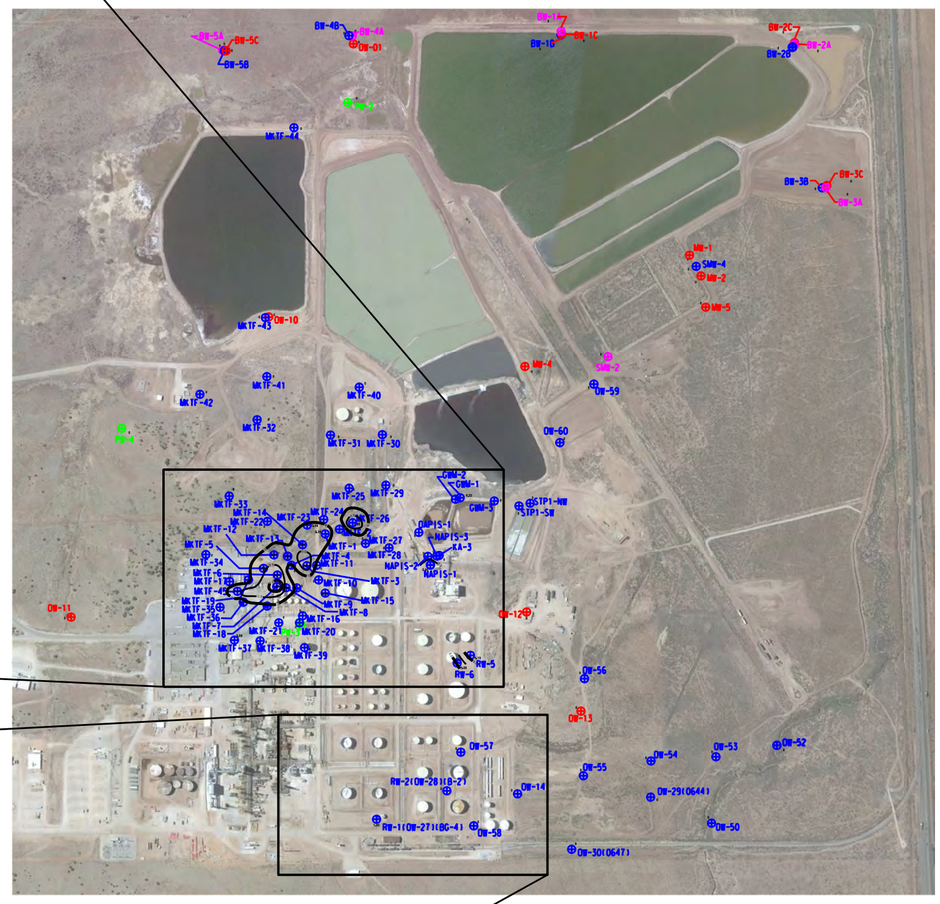

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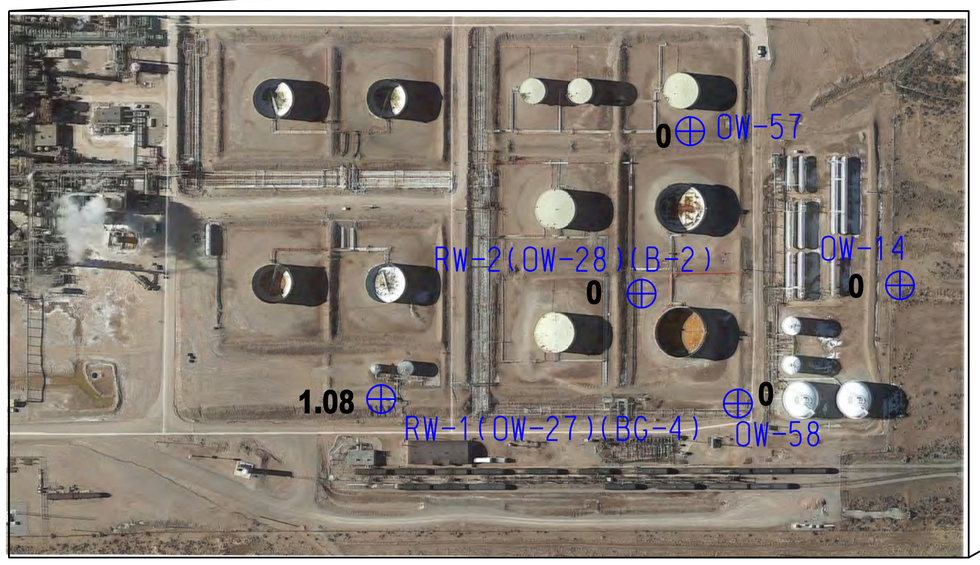

C

———— SPH Contour Thickness (in feet)

Contour Interval: 0.5'

Scale: Image A - Not to scale
Image B - 1" = 200'
Image C - 1" = 200'

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Line is 1 inch long on original

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Figure 13

PRODUCT THICKNESS MAP (SPH FOR 09/2017)

MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018

LEGEND

- CLAY
- SANDY CLAY OR CLAYEY SAND
- SAND
- SILT
- SHALE (CHINLE FORMATION)
- SANDSTONE (CHINLE FORMATION)
- PROFILE LINE
- WATER BEARING ZONE
- SCREENED INTERVAL

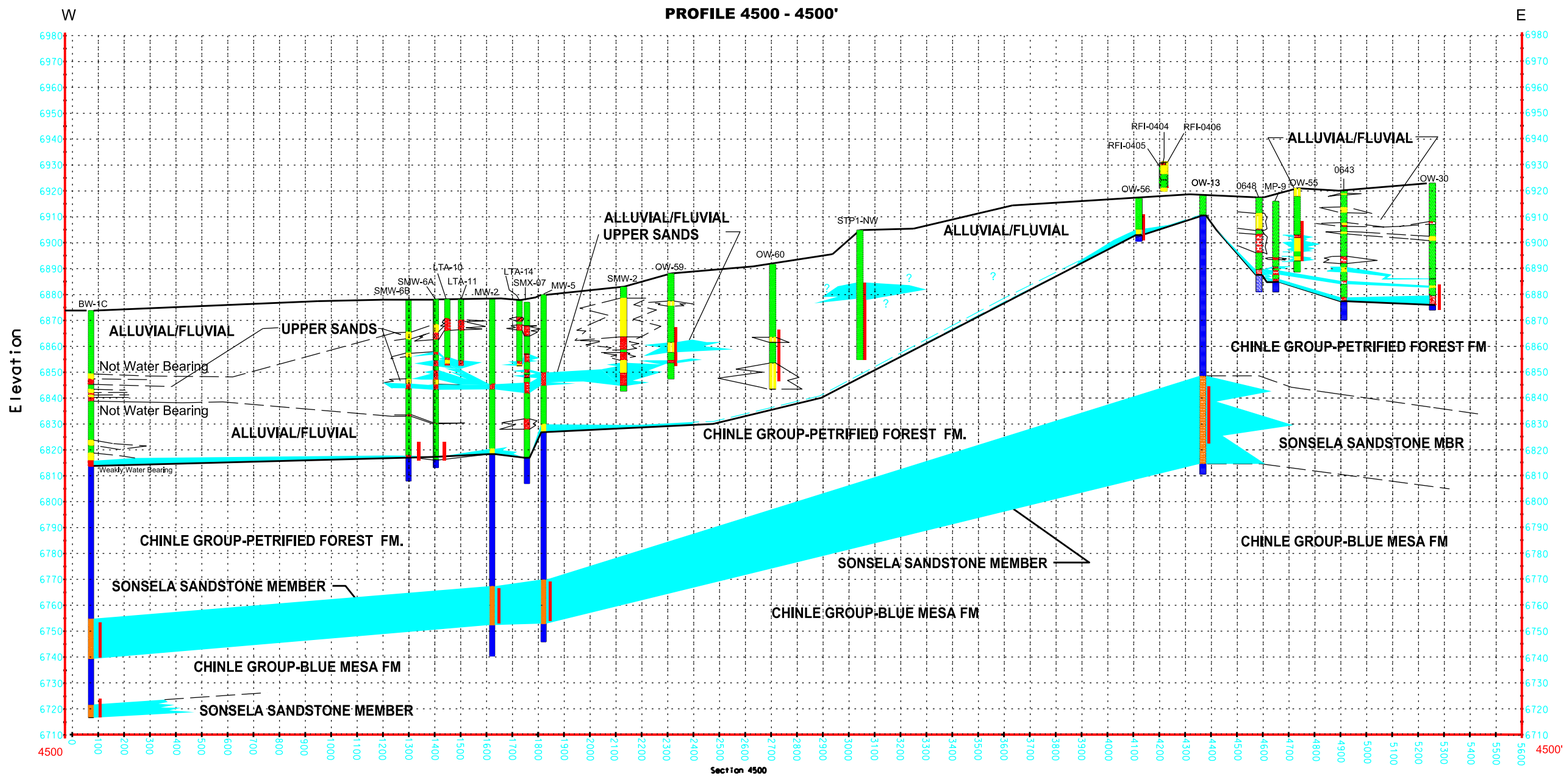

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Figure 14

TYPICAL WEST - EAST GEOLOGIC PROFILE

MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018

Benzene (September 2017)
Contour Interval = 0.05 mg/L

Ethyl Benzene (September 2017)
Contour Interval = 0.005 mg/L

Total Xylenes (September 2017)
Contour Interval = 0.001 mg/L

Toluene (September 2017)
Contour Interval = 0.0005 mg/L

MTBE (September 2017)
Contour Interval = 0.05 mg/L

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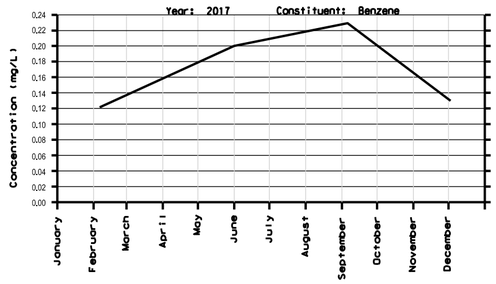
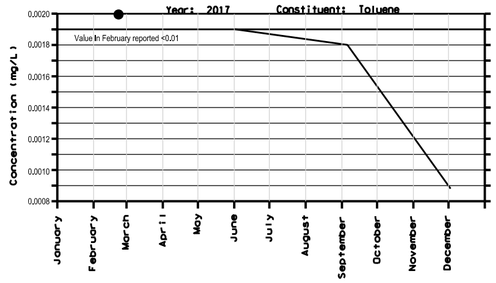
Figure 15
2017 WELL GROUP B CONSTITUENTS
MARATHON - GALLUP REFINERY

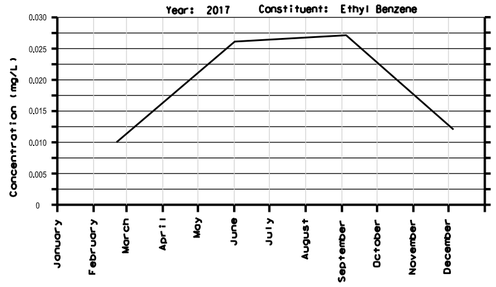
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

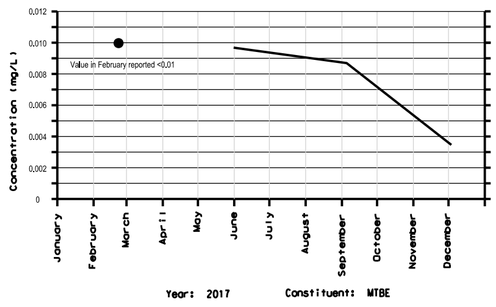
Date: November 15, 2017

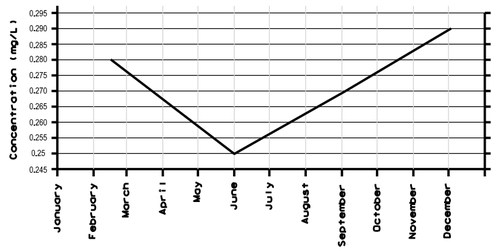
Well ID: OAPIS-1



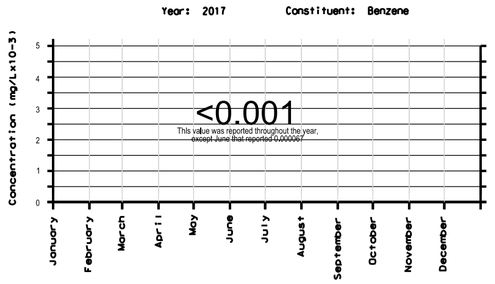


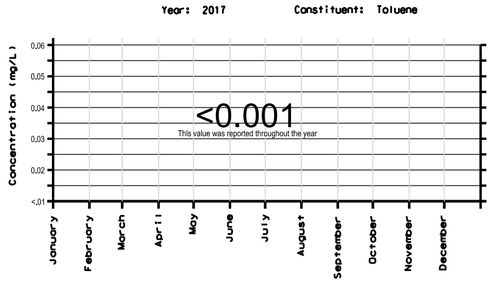


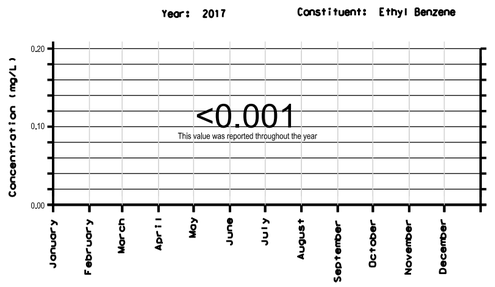


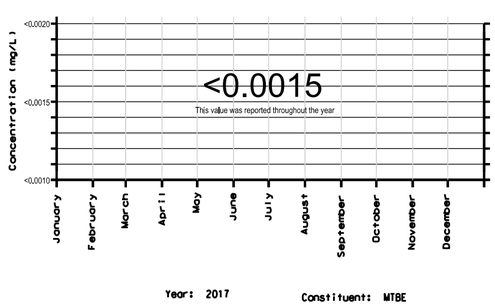


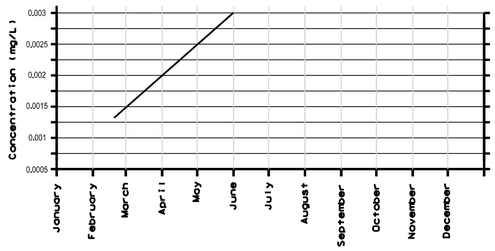
Well ID: NAPIS-1











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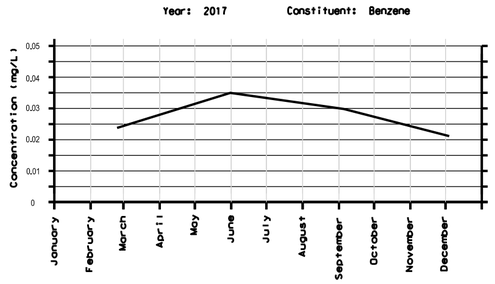

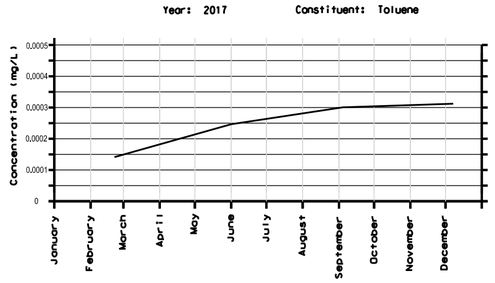

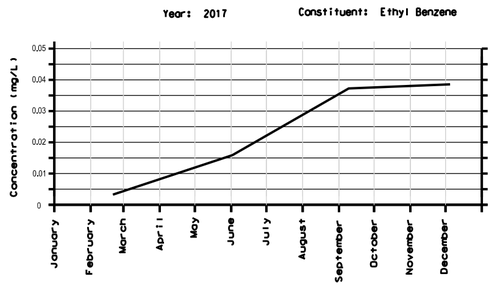

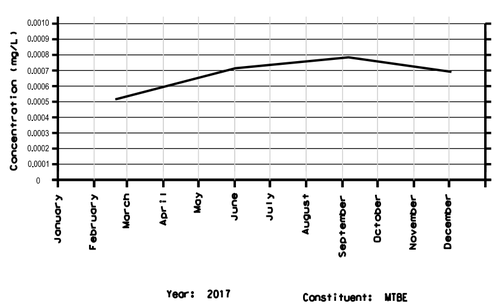

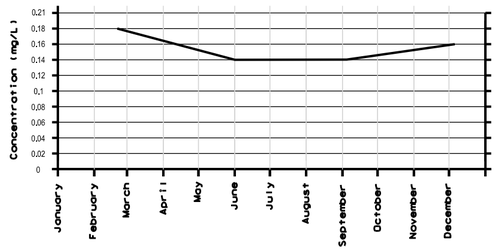

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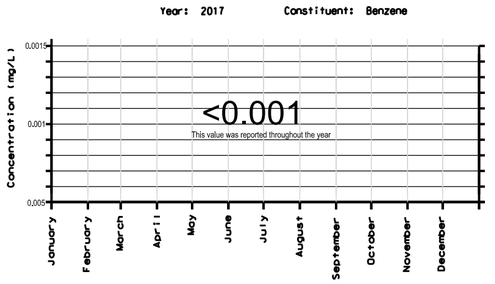

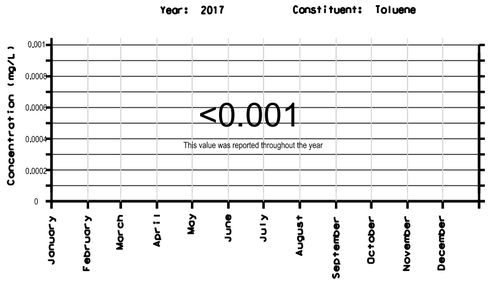

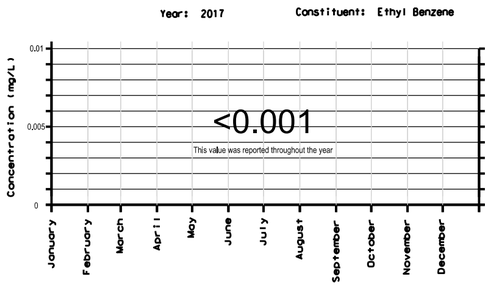

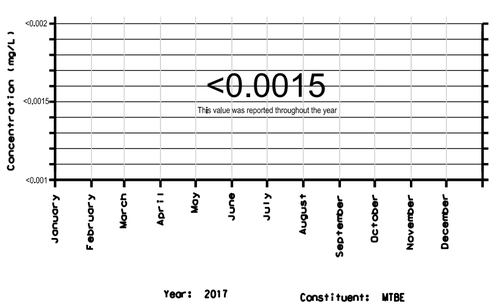

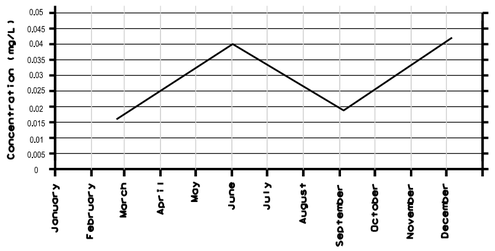

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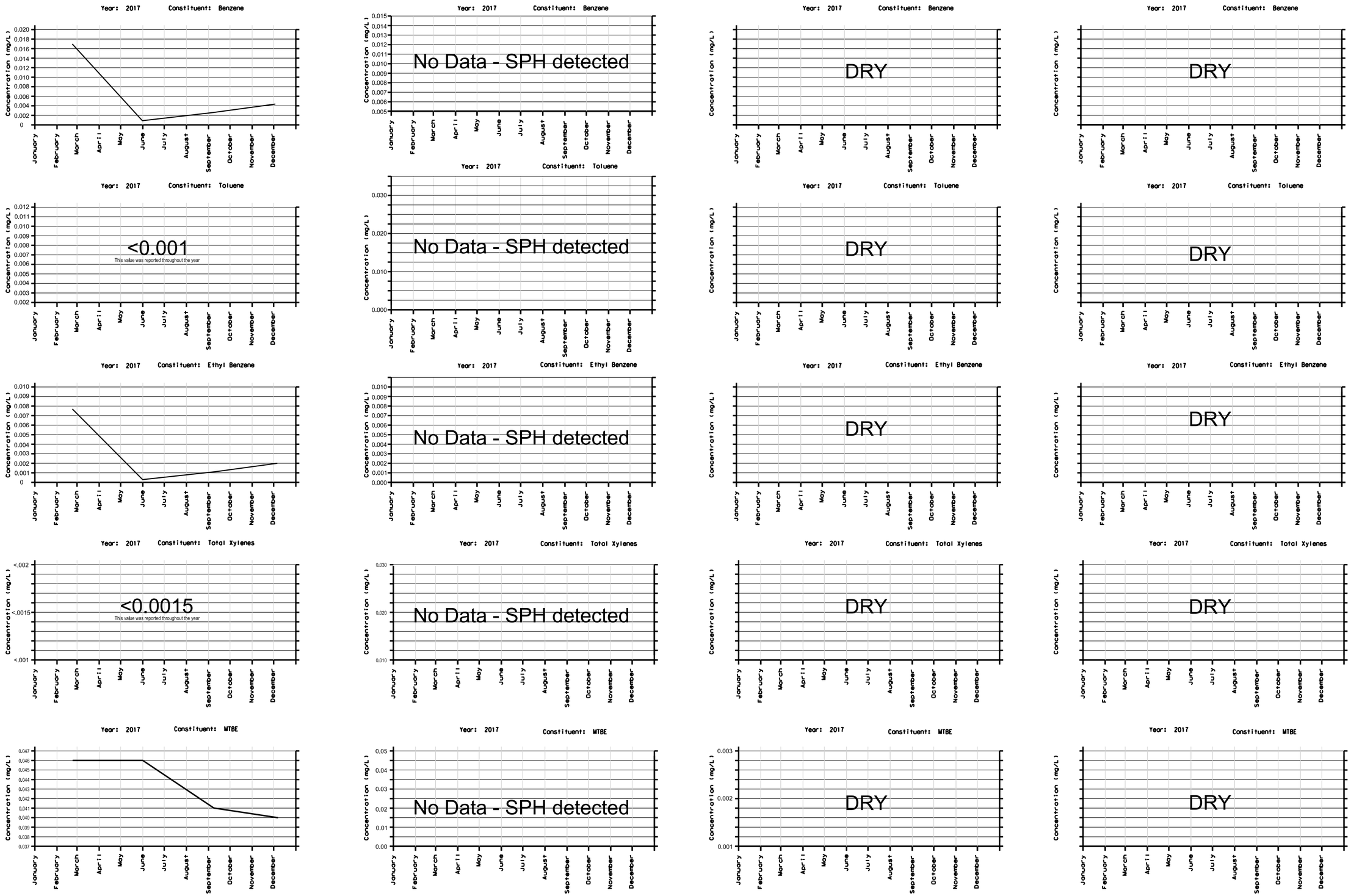
Figure 15.1
2017 WELL GROUP B CONSTITUENTS
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2017



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Project #: 06251565

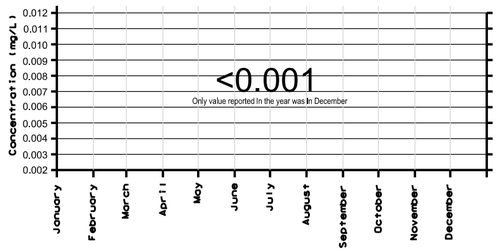
Figure 15.2
2017 WELL GROUP B CONSTITUENTS
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

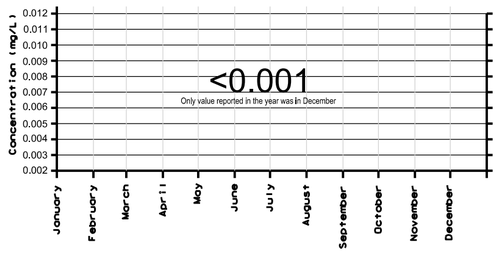
Date: November 15, 2017

Well ID: OW-59

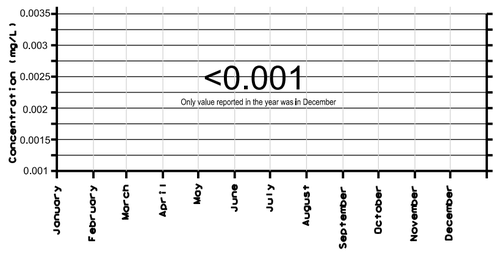
Year: 2017 Constituent: Benzene



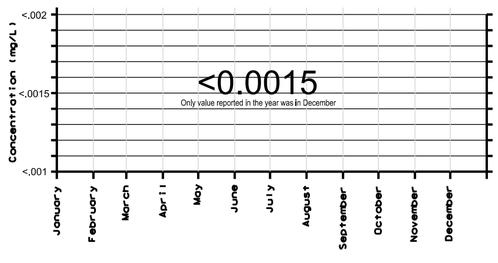
Year: 2017 Constituent: Toluene



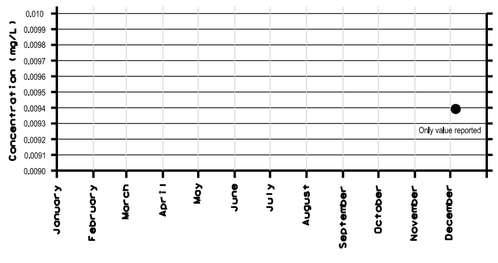
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

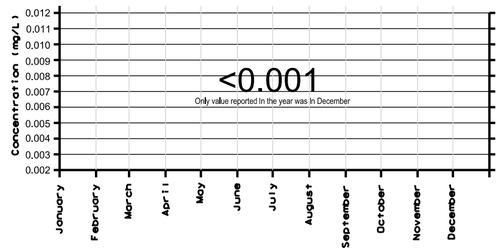


Year: 2017 Constituent: MTBE

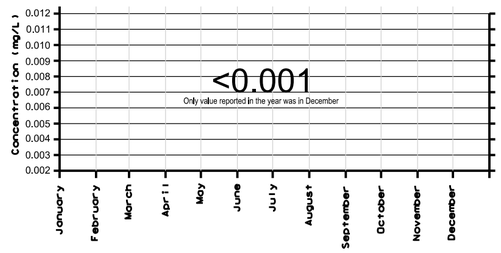


Well ID: OW-60

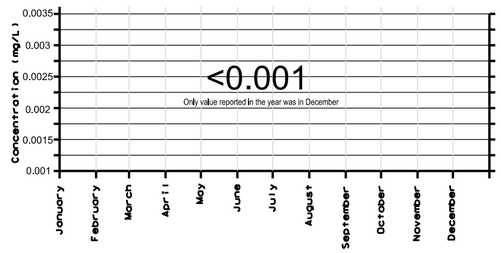
Year: 2017 Constituent: Benzene



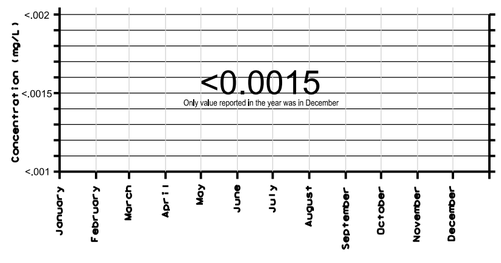
Year: 2017 Constituent: Toluene



Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes



Year: 2017 Constituent: MTBE

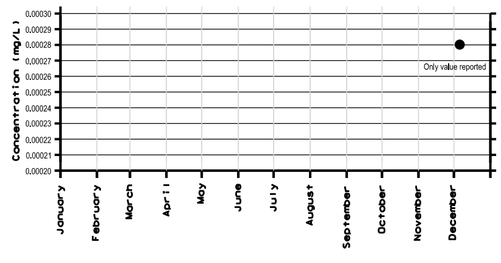


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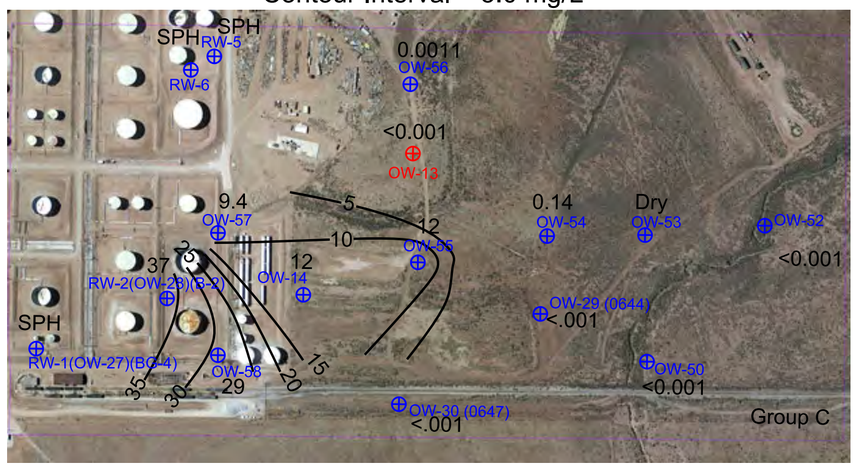
Figure 15.3
2017 WELL GROUP B CONSTITUENTS
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2017

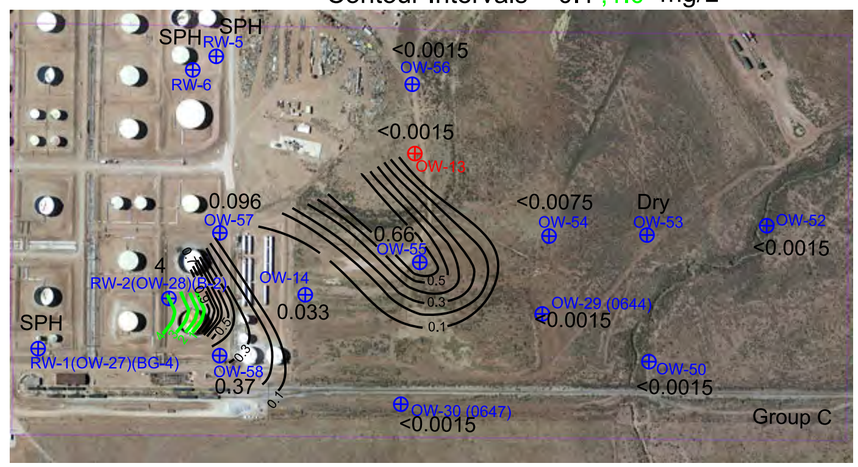
Benzene (September 2017)

Contour Interval = 5.0 mg/L



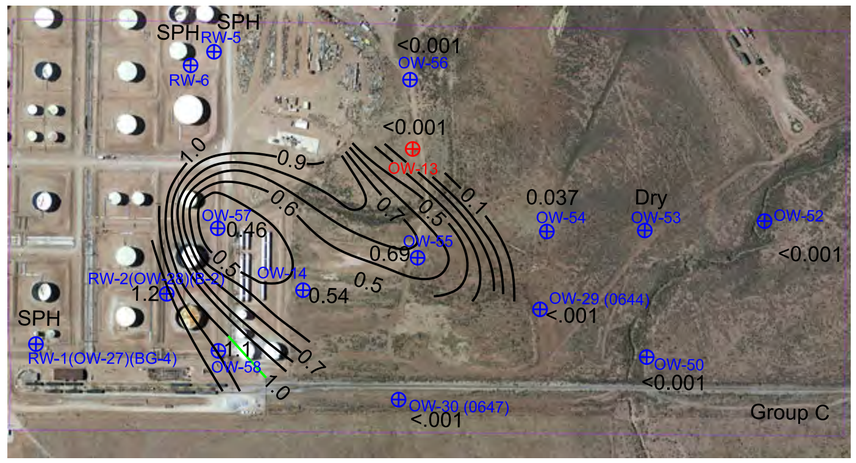
Total Xylenes (September 2017)

Contour Intervals = 0.1 ,1.0 mg/L



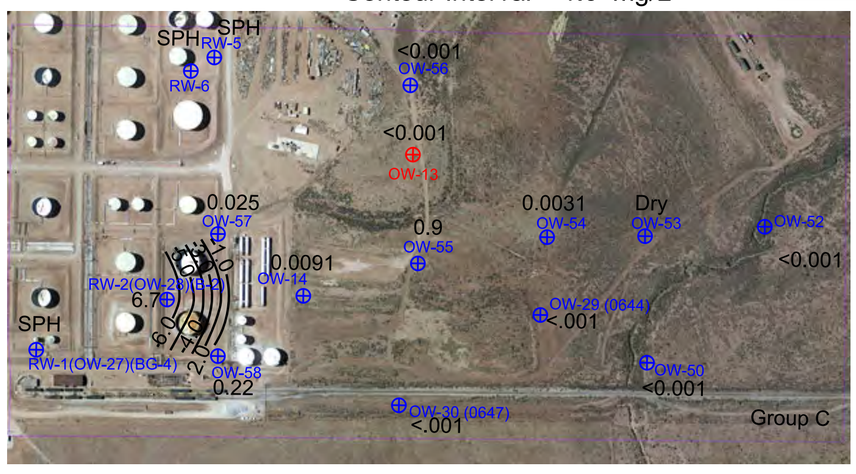
Ethyl Benzene (September 2017)

Contour Interval = 0.1 mg/L



Toluene (September 2017)

Contour Interval = 1.0 mg/L



MTBE (September 2017)

Contour Interval = 0.5 mg/L

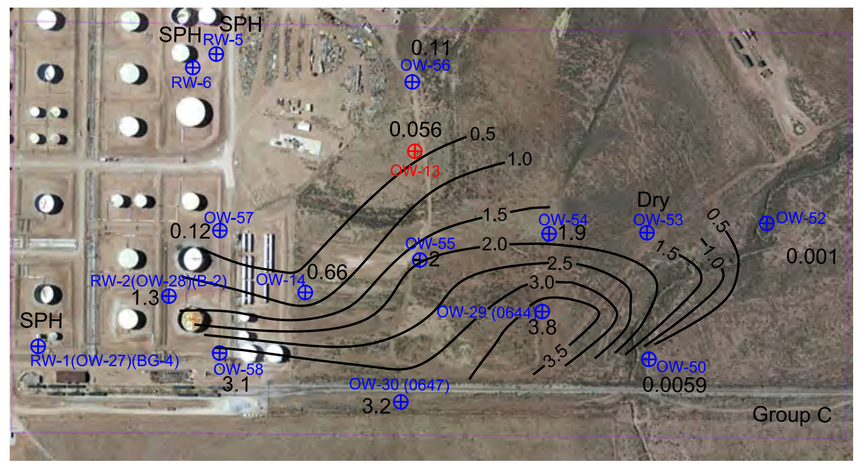


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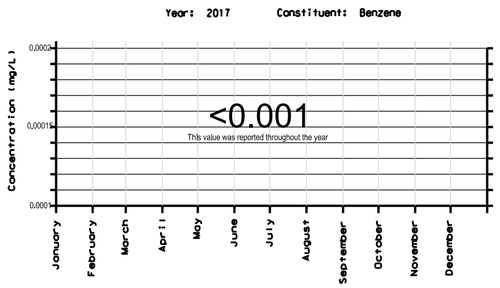
Figure 16

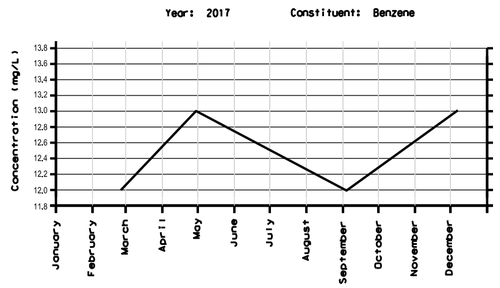
WELL GROUP C CONSTITUENTS - 2017

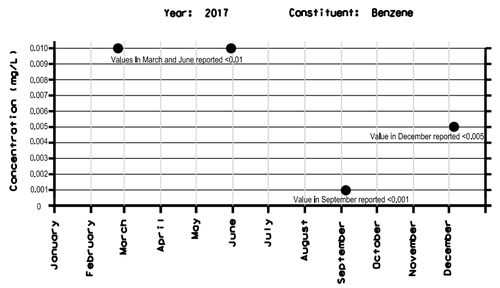
MARATHON - GALLUP REFINERY

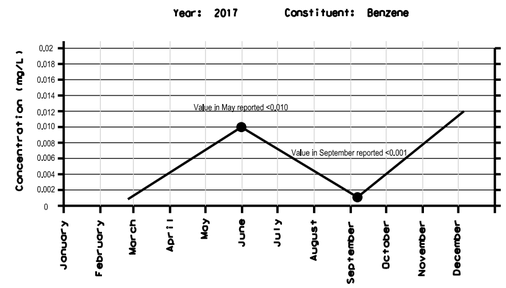
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

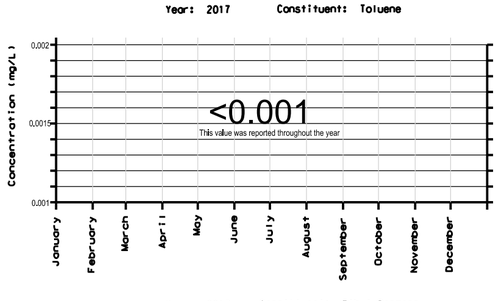
Date: November 15, 2017

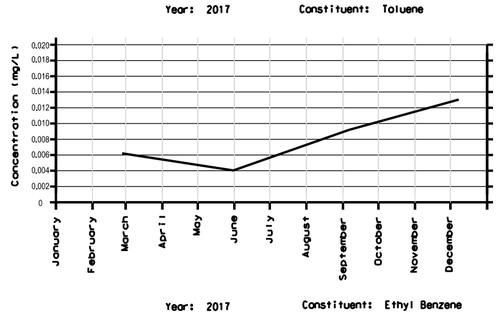


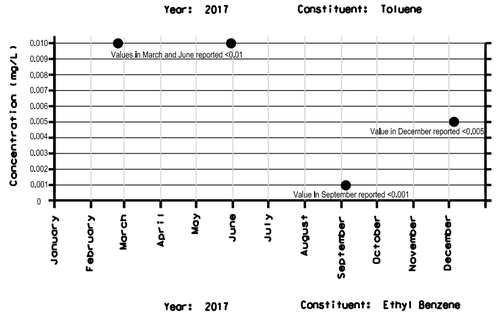


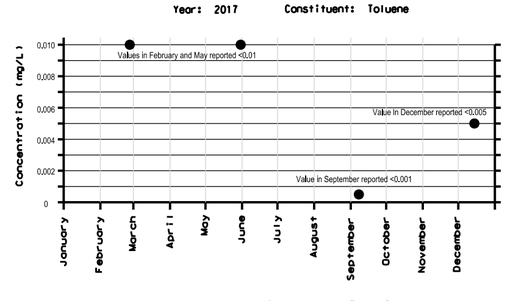


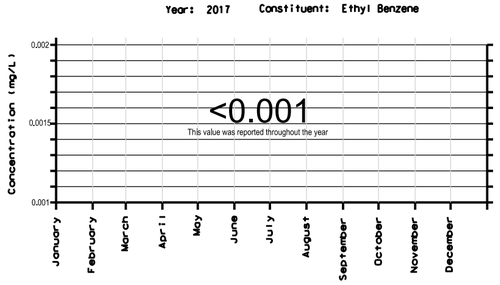


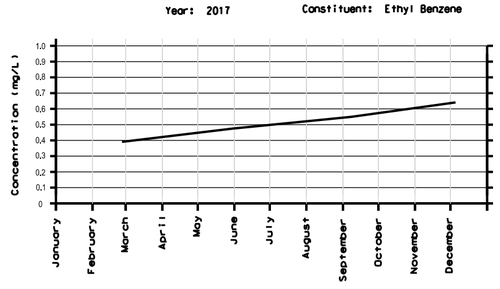


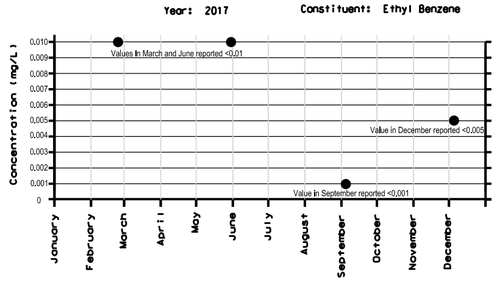


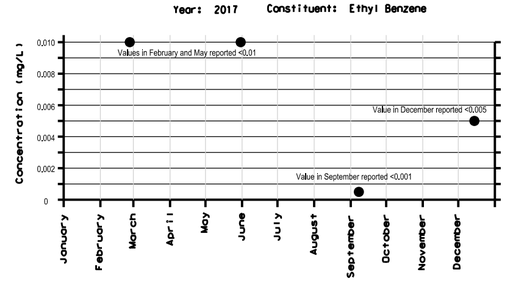


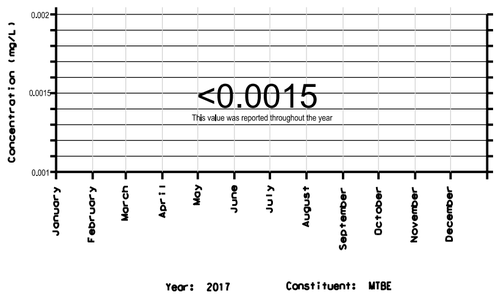


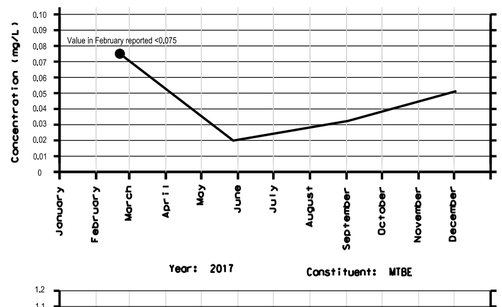


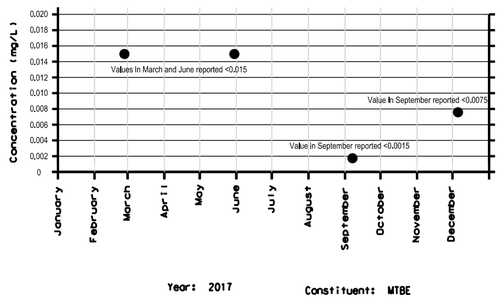


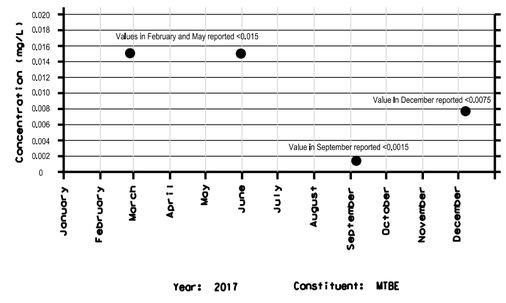


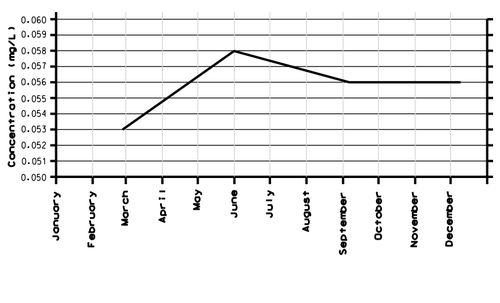


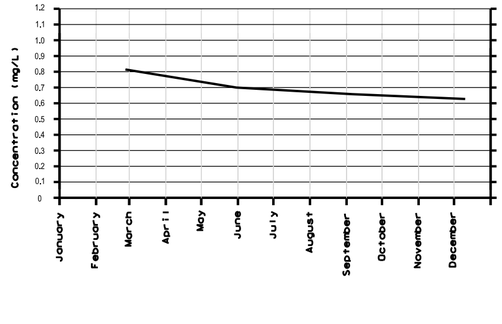


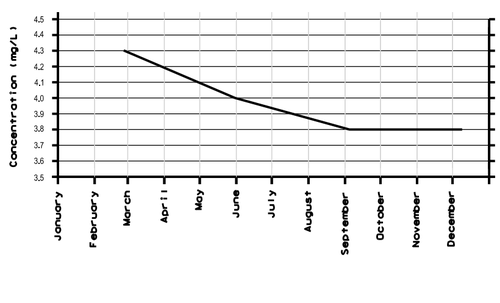












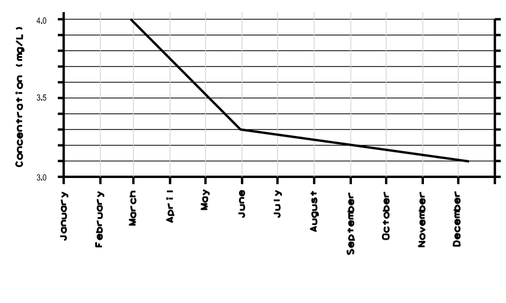


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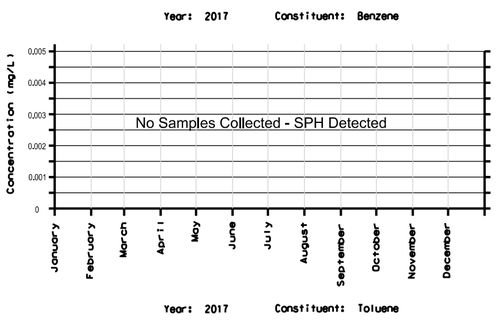
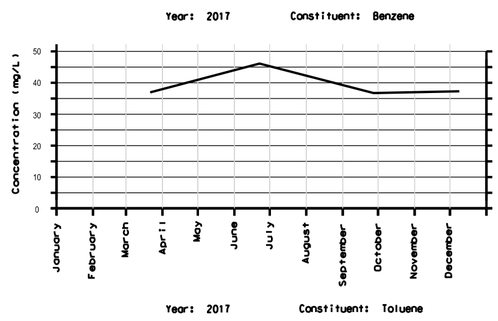
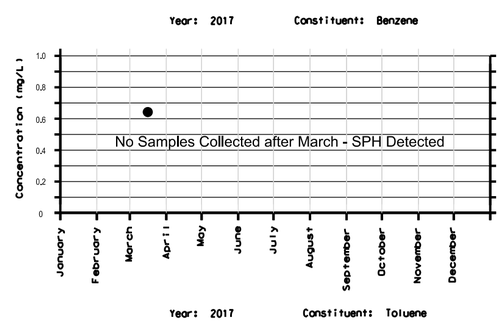
Figure 16.1
2017 WELL GROUP C CONSTITUENTS
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2018







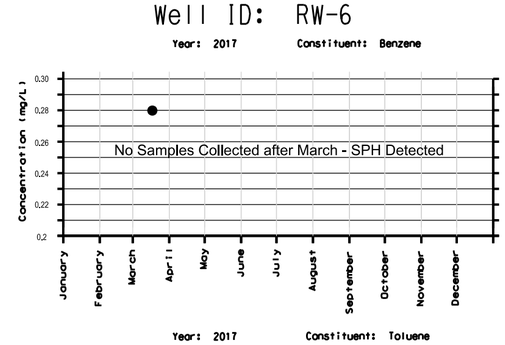


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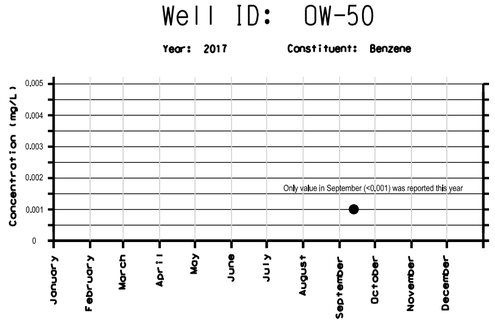
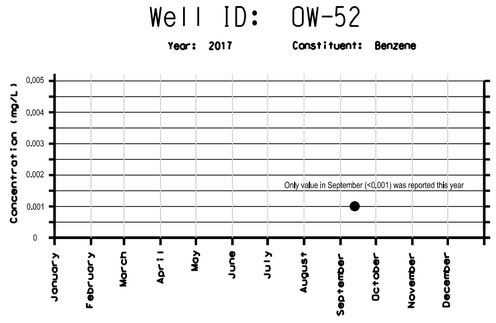
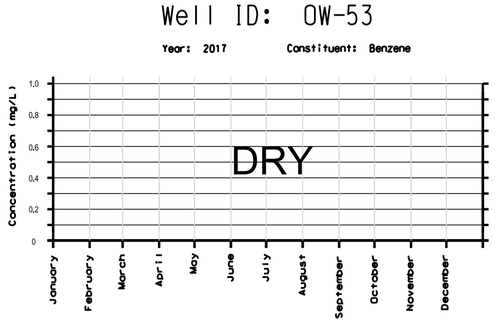
FIGURE 16.2
2017 WELL GROUP C CONSTITUENTS
MARATHON - GALLUP REFINERY

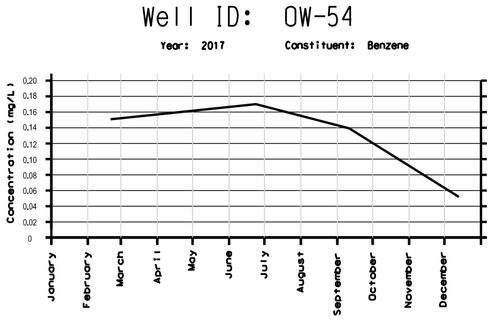
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

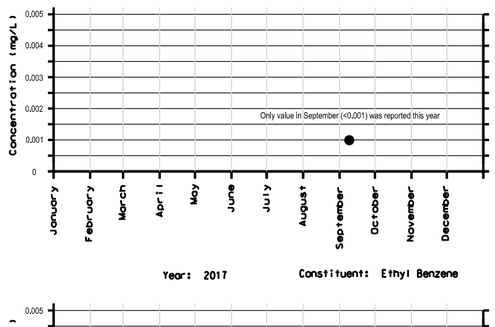
Date: November 15, 2018

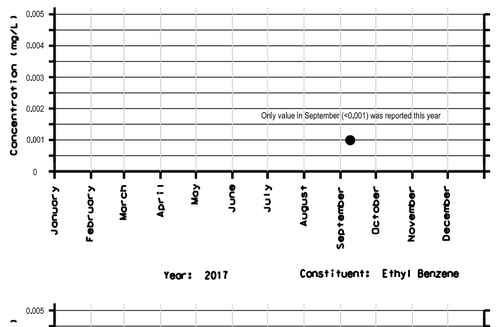


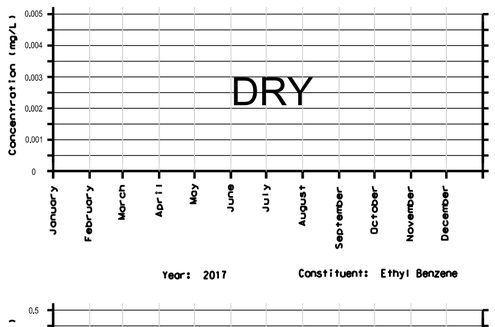


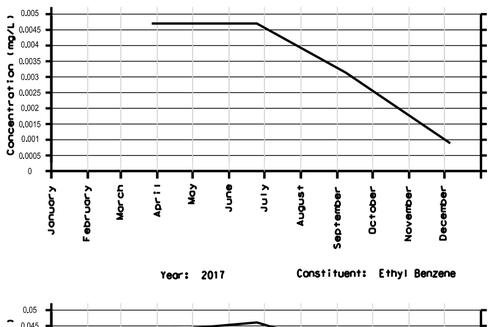


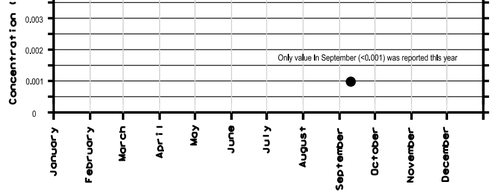


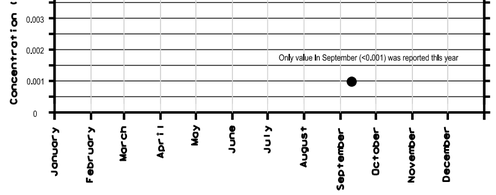


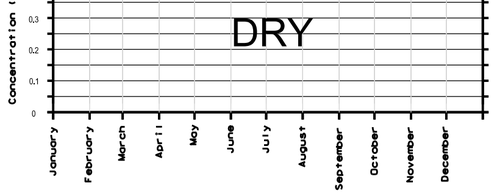


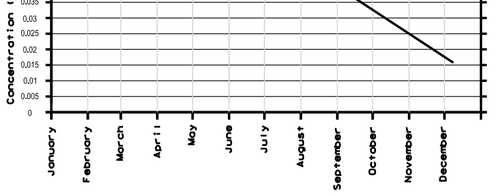


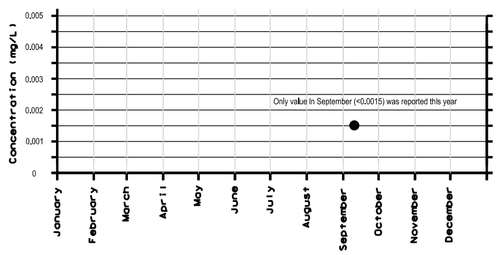


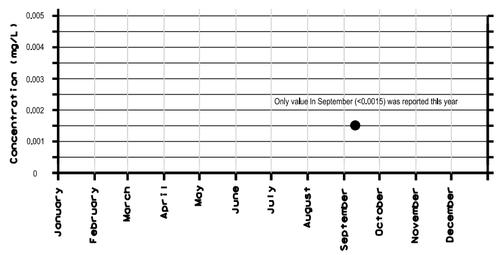


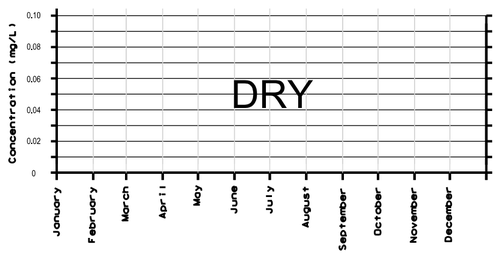


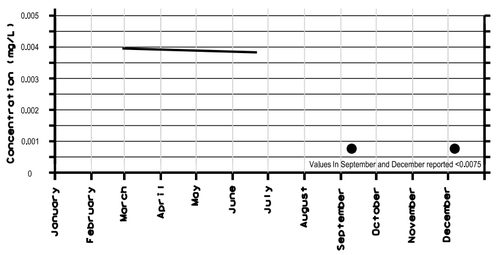


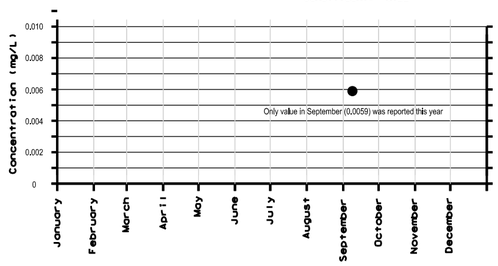


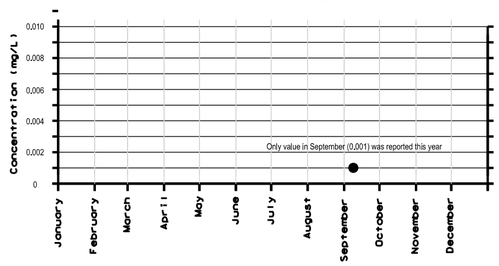


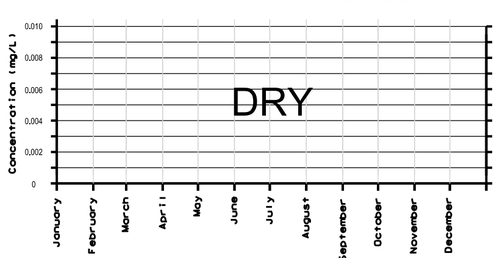












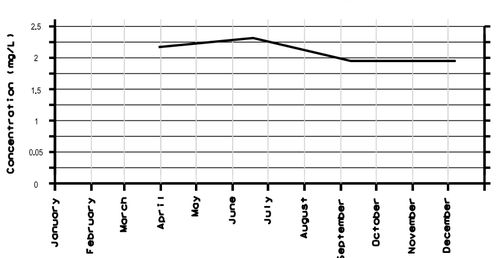


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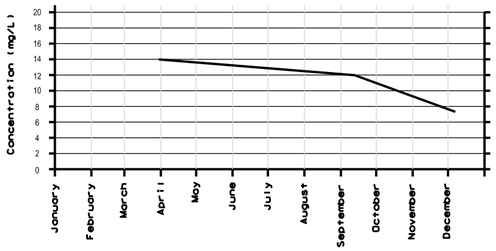
Figure 16.3
2017 WELL GROUP C CONSTITUENTS
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

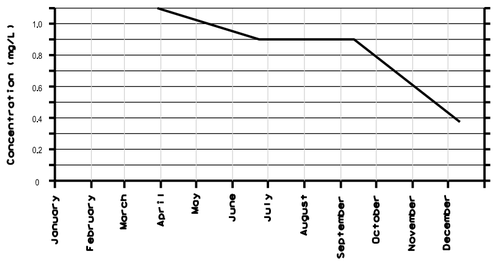
Date: November 15, 2018

Well ID: OW-55

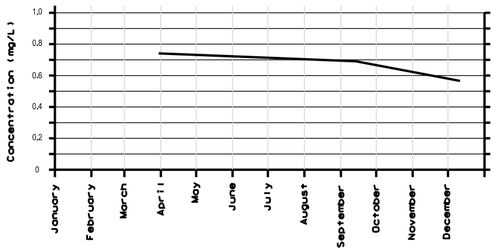
Year: 2017 Constituent: Benzene



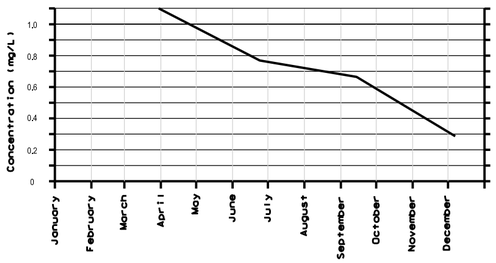
Year: 2017 Constituent: Toluene



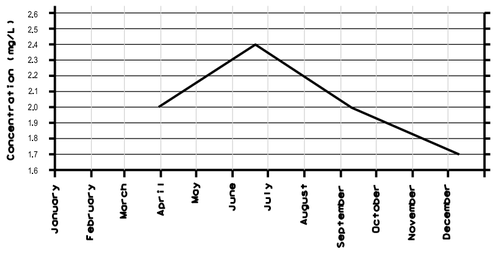
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

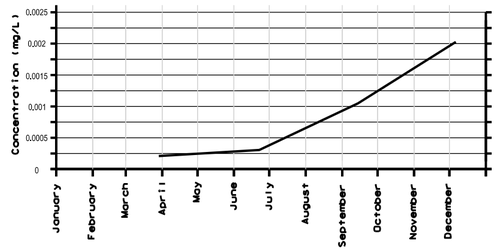


Year: 2017 Constituent: MTBE

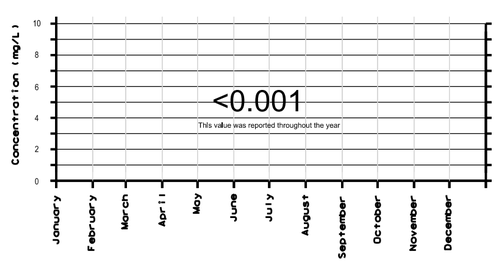


Well ID: OW-56

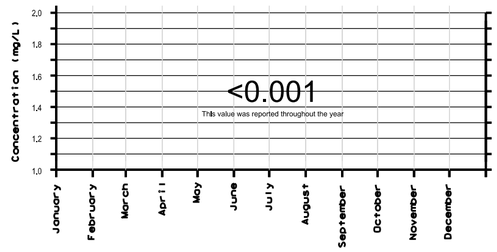
Year: 2017 Constituent: Benzene



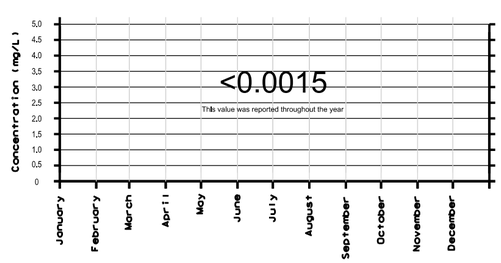
Year: 2017 Constituent: Toluene



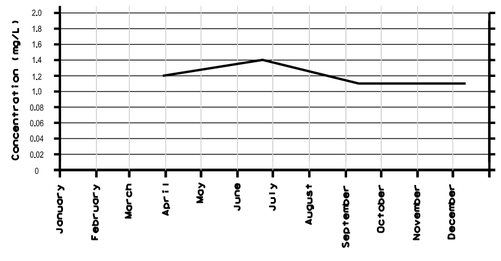
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

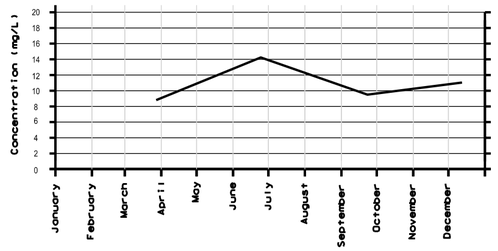


Year: 2017 Constituent: MTBE

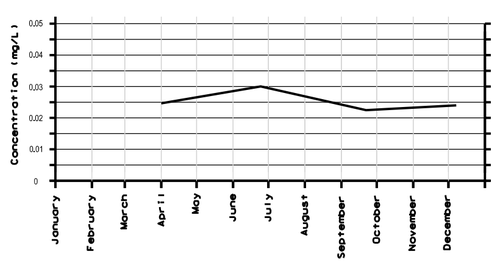


Well ID: OW-57

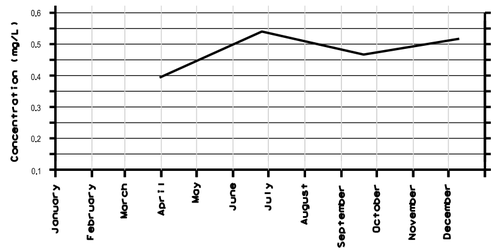
Year: 2017 Constituent: Benzene



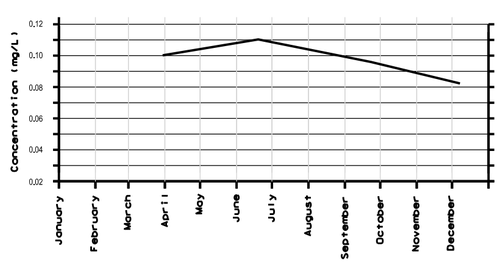
Year: 2017 Constituent: Toluene



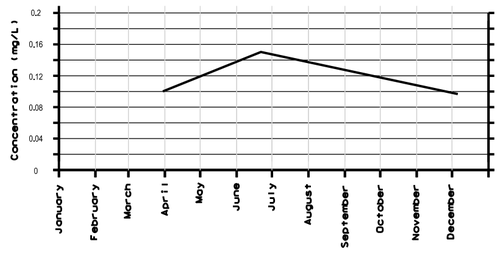
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

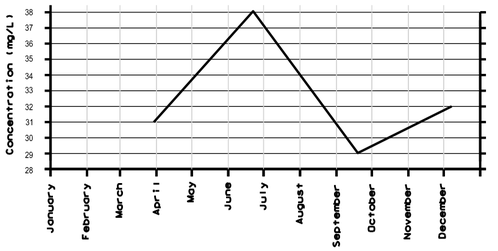


Year: 2017 Constituent: MTBE

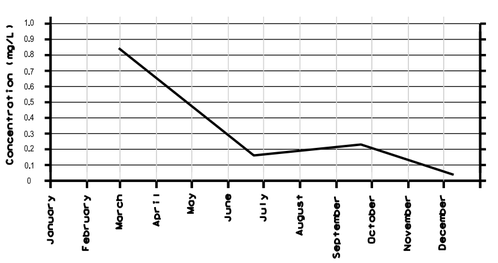


Well ID: OW-58

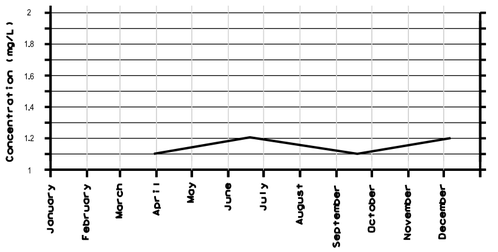
Year: 2017 Constituent: Benzene



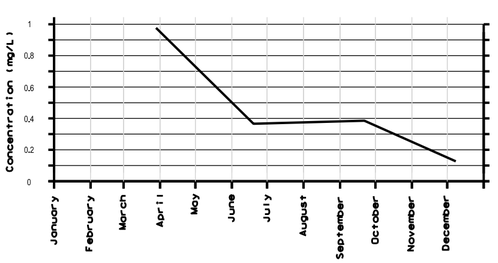
Year: 2017 Constituent: Toluene



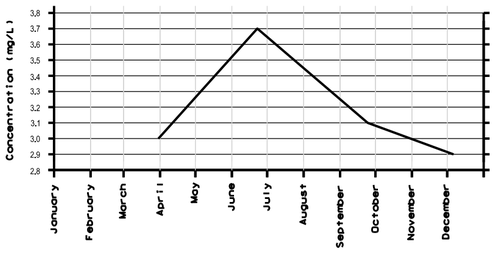
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes



Year: 2017 Constituent: MTBE



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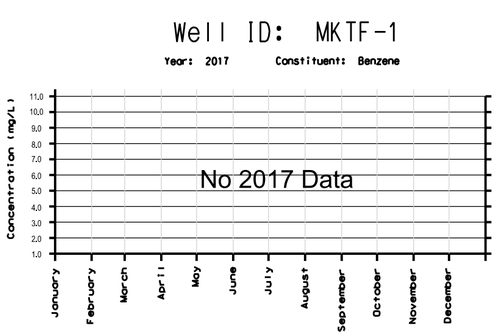
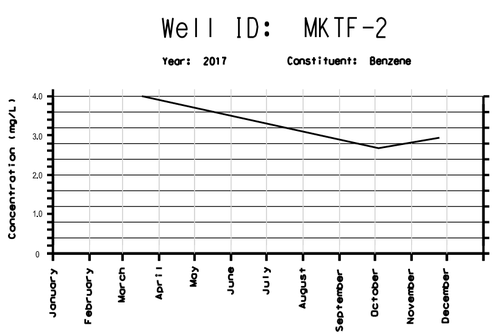
Project #: 06251565

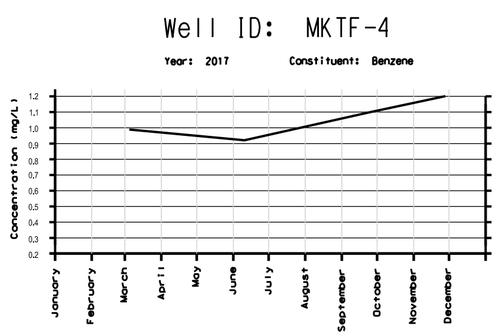
Figure 16.4
2017 WELL GROUP C CONSTITUENTS
MARATHON - GALLUP REFINERY

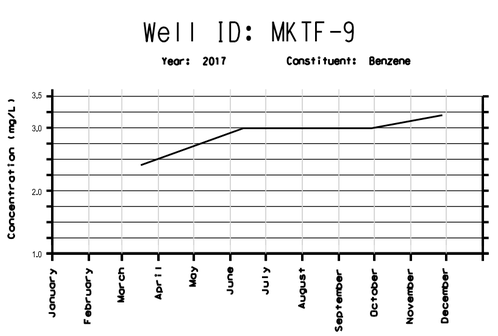
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

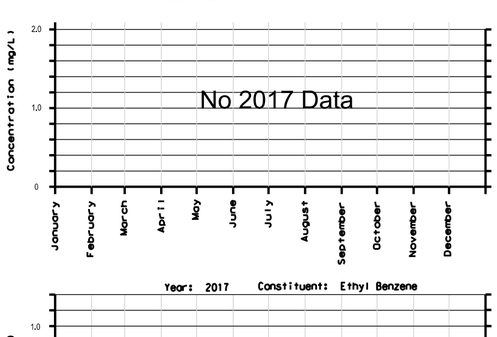
Date: November 15, 2018

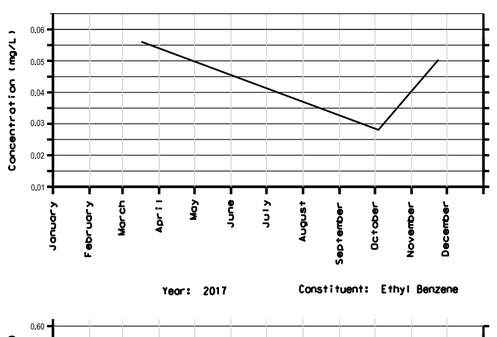


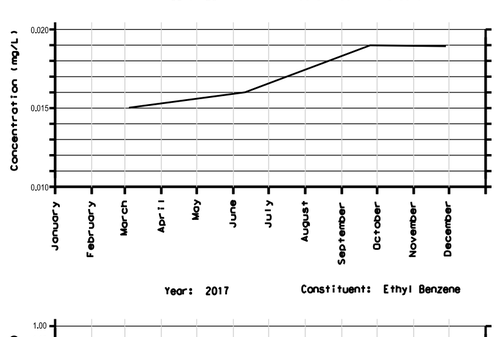


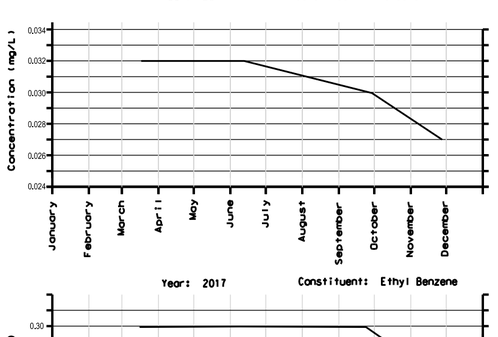


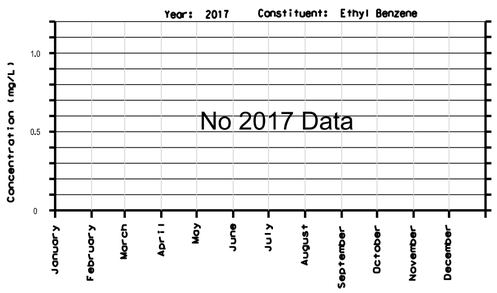


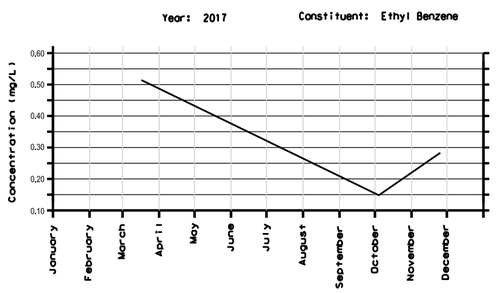


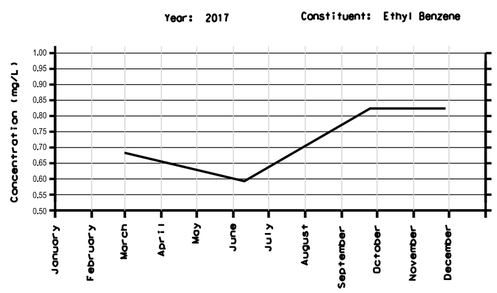


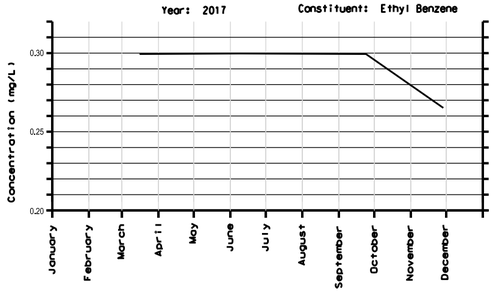


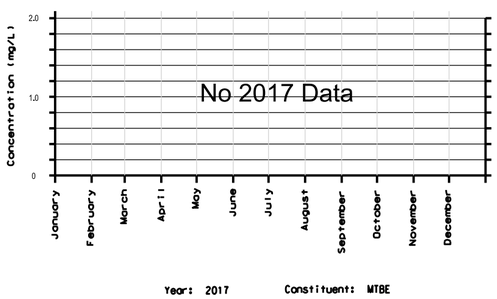


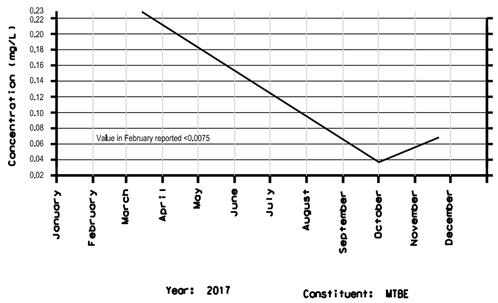


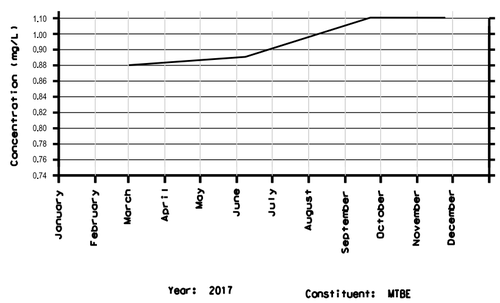


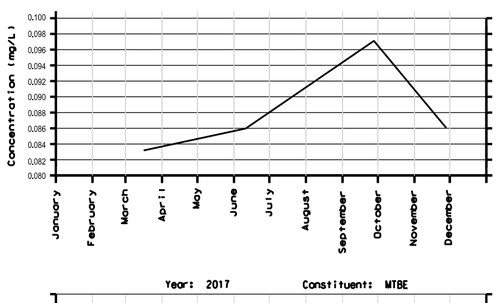


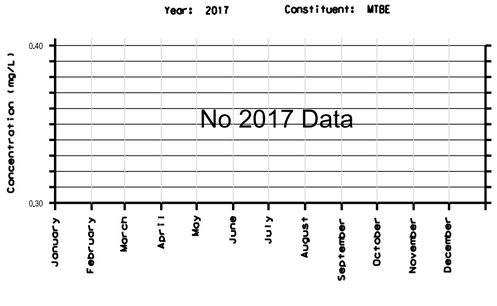


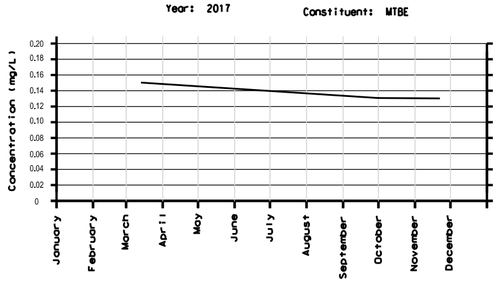


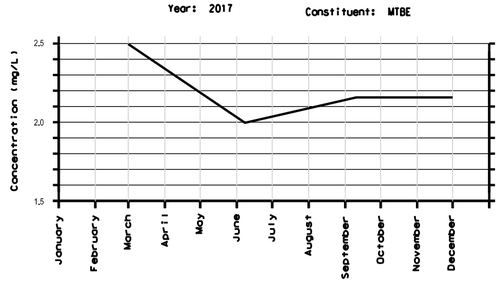


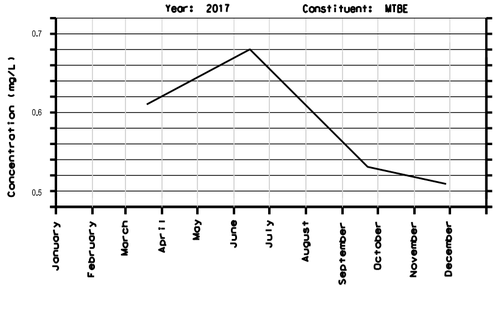












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Project #: 06251565

Figure 17.1
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

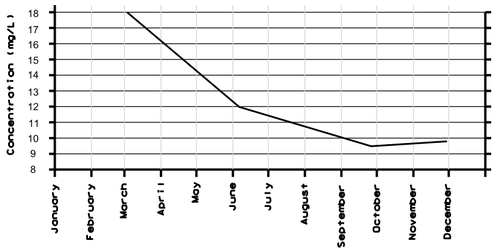
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2017

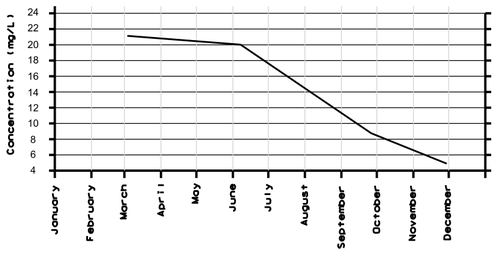
Well ID: MKTF-13 See Figure 17.10

Well ID: MKTF-10

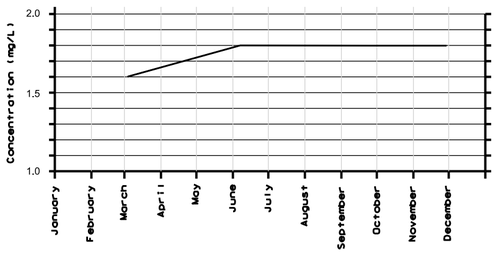
Year: 2017 Constituent: Benzene



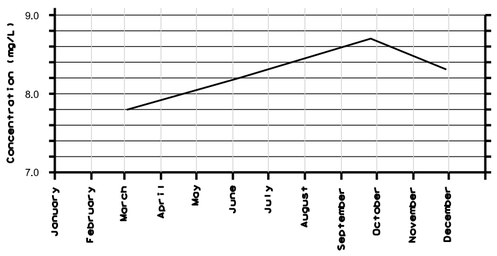
Year: 2017 Constituent: Toluene



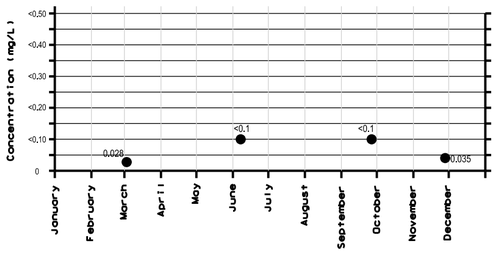
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

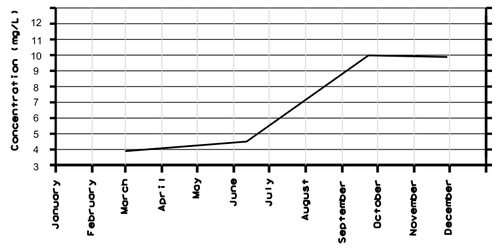


Year: 2017 Constituent: MTBE

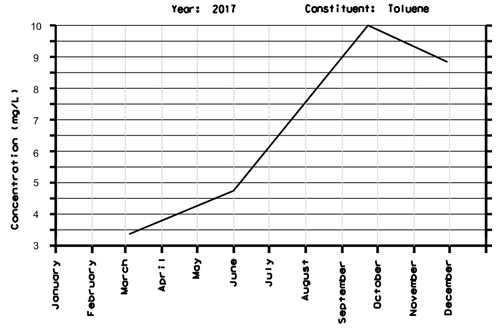


Well ID: MKTF-11

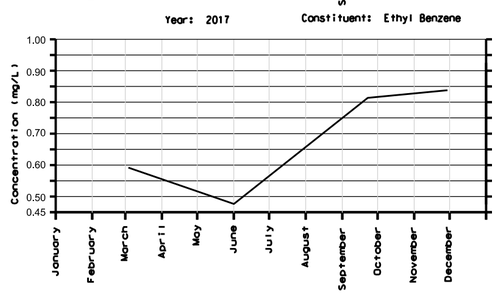
Year: 2017 Constituent: Benzene



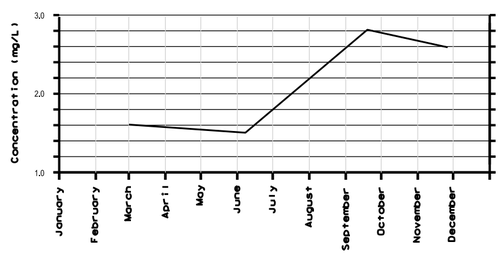
Year: 2017 Constituent: Toluene



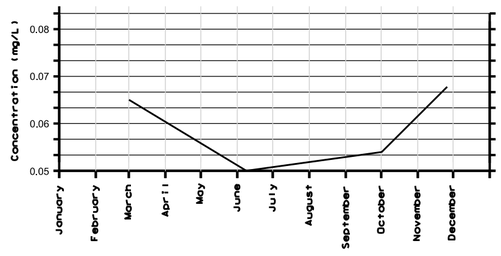
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

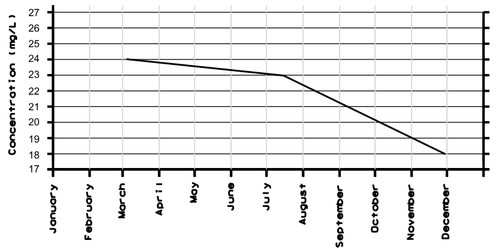


Year: 2017 Constituent: MTBE

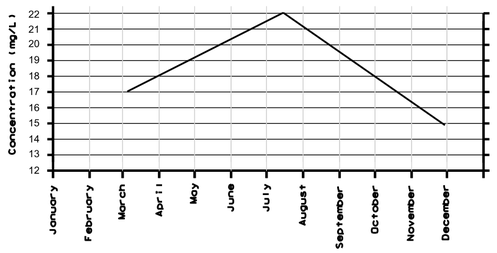


Well ID: MKTF-15

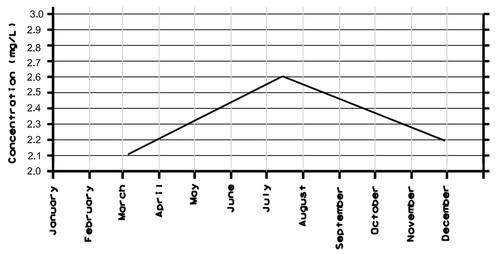
Year: 2017 Constituent: Benzene



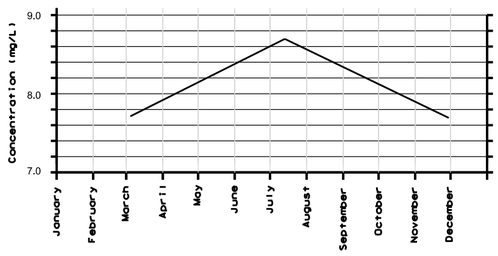
Year: 2017 Constituent: Toluene



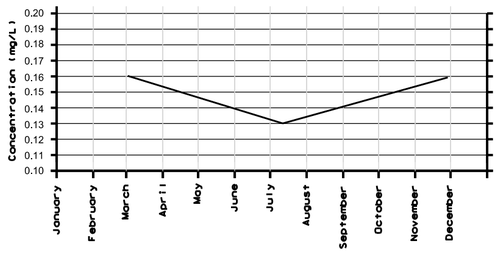
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

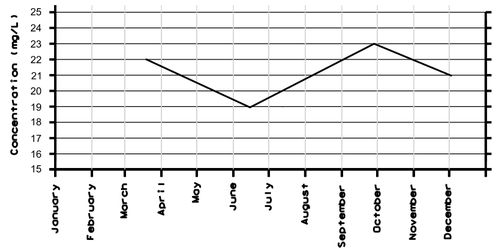


Year: 2017 Constituent: MTBE



Well ID: MKTF-16

Year: 2017 Constituent: Benzene



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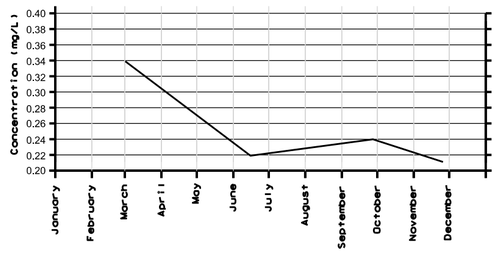

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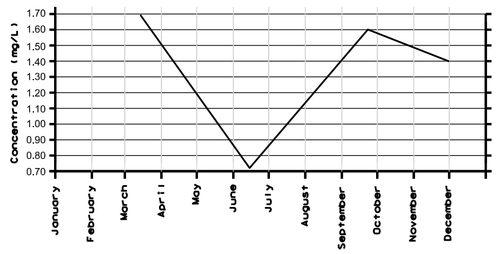

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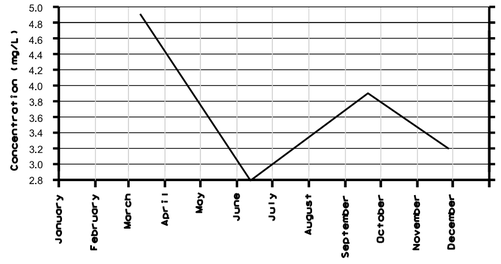

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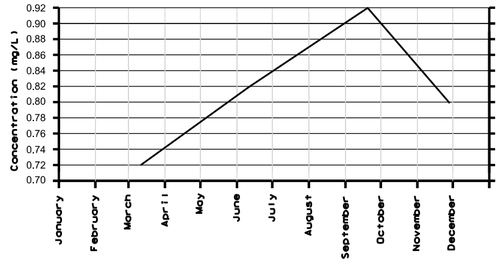

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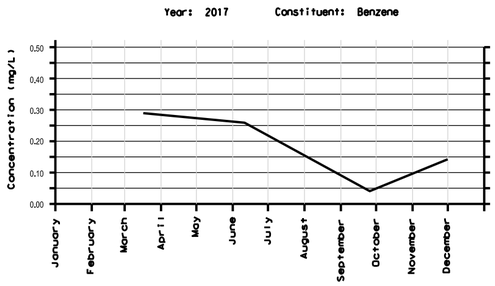
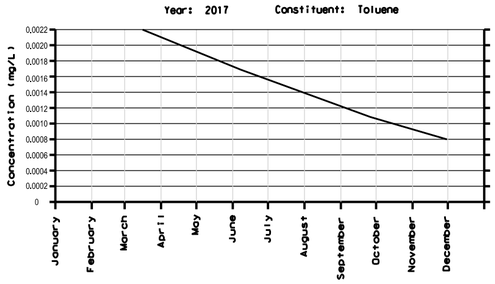
Figure 17.2
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

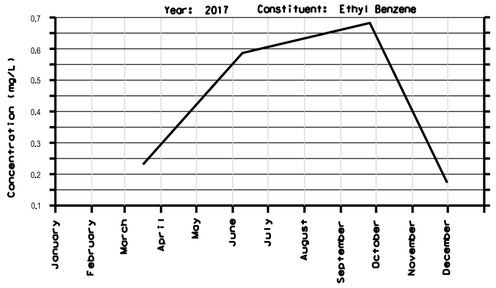
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

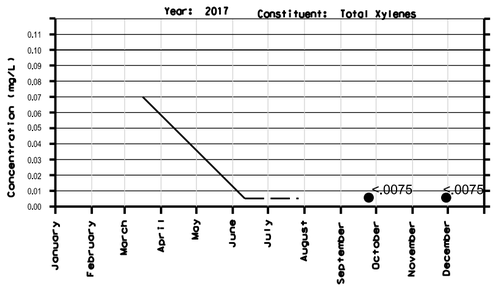
Date: November 15, 2017

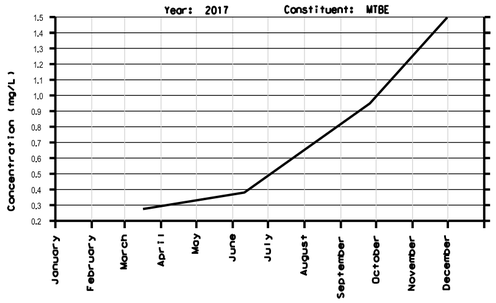
Well ID: MKTF-17











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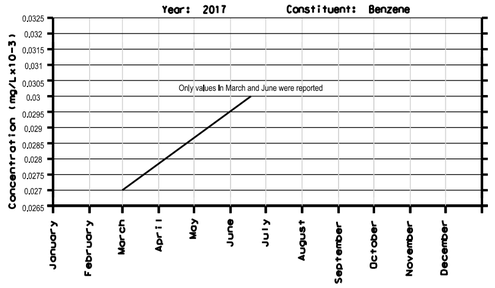

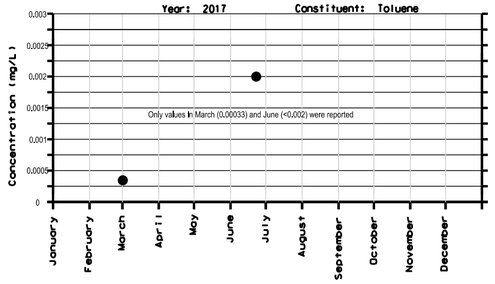

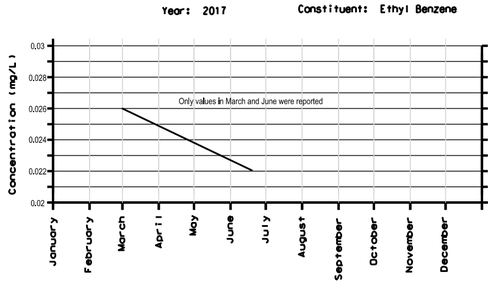

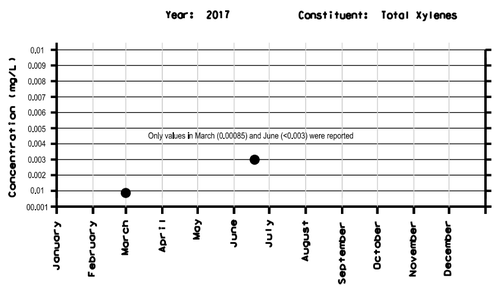

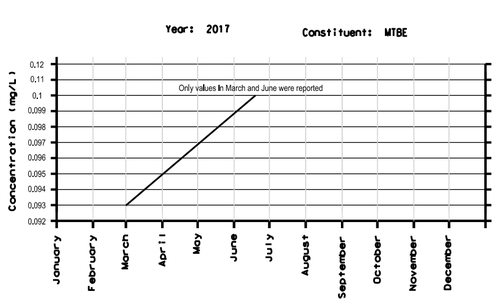

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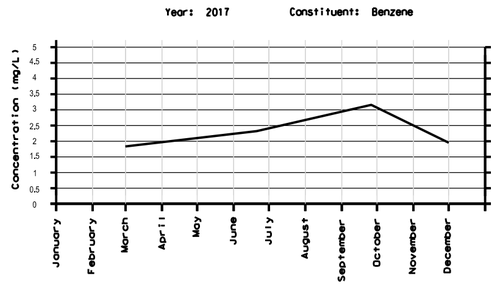

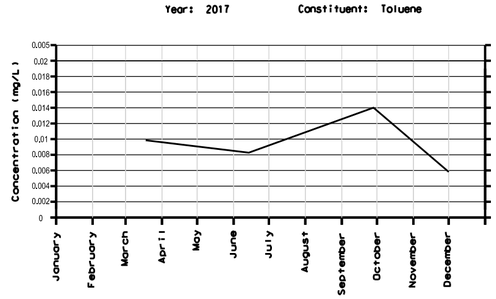

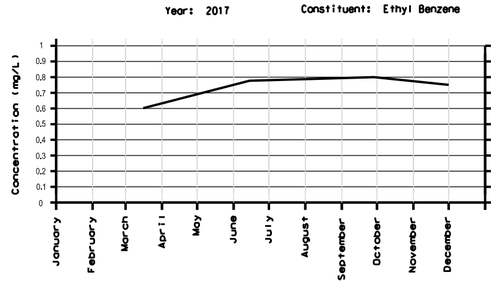

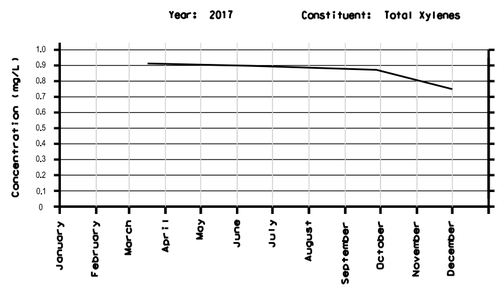

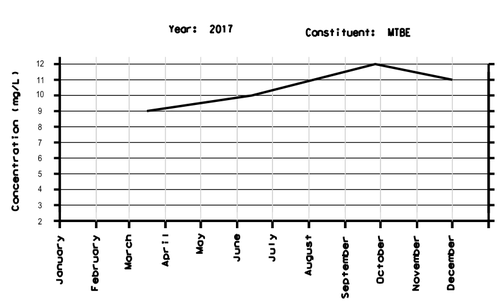

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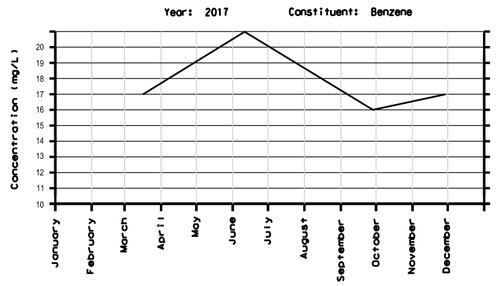

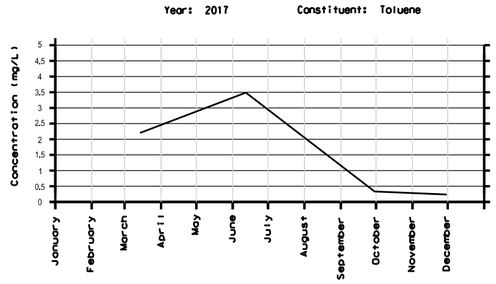

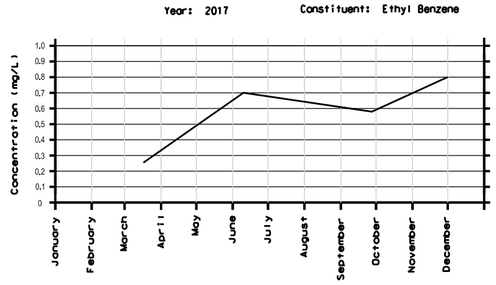

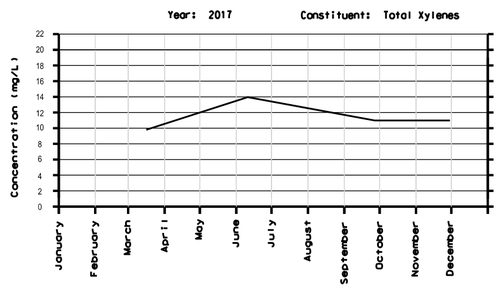

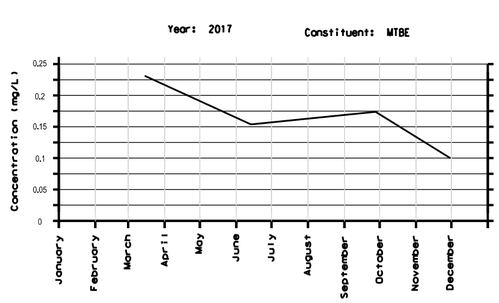

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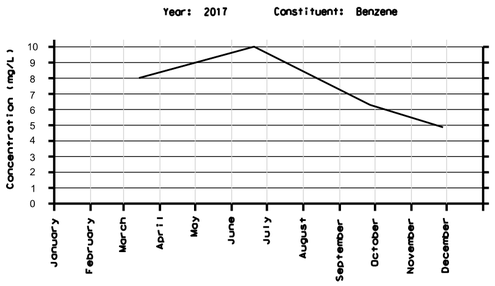
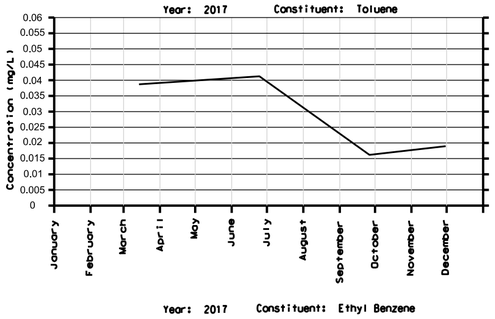
FIGURE 17.3
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

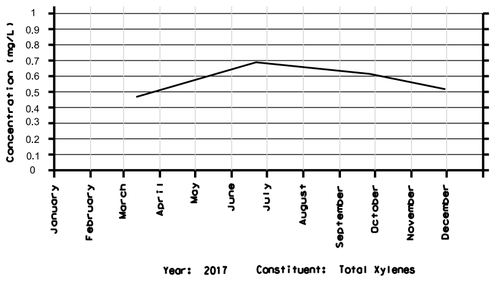
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

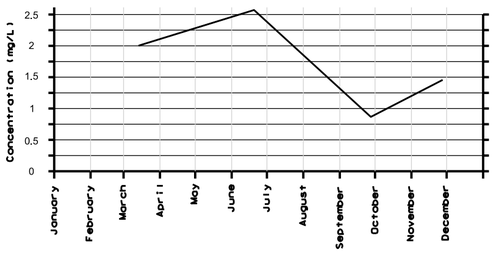
Date: November 15, 2017

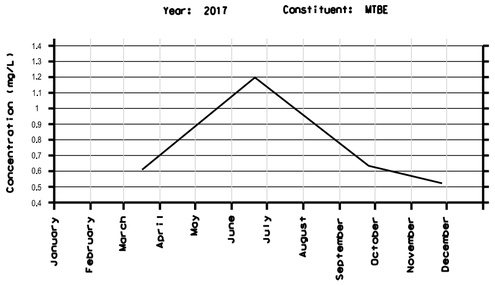
Well ID: MKTF-21











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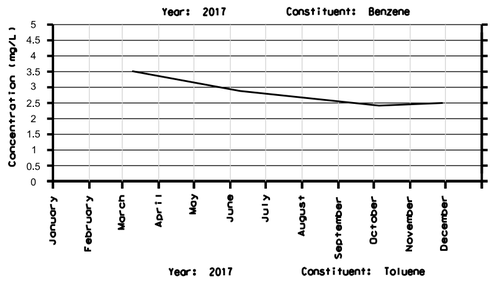

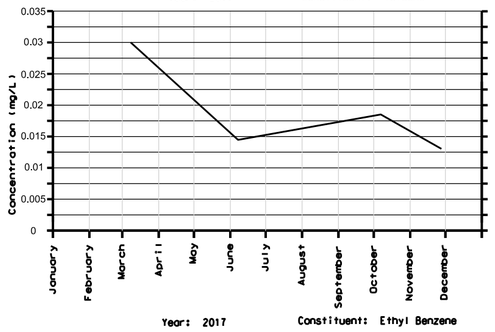

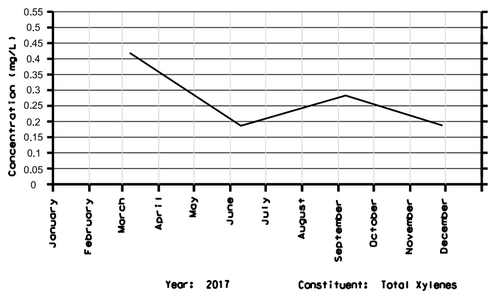

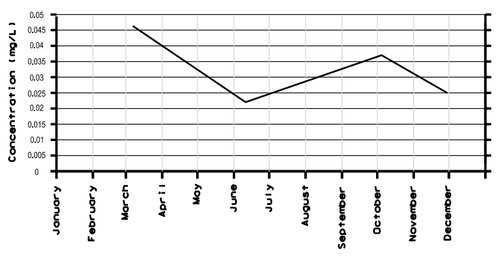

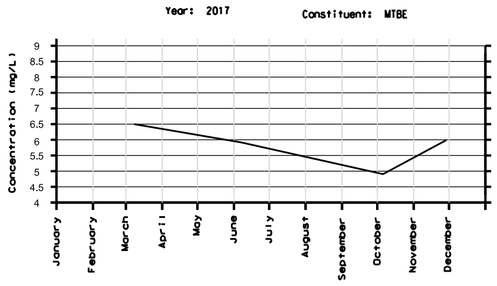

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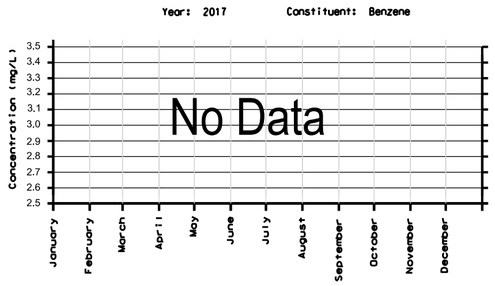

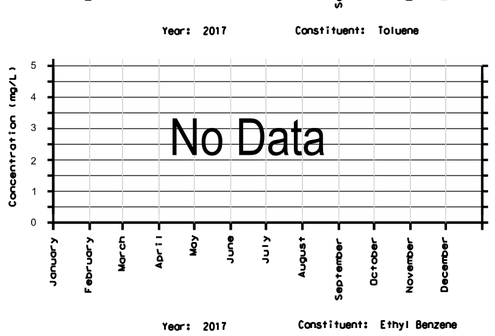

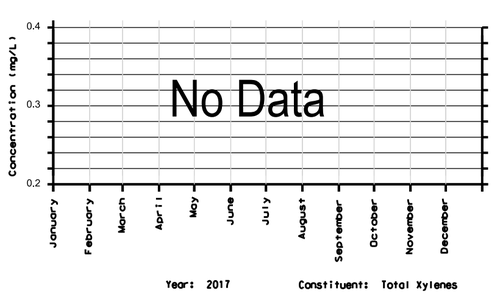

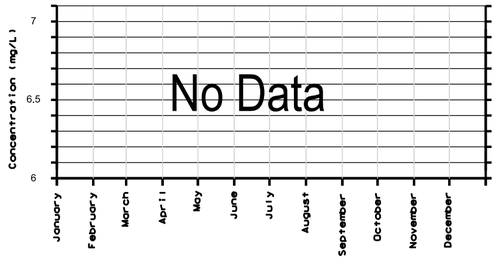

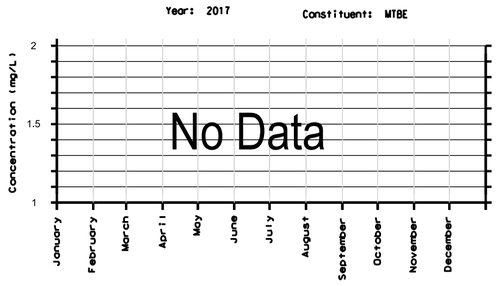

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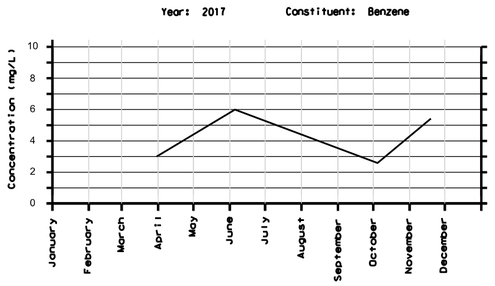

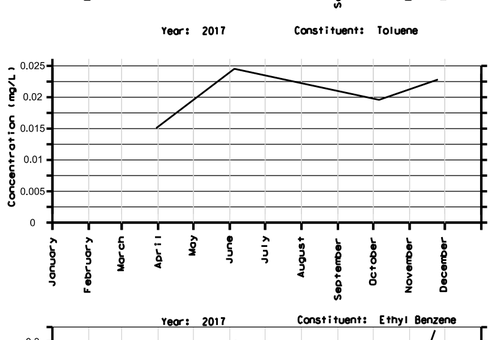

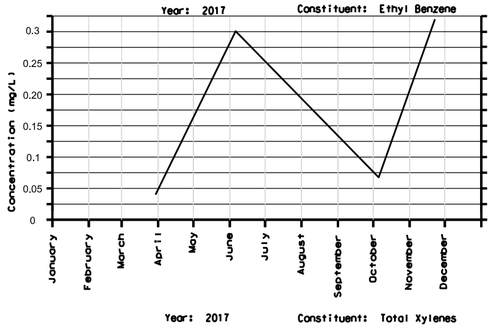

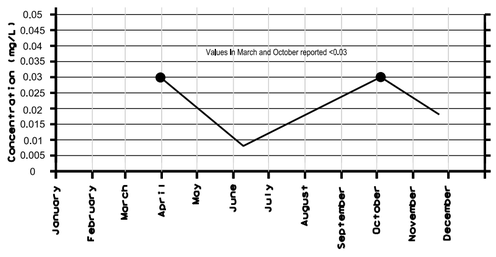

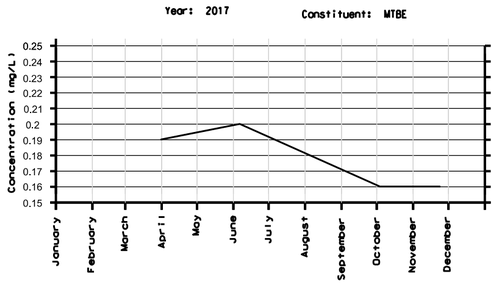

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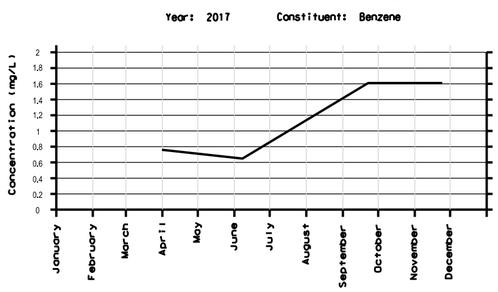
Project #: 06251565

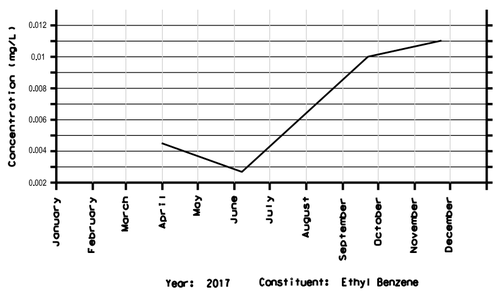
FIGURE 17.4
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

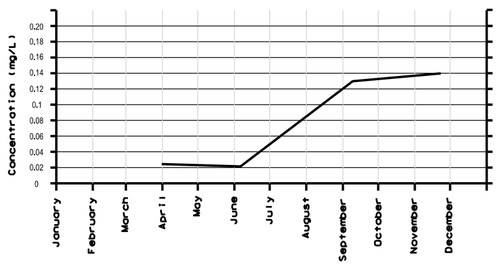
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

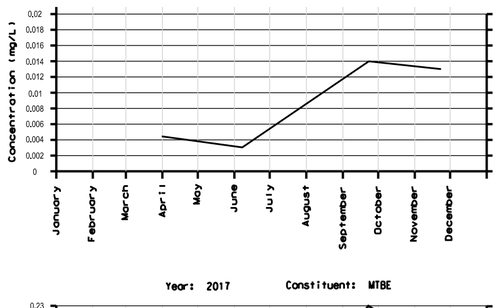
Date: November 15, 2017

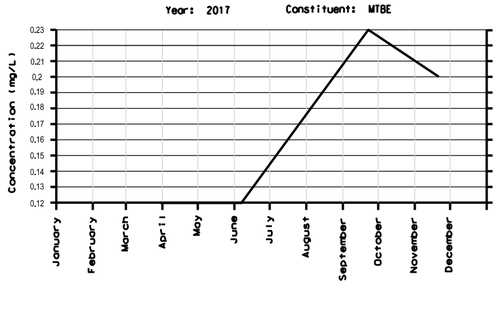
Well ID: MKTF-25











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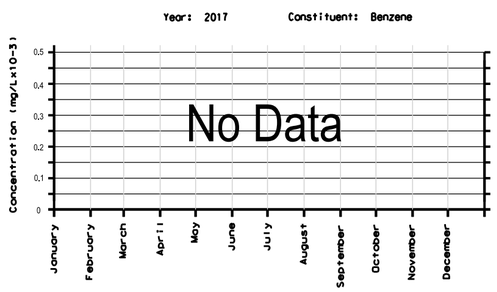
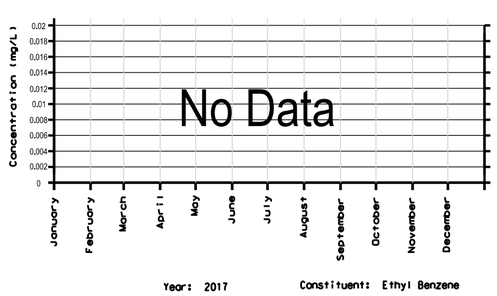
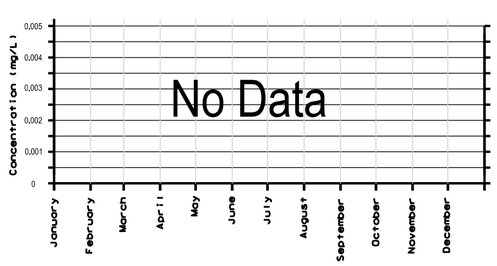
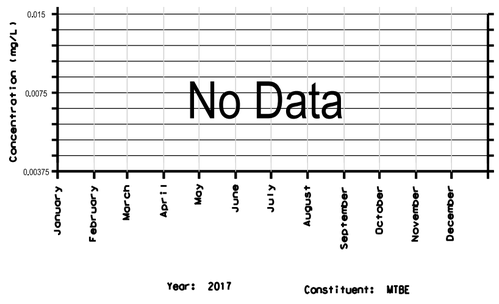
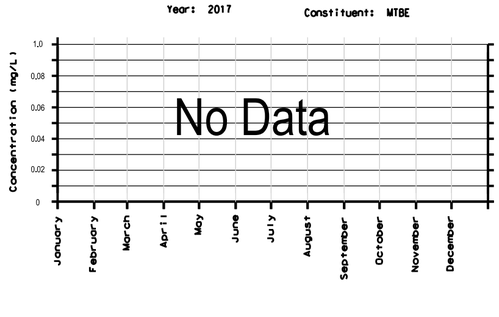


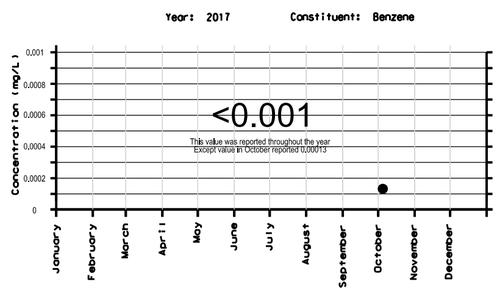


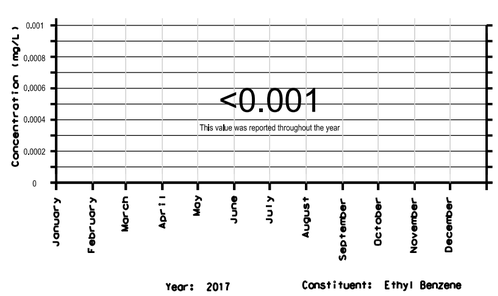


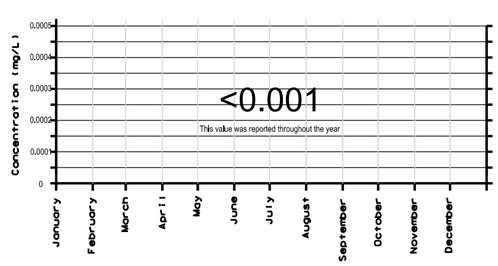


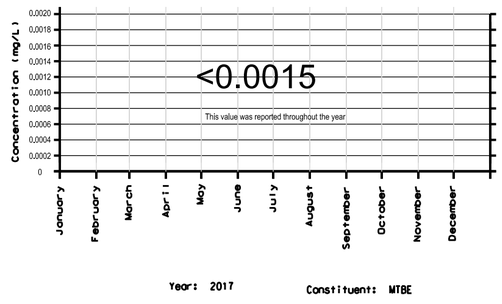


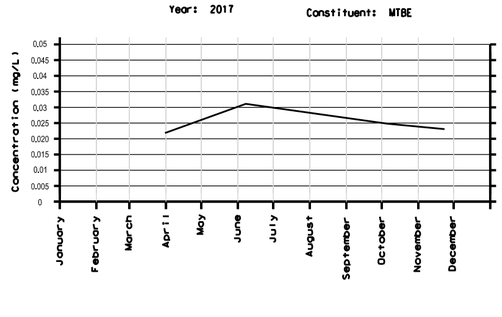
Well ID: MKTF-27











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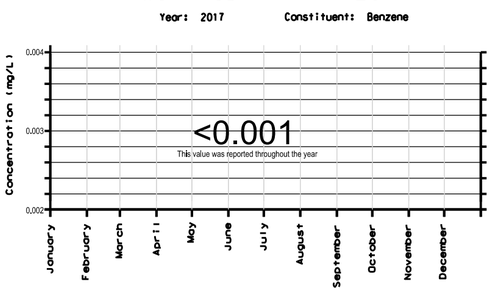

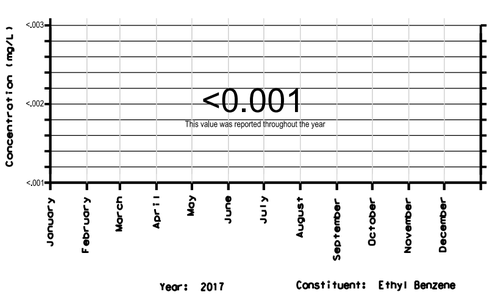

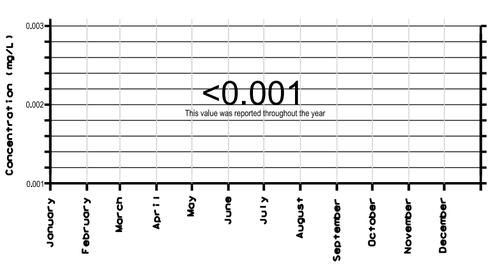

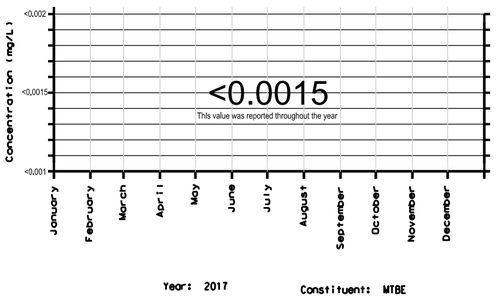

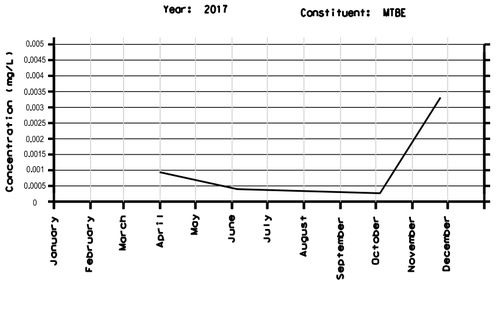

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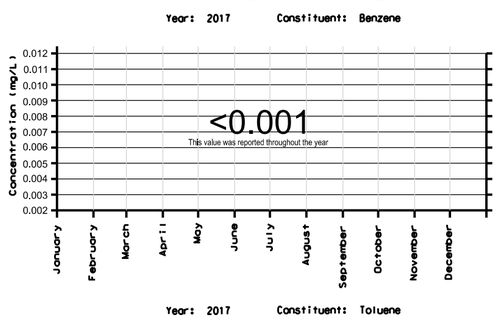
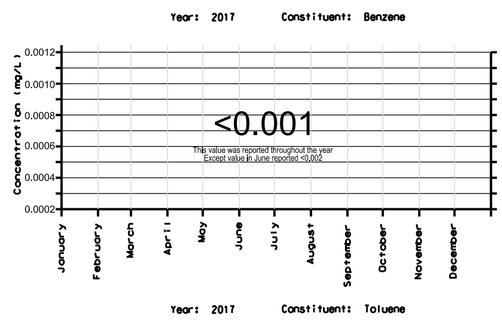
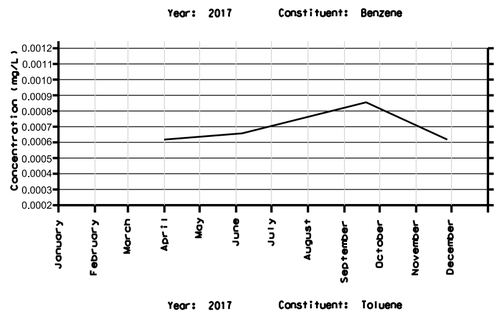
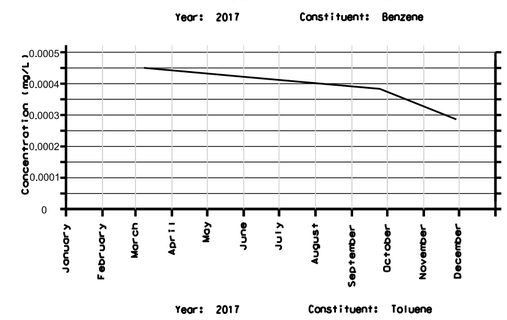
FIGURE 17.5
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

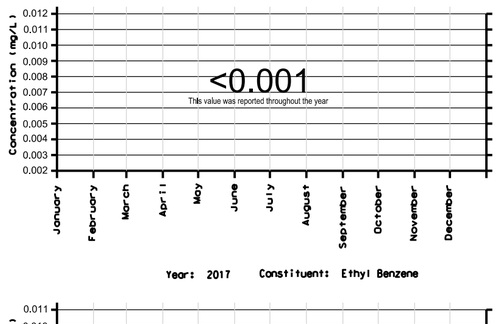
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301
Date: November 15, 2017

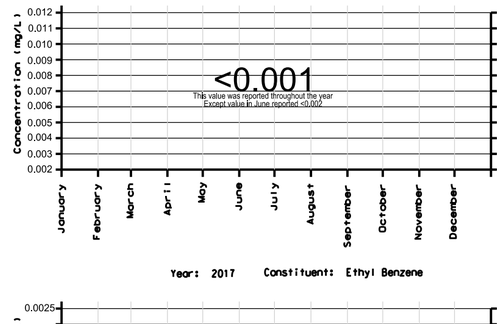


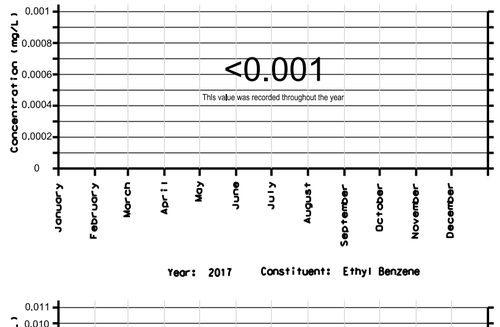


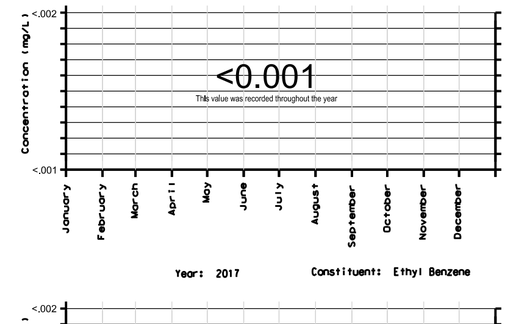


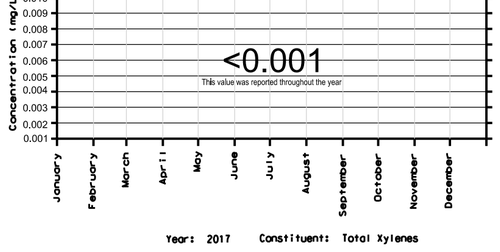


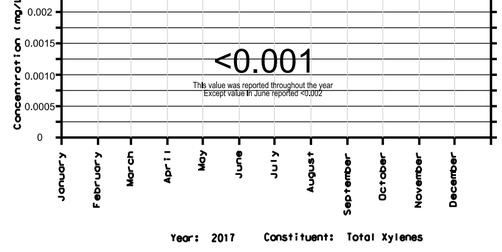


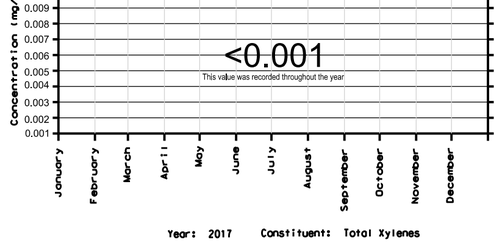


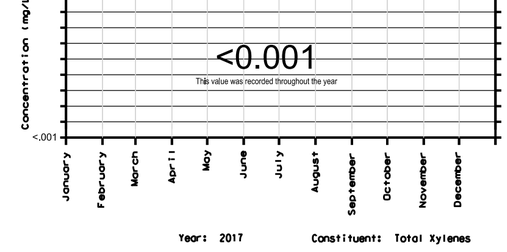


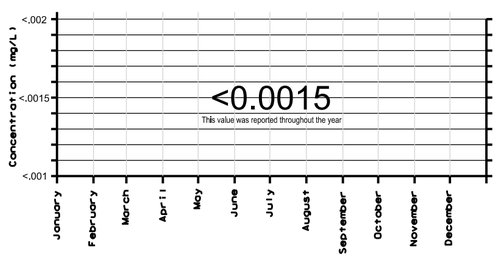


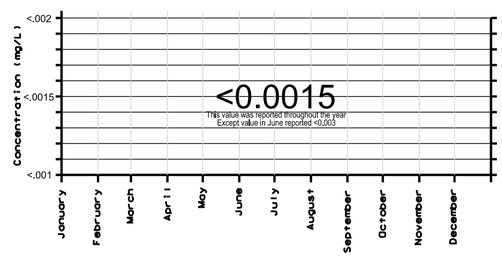


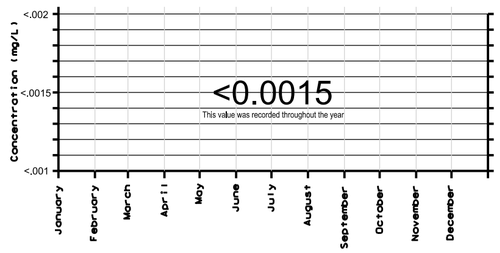


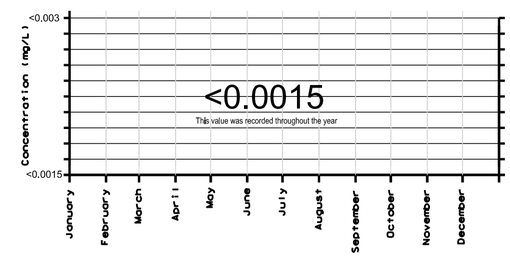


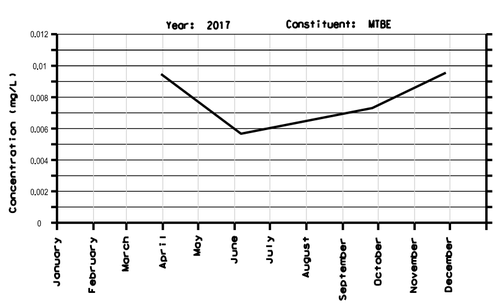


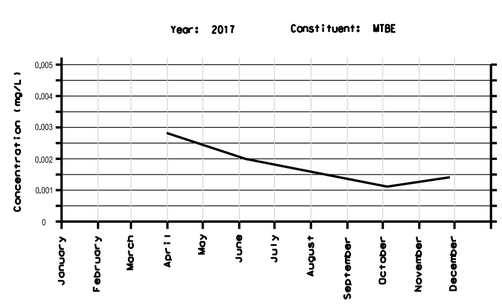


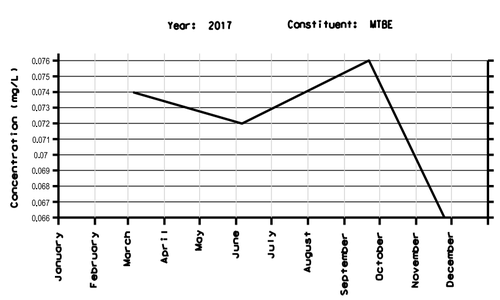












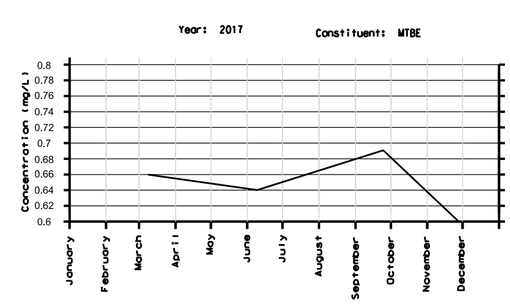


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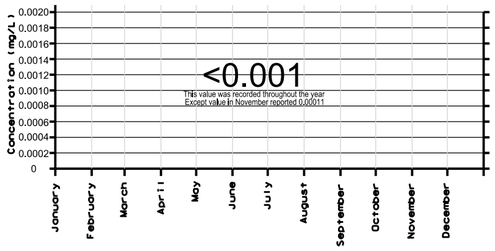
FIGURE 17.6
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

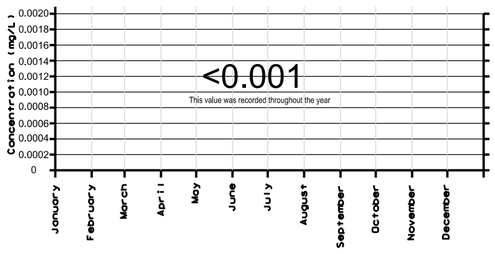
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301
Date: November 15, 2017

Well ID: MKTF-33

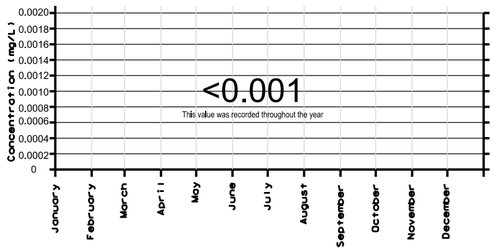
Year: 2017 Constituent: Benzene



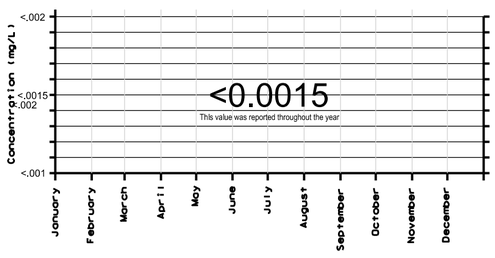
Year: 2017 Constituent: Toluene



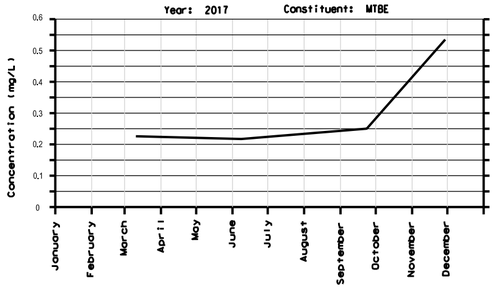
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

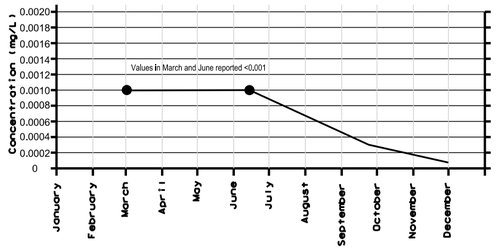


Year: 2017 Constituent: MTBE

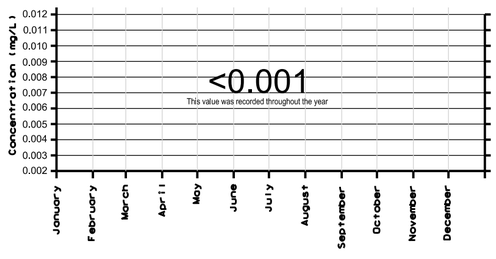


Well ID: MKTF-34

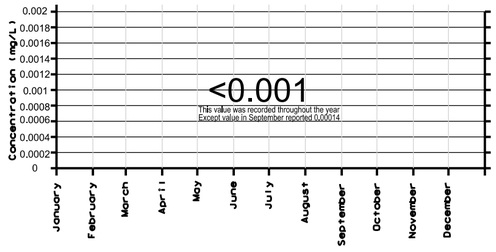
Year: 2017 Constituent: Benzene



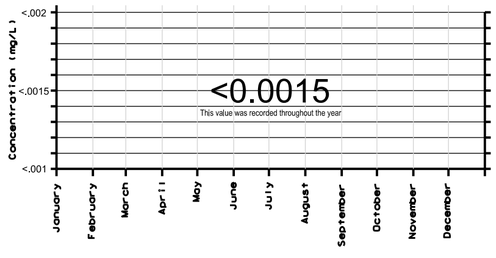
Year: 2017 Constituent: Toluene



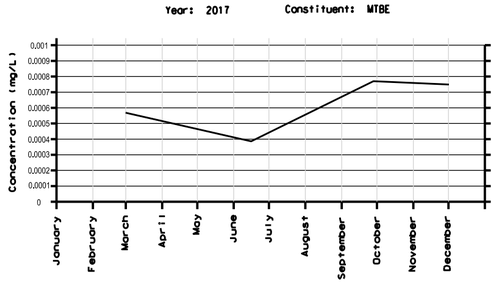
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

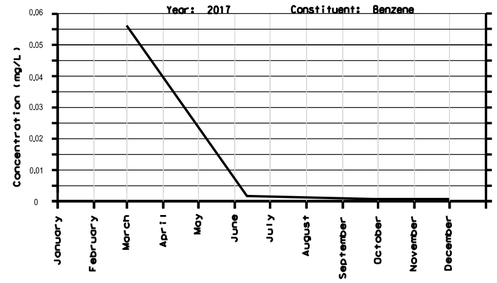


Year: 2017 Constituent: MTBE

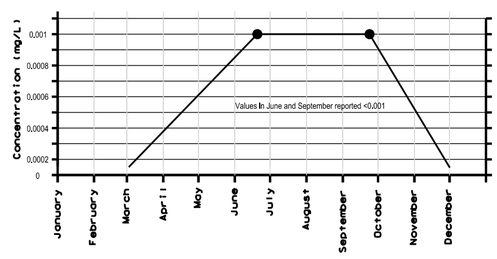


Well ID: MKTF-35

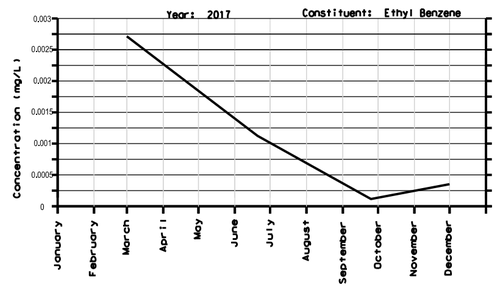
Year: 2017 Constituent: Benzene



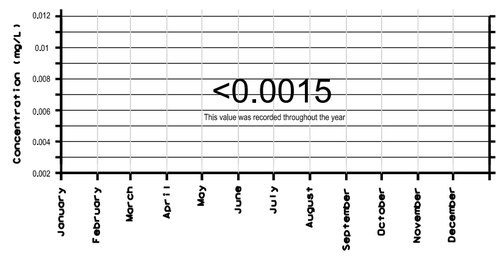
Year: 2017 Constituent: Toluene



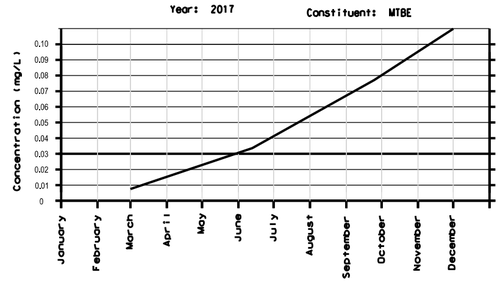
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

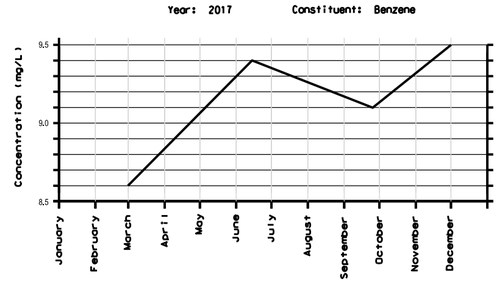


Year: 2017 Constituent: MTBE

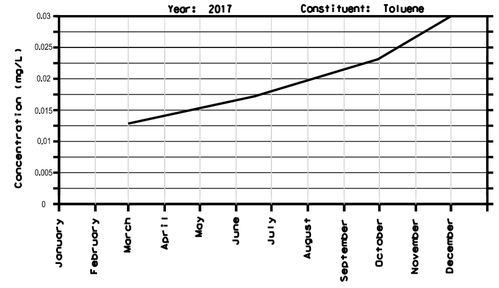


Well ID: MKTF-36

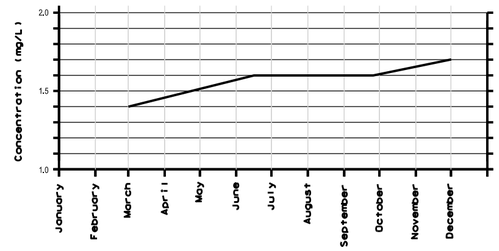
Year: 2017 Constituent: Benzene



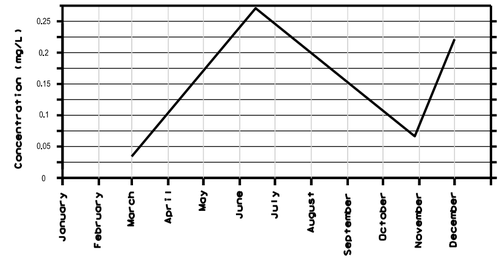
Year: 2017 Constituent: Toluene



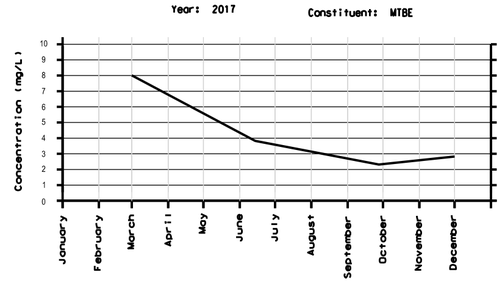
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes



Year: 2017 Constituent: MTBE



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Project #: 06251565

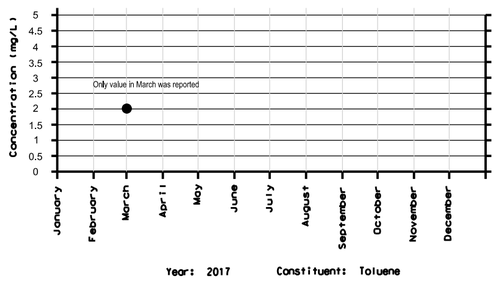
Figure 17.7
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

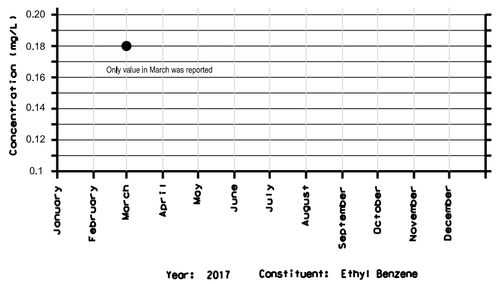
Date: November 15, 2017

Well ID: MKTF-37

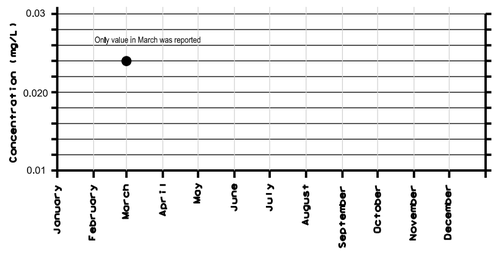
Year: 2017 Constituent: Benzene



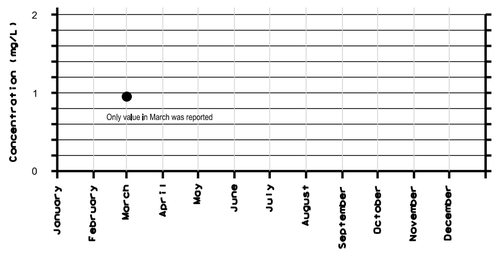
Year: 2017 Constituent: Toluene



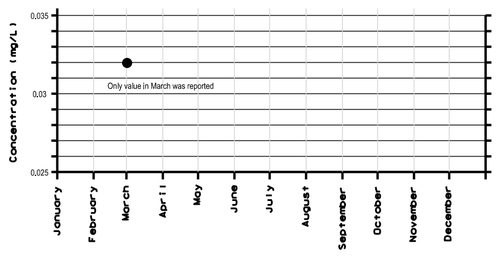
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

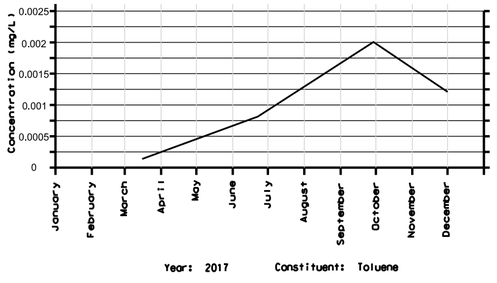


Year: 2017 Constituent: MTBE

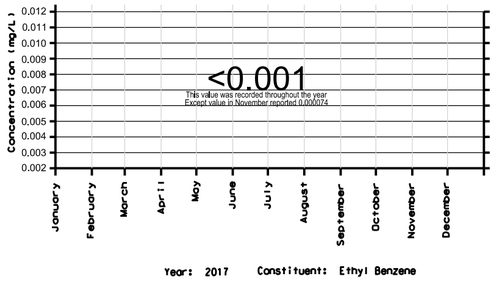


Well ID: MKTF-38

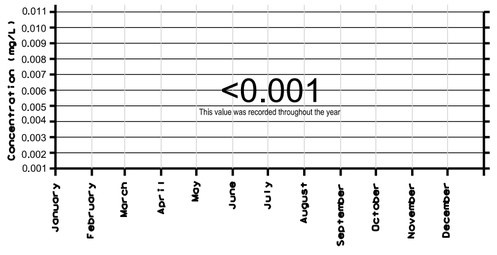
Year: 2017 Constituent: Benzene



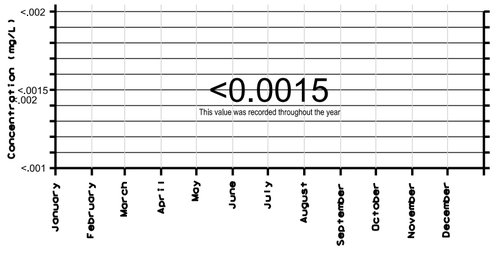
Year: 2017 Constituent: Toluene



Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes



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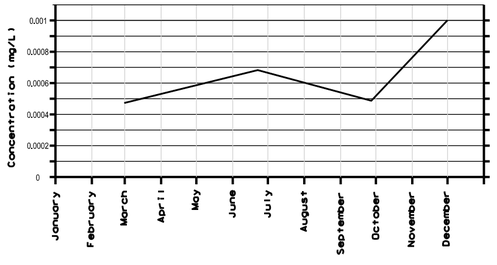
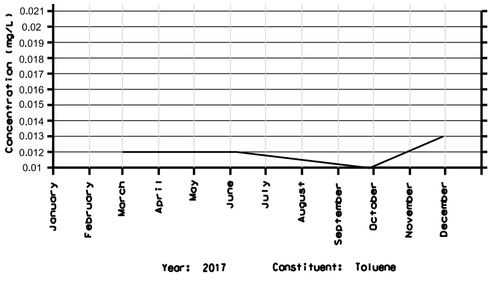
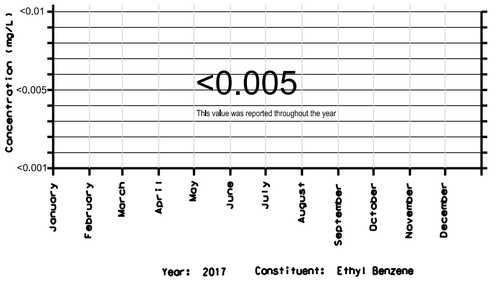


Well ID: MKTF-39

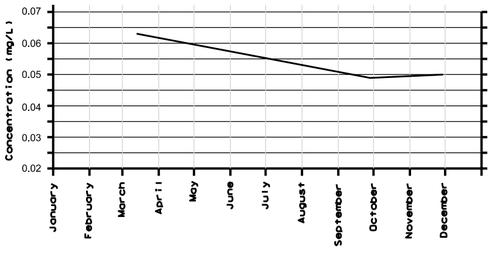
Year: 2017 Constituent: Benzene



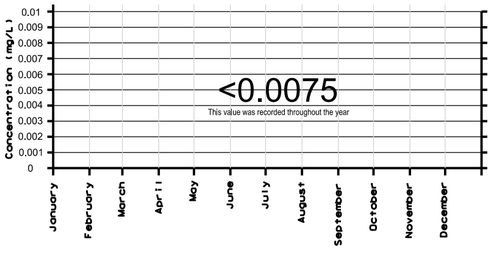
Year: 2017 Constituent: Toluene



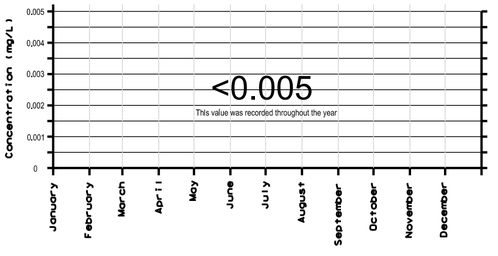
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes

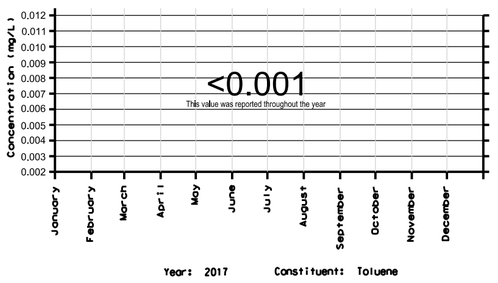


Year: 2017 Constituent: MTBE

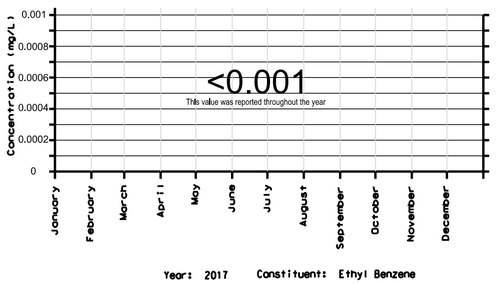


Well ID: MKTF-40

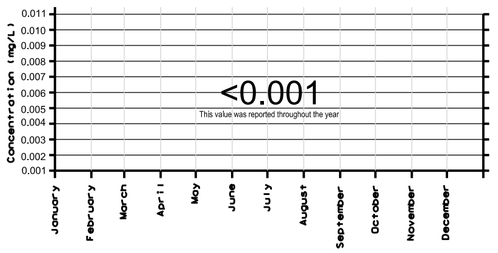
Year: 2017 Constituent: Benzene



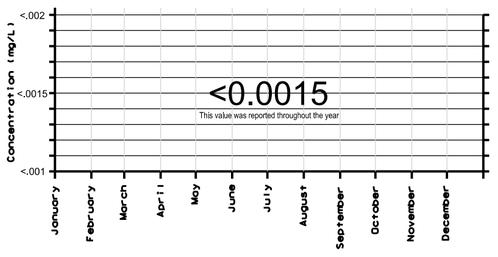
Year: 2017 Constituent: Toluene



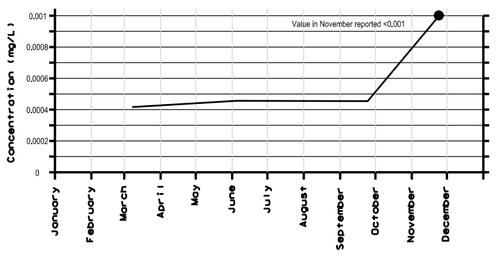
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes



Year: 2017 Constituent: MTBE



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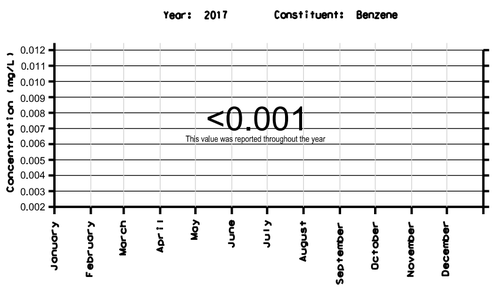
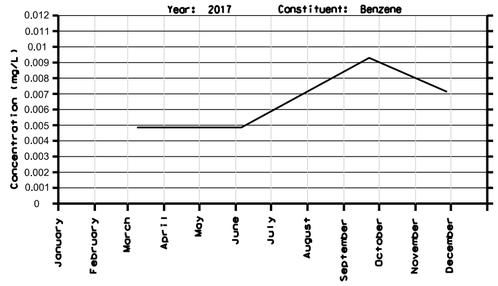
Project #: 06251565

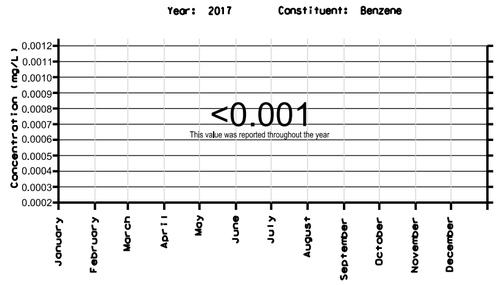
FIGURE 17.8
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

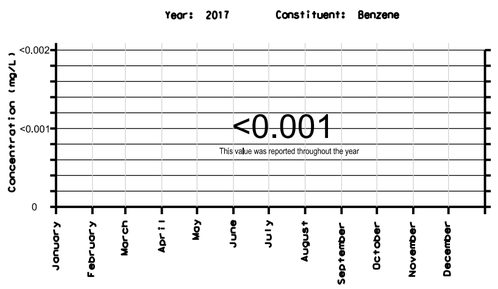
Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2017









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Project #: 06251565

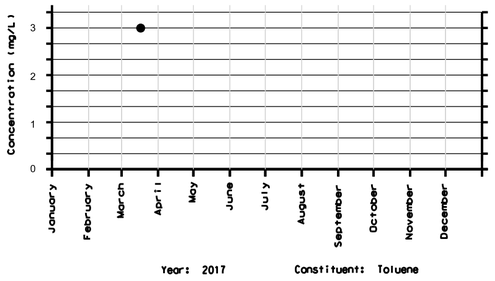
FIGURE 17.9
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

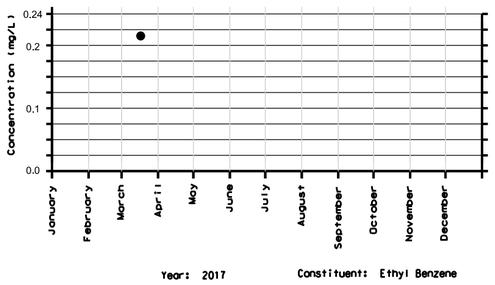
Date: November 15, 2017

Well ID: MKTF-13

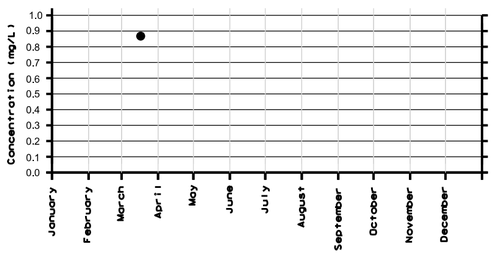
Year: 2017 Constituent: Benzene



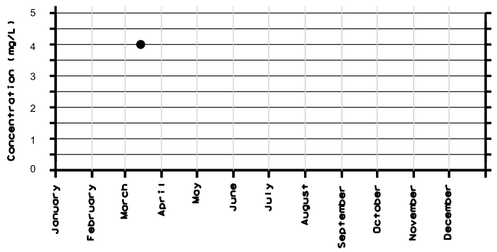
Year: 2017 Constituent: Toluene



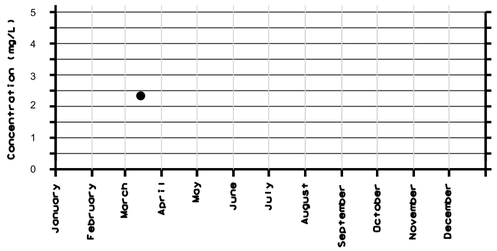
Year: 2017 Constituent: Ethyl Benzene



Year: 2017 Constituent: Total Xylenes



Year: 2017 Constituent: MTBE



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Project #: 06251565

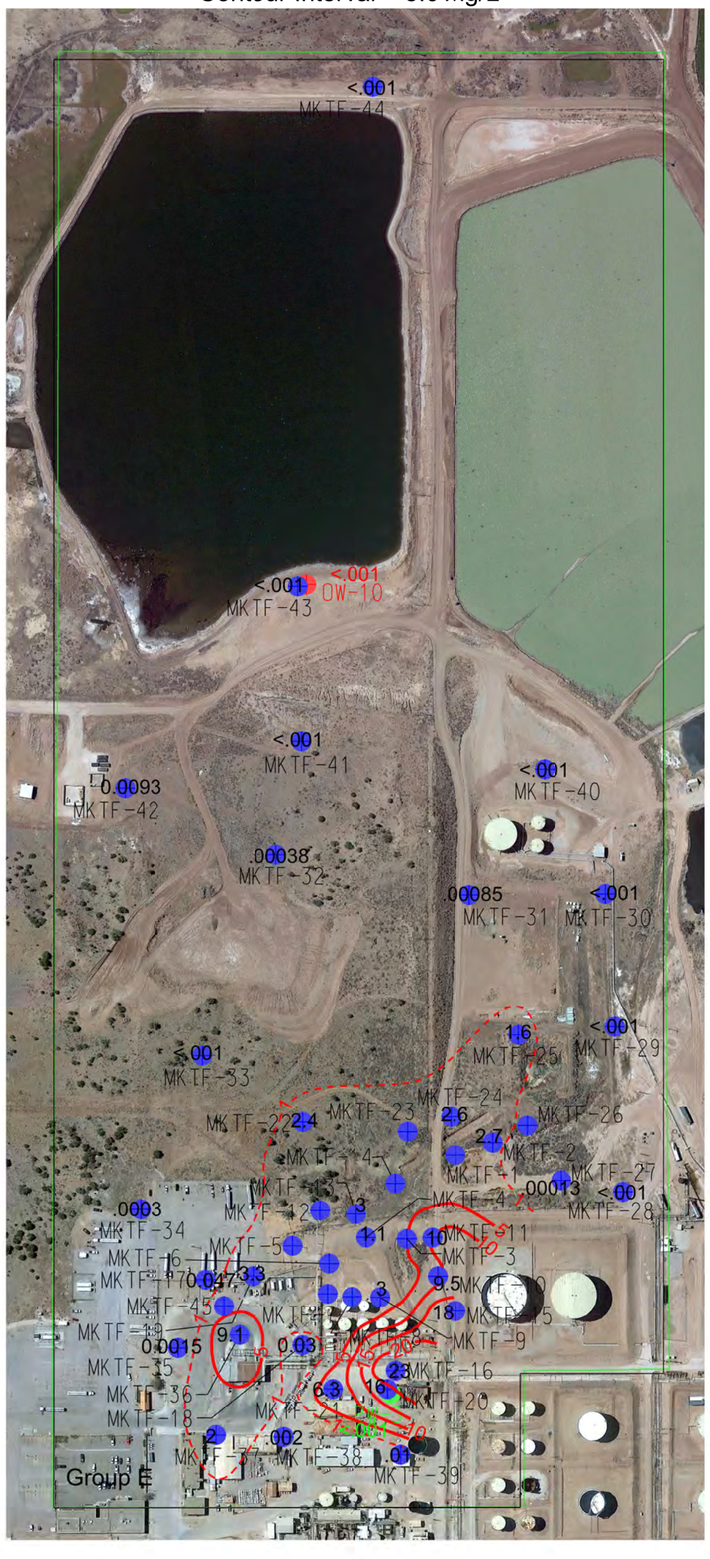
FIGURE 17.10
WELL GROUP E CONSTITUENTS 2017
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2017

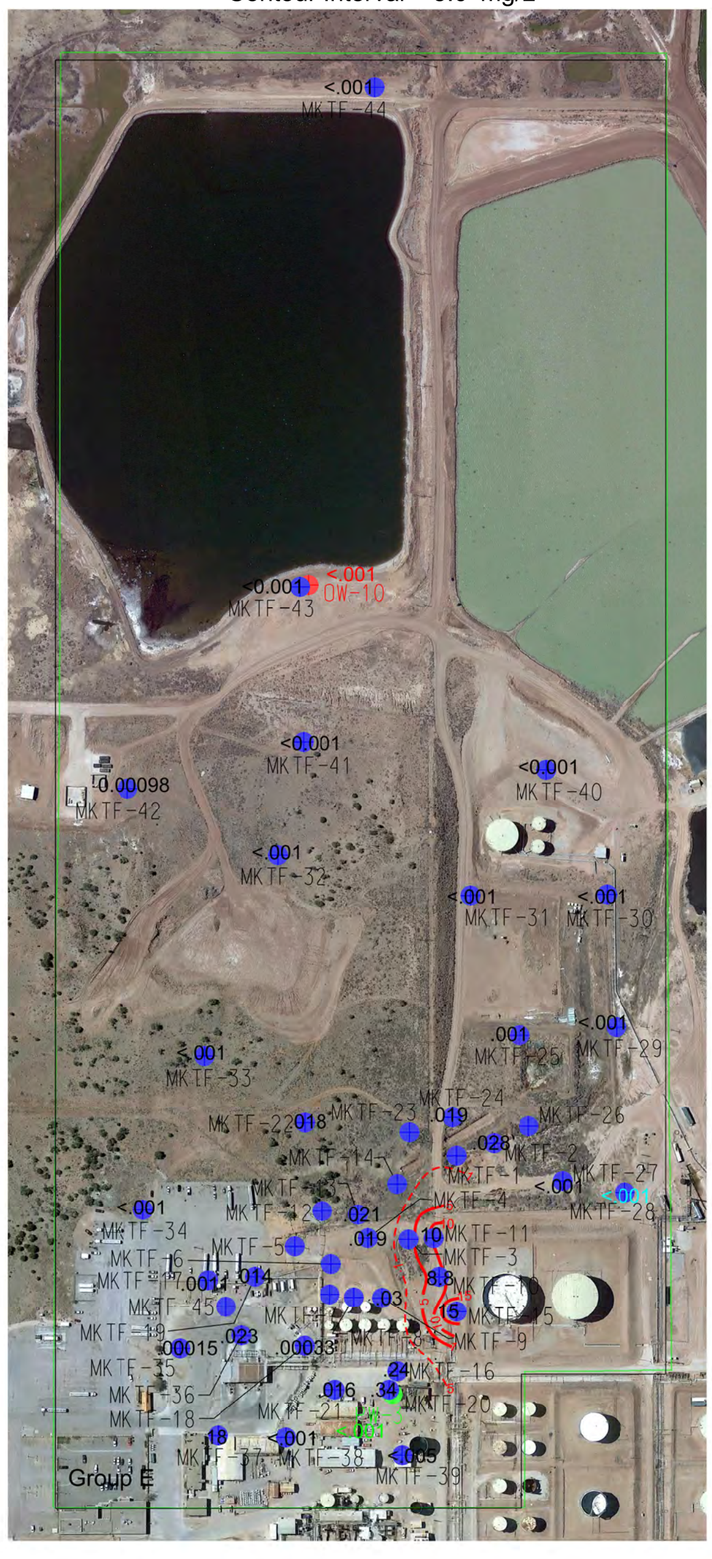
Benzene (September 2017)

Contour Interval = 5.0 mg/L



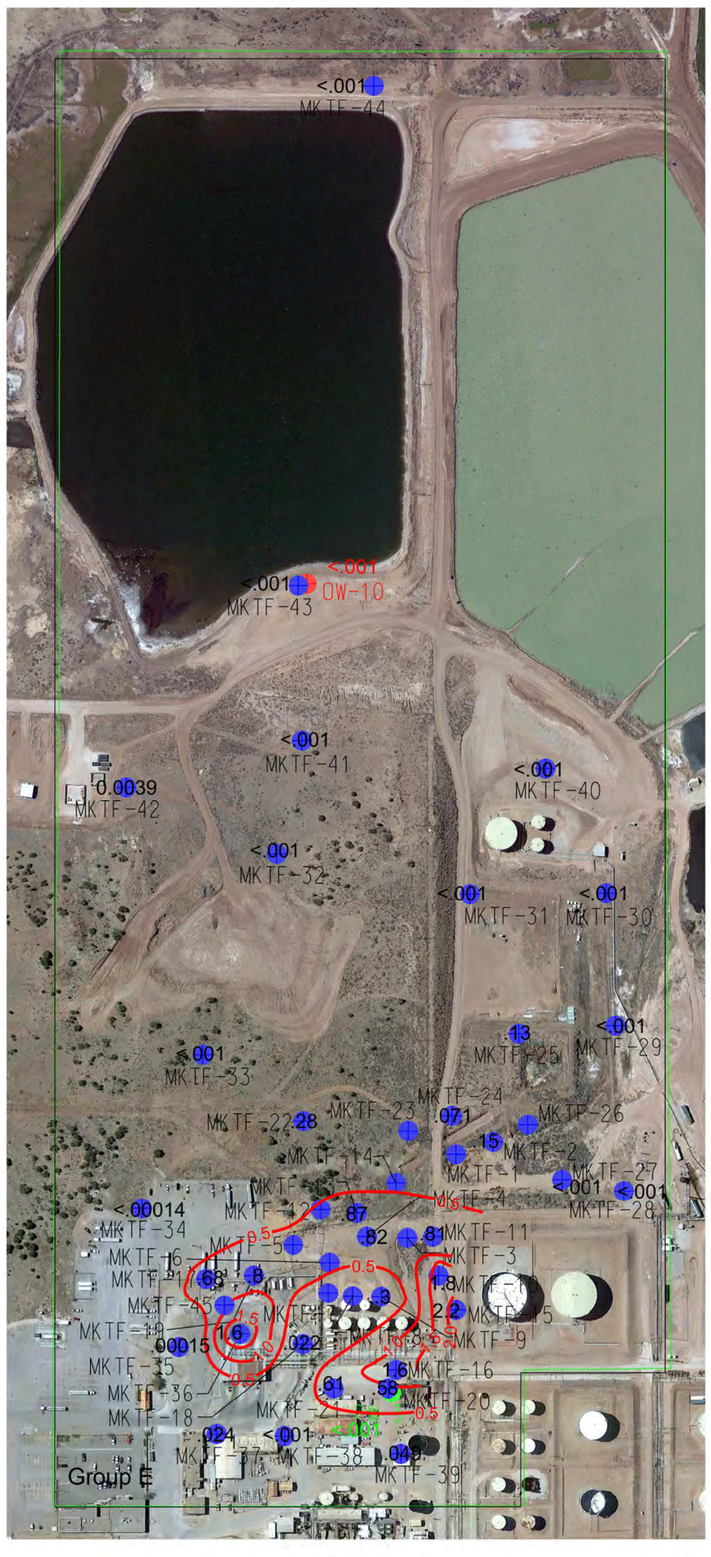
Toluene (September 2017)

Contour Interval = 5.0 mg/L



Ethyl Benzene (September 2017)

Contour Interval = 0.50 mg/L



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Project #: 06251565

Figure 17A

WELL GROUP E CONSTITUENTS - 2017

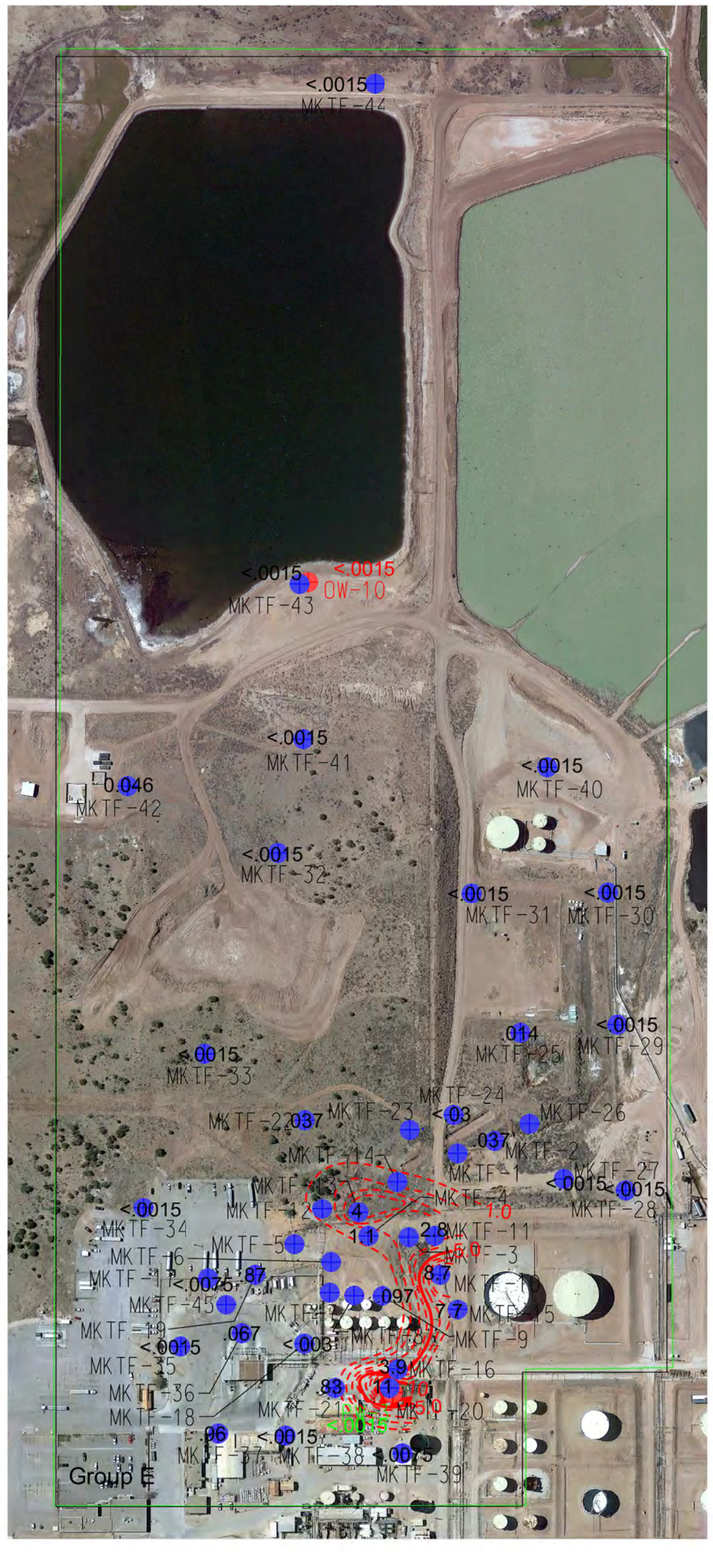
MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2017

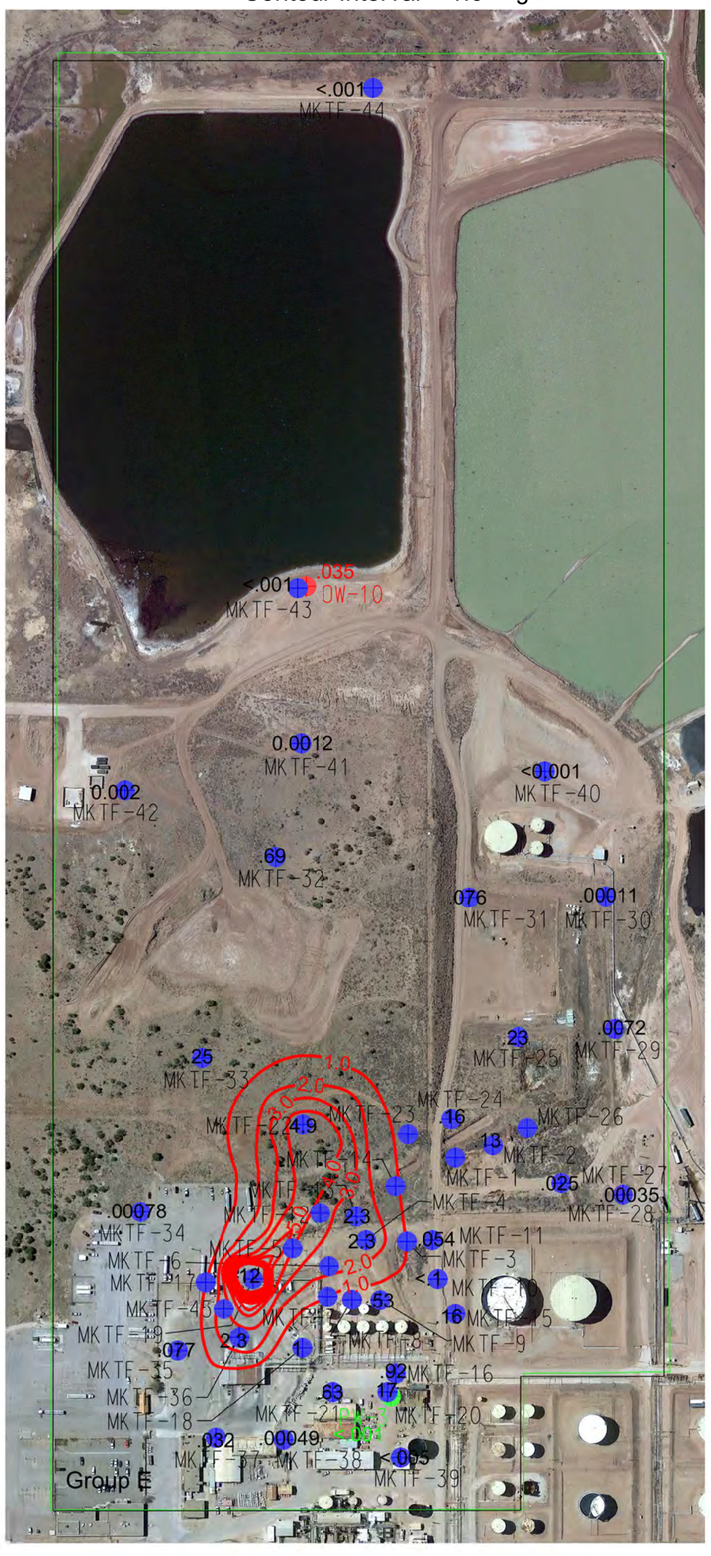
Total Xylenes (September 2017)

Contour Interval = 1.0 mg/L



MTBE (September 2017)

Contour Interval = 1.0 mg/L



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Project #: 06251565

Figure 17B

WELL GROUP E CONSTITUENTS - 2017

MARATHON - GALLUP REFINERY

Marathon - Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

Date: November 15, 2017

APPENDIX A
SEPARATE PHASE HYDROCARBON RECOVERY LOGS

APPENDIX A - RW-1 HYDROCARBON RECOVERY LOG
2/22/05 thru 12/2017

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level [2] (ft)	Product Bailed or Purged [2] (gal)	Water Purged [2] (gal)
2/22/2005	8:30	1st	NR	Start	32.46	36.5	4.04	14	NR
3/2/2005	7:45	1st	NR	Start	32.42	36.44	4.02	9	NR
3/8/2005	8:30	1st	NR	Start	31.92	36.35	4.43	15	NR
3/9/2005	830	1st	NR	Start	31.92	37.5	5.58	4	NR
3/11 to 3/18/05	NR	1st	NR	Start	NR	NR	NR	74	NR
3/18 to 3/23/05	NR	1st	Pump	Continue pumping	NR	NR	NR	48	NR
3/23 to 4/1/05	NR	1st	Pump	Continue pumping	NR	NR	NR	62	NR
4/1 To 4/4/05		2nd	Pump	Pump shutdown to measure	NR	NR	NR	27	NR
4/5/2005	11:30	2nd	Pump		34.75	38.92	4.17	NR	NR
4/4 to 4/15/05	11:00	2nd	Pump	Continue pumping	NR	NR	NR	50	NR
4-15 to 5-5-05	12:30	2nd	Pump	Continue pumping	NR	NR	NR	45	154
5-5 to 6-17-05	11:30	2nd	Pump	Continue pumping	NR	NR	NR	24	196
6/27/2005	14:30	2nd		Pump shutdown to measure	NR	NR	NR	NR	NR
6/28/2005	11:30	2nd			32.46	33.25	0.79	NR	NR
6/28/2005		2nd	Pump	Continue pumping	NR	NR	NR	NR	NR
6/17 to 7/8/2005	10:30	2nd	Pump	Continue pumping	NR	NR	NR	18	146
7/8 to 8/9/2005	13:30	3rd	Pump	Continue pumping	NR	NR	NR	28	350
8/9 to 9/16/2005	11:35	3rd			36.46	36.54	0.08	8	240
12/5/2005	13:15	4th			31.92	34.71	2.79	NR	NR
12/8/2005	14:00	4th	Pump	Start	NR	NR	NR	NR	NR
12/22/2005	15:30	4th		stop	NR	NR	NR	5	120
12/29/2005	14:00	4th	Bailer	Hand bailed	NR	NR	NR	0.5	4.5
3/16/2006	13:00	1st.			NR	NR	NR	NR	NR
3/16/2006	14:30	1st.	Pump	Start	32.23	34.48	2.25	NR	NR
3/23/2006	14:30	1st.		Stop	NR	NR	NR	NR	NR
3/27/2006	15:30	1st.	Pump	Start	NR	NR	NR	NR	NR
3/31/2006	11:30	1st.	Pump	Continue pumping	NR	NR	NR	7	174
4/3/2006	11:30	2nd		Stop	NR	NR	NR	1	38
4/4/2006	11:00	2nd			32.75	33.08	0.33	NR	NR
6/6/2006	13:00	2nd			32.39	34.54	2.15	NR	NR
6/8/2006	15:00	2nd	Pump	Start	NR	NR	NR	NR	NR
6/29/2006	10:00	2nd		Stop	NR	NR	NR	8	365
7/31/2006	11:45	3rd			33.06	33.48	0.42	NR	NR
7/31/2006	11:45	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/3/2006	14:20	3rd		Stopped pump	NR	NR	NR	2	87
8/8/2006	9:00	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/10/2006	15:30	3rd	Pump	Start pump	NR	NR	NR	NR	NR
8/22/2006	9:00	3rd		Stopped. Pulled pump	NR	NR	NR	4.9	373
8/22/2006	9:45	3rd	Pump	Start pump	33.1	33.4	0.3	NR	NR

RW-1 HYDROCARBON RECOVERY LOG - Continued

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level [2] (ft)	Product Bailed or Purged [2] (gal)	Water Purged [2] (gal)
12/21/2006	15:55	4th	Pump	Start pump	35.2	36	0.8	0.62	70
2/21/2007	10:15	1st.	Pump	Start pump	33.42	34.6	1.18	0.63	53.5
6/5/2007	10:00	2nd		Compressor Down	32.42	32.71	0.29	NR	NR
6/5/2007	10:10	2nd		Hand Bailed	NR	NR	NR	0.05	9
6/6/2007	8:40	2nd		Hand bailed	NR	NR	NR	0.1	11
6/13/2007	14:00	2nd		Hand bailed	NR	NR	NR	0.1	12
6/14/2007	10:40	2nd		Hand bailed	NR	NR	NR	0.05	8
7/10/2007	10:08	3rd		Hand bailed	32.42	32.71	0.29	0.3	18
7/11/2007	9:25	3rd		Hand bailed	NR	NR	NR	0.21	NR
7/23/2007	10:00	3rd		Hand bailed	NR	NR	NR	0.1	NR
11/26/2007	10:50	4th		Hand bailed	30.76	36.45	5.69	0.18	37
2/18/2008	15:32	1st.		Hand Bailed - pump frozen	30.18	34.77	4.59	1.66	36
5/21/2008	14:10	2nd	Pump	Used Pump	30.33	34.57	4.24	1.39	51
9/12/2008[1]	14:30	3rd		Bladder pump malfunctioned	30.03	34.59	4.56	Not Bailed	0
11/13/2008	13:00	4th	Pump	Used Pump	30.02	34.63	4.61	0.94	65
2/11/2009	14:05	1st.	Pump	Used Pump	30.21	31.72	1.51	0.29	90
5/5/2009	11:30	2nd	Pump	Used Pump	30.22	30.8	0.58	0.41	76
8/10/2009	9:22	3rd	Pump	Used Pump	30.69	31.02	0.33	0.89	98
10/28/2009	10:55	4th	Pump	Used Pump	30.56	30.75	0.19	0.19	74
3/3/2010	9:00	1st	Pump	Used Pump	30.89	31.05	0.16	0.21	31
6/3/2010	13:10	2nd	Pump	Used Pump	30.99	31.09	0.1	0.1	32
9/20/2010	14:00	3rd	Pump	Used Pump	29.91	30.06	0.15	0.25	34
11/3/2010	9:10	4th	Pump	Used Pump	30.89	31.01	0.12	0.1	31
3/9/2011	10:19	1st	Pump	Used Pump	30.04	30.15	0.11	0.12	40
6/27/2011	8:05	2nd	Pump	Used Pump	30.52	30.63	0.11	0.1	45
10/3/2011	15:07	Annual	Pump	Used Pump	30.81	30.9	0.09	0.11	42
11/8/2011	8:30		Pump	Used Pump	30.77	30.85	0.08	0.09	38
3/15/2012	10:30	1st	Pump	Used Pump	29.31	29.34	0.03	0.02	22
6/4/2012	9:00	2nd	Pump	Used Pump	29.39	29.41	0.02	0.05	40
8/13/2012	10:30	3rd	Pump	Used Pump	29.54	30.13	0.59	0.4	40
10/8/2012	9:40	4th	Pump	Used Pump	29.28	30.18	0.9	0.5	35
3/26/2013	10:25	1st	Pump	Used Pump	29.11	32.6	3.49	0.028	24
6/17/2013	11:50	2nd	Pump	Used Pump	29.37	33.1	3.73	0.75	18
9/16/2013	11:05	3rd	Pump	Used Pump	28.75	33.09	4.34	0.8	19
11/12/2013	9:25	4th	Pump	Used Pump	28.73	33.11	4.38	0.75	25
3/7/2014	NR	1st	Pump	Used Pump	28.15	31.65	3.5	0.75	28
6/9/2014	NR	2nd	Pump	Used Pump	28.31	33.06	4.75	0.75	25
9/18/2014 [3]	NR	3rd		Annual Sampling Only	28.05	Unknown			
11/13/2014	NR	4th	Pump	Used Pump	28.11	33.04	4.93	0.87	30
3/23/2015	3:00	1st	Pump	Pump	28.2	32.8	4.6	0.5	25
6/9/2015	4:25	2nd	Pump	Pump	27.7	32.1	4.4	0.75	15
8/23/2015 [3]	10:10	3rd	Pump	Pump	28.08	30.02	1.94	None	None

RW-1 HYDROCARBON RECOVERY LOG - Continued

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level [2] (ft)	Product Bailed or Purged [2] (gal)	Water Purged [2] (gal)
10/29/2015	9:15	4th	Pump	Pump	27.65	30.1	2.45	0.75	14
3/4/2016	0:00	1st			28.05	30.55	2.5	None	None
6/8/2016	0:00	2nd			27.98	31.8	3.82	3.5	28
9/13/2016	2:05	3RD			27.9	32.04	4.14	2.5	10
11/16/2016	1:00	4th	Bailer		27.8	30.9	3.1	2.5	15
3/16/2017	0:00	1st	Pump		27.05	30.55	3.5	4	14
6/20/2017	0:00	2nd	Pump		26.77	28.42	1.65	2.5	18
9/19/2017	0:00	3rd	Pump		26.52	27.6	1.08	2	18
12/12/2017	1:20	4th	Bailer		26.5	27.5	1	2	NR
							TOTALS	**490.258**	**3712**

NOTES:

FT - Feet *NR - Not recorded*

Gal - Gallon

1) Bladder pump has torn diaphragm. Pump non-repairable. Ordered new pump

2) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.

3) Annual Samples collected - no purging done at this time.

APPENDIX A - RW-5 HYDROCARBON RECOVERY LOG
2/22/05 thru 12/2017

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level [1] (ft)	Product Bailed/Purged [1] (gal)	Water Purged [1] (gal)
2/22/2005	14:15	1st	Bailer	Start	32.92	34.01	1.09	4.5	NR
3/3/2005	14:00	1st	Bailer	Start	33.08	33.42	0.34	6	NR
6/24/2005	9:00	2nd	Bailer	Start	32.96	34.04	1.08	2.5	NR
9/16/2005	9:20	3rd	Bailer	Start	32.83	33.85	1.02	2.5	NR
12/5/2005	14:00	4th	Bailer	Start	32.52	33.21	0.69	1.5	NR
3/16/2006	14:50	1st	Bailer	Start	32.58	33	0.42	1	NR
7/26/2006	14:35	2nd	Bailer	Start	32.9	33.31	0.41	0.5	NR
10/16/2006	09:15	4th	Bailer	Start	32.73	33.42	0.69	0.25	NR
2/13/2007	09:00	1st	Bailer	Start	32.17	33.95	1.78	0.5	NR
4/30/2007	11:20	2nd	Bailer	Start	33	33.83	0.83	2.5	NR
7/10/2007	10:15	3rd	Bailer	Start	33.1	33.92	0.82	2.5	NR
11/26/2007	08:00	4th	Bailer	Start	33.01	33.91	0.9	1.75	NR
2/18/2008	15:15	1st	Bailer	Start	33.19	33.95	0.76	0.19	20
5/21/2008	14:20	2nd	Bailer	Start	32.77	33.84	1.07	0.14	18
9/12/2008	14:30	3rd	Bailer	Start	32.62	32.85	0.23	0.05	15
11/3/2008	14:00	4th	Bailer	Start	31.05	32.34	1.29	0.05	15
2/11/2009	13:40	1st	Bailer	Start	32.08	32.15	0.07	0.05	15
5/5/2009	10:02	2nd	Bailer	Start	0	31.91	0	0	0
8/10/2009	9:50	3rd	Bailer	Start	0	31.94	0	0	0
10/28/2009	10:45	4th	Bailer	Start	0	31.71	0	0	0
3/3/2010	9:35	1st	Bailer	Start	0	31.63	0	0	0
6/3/2010	13:40	2nd	Bailer	Start	0	31.37	0	0	0
9/20/2010	14:24	3rd	Bailer	Start	0	31.94	0	0	0
11/3/2010	9:30	4th	Bailer	Start	0	31.94	0	0	0
3/9/2011	10:29	1st	Bailer	Start	0	30.05	0	0	20
6/27/2011	8:40	2nd	Bailer	Start	0	28.96	0	0	20
10/4/2011	8:15	3rd	Bailer	Start	0	29.89	0	0	14
11/8/2011	9:20	4th	Bailer	Start	0	29.85	0	0	17
3/15/2012	9:50	1st	Bailer	Start	0	29.32	0	0	15
6/4/2012	9:20	2nd	Bailer	Start	0	29.37	0	0	10
8/13/2012	10:50	3rd	Bailer	Start	0	29.49	0	0	10
10/8/2012	10:10	4th	Bailer	Start	0	29.58	0	0	15
3/26/2013	9:10	2nd	Bailer	Start	0	29.45	0	0	10
6/17/2013	10:20	2nd	Bailer	Start	0	29.44	0	0	14
9/16/2013	9:30	3rd	Bailer	Start	0	28.98	0	0	15
11/12/2013	9:50	4th	Bailer	Start	0	28.96	0	0	16

APPENDIX A - RW-5 HYDROCARBON RECOVERY LOG - Continued

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level [1] (ft)	Product Bailed/Purged [1] (gal)	Water Purged [1] (gal)
3/17/2014	NR	1st	Bailer	Start	0	27.92	0	0	15
6/9/2014	NR	2nd	Bailer	Start	0	28.8	0	0	20
9/18/2014 [2]	NR	3rd	Bailer	Start	0	28.81	0	0	0
11/13/2014	NR	4th	Bailer	Start	0	28.77	0	0	16
3/23/2015	3:15	1st	N/A	N/A	0	29.1	0	0	0
6/9/2015	4:10	2nd	Bailer	Start	0	28.8	0	0	15
8/23/2015	9:25	3rd	Bailer	Start	0	29.08	0	0	16
10/29/2015	1:35	4th	Bailer	Start	0	27.94	0	0	17
3/4/2016	0:00	1ST	Bailer	Start	0	28.22	0	0	15
6/7/2016	3:47	2ND	Bailer	Start	0	28.22	0	0	17
9/13/2016	9:10	3RD	Bailer	Start	0	27.7	0	0	20
11/16/2016	9:12	4th	Bailer	Start	0	27.4	0	0	20
3/16/2017	0:00	1ST	Bailer	Start	0	27.53	0	0	20
6/20/2017	3:47	2ND	Bailer	Start	25.3	33.3	8	10.5	21
9/19/2017	9:10	3RD	Bailer	Start	25.46	31.65	6.19	5.5	20
12/12/2017	11:08	4th	Bailer	Start	24.75	34	9.25	18	NR
							TOTALS	**60.48**	**491**

NOTES:

FT - Feet NR - Not recorded

Gal - Gallon

1) Measurements given are estimated values based on the technicians interpretation.

2) Annual grab samples collected - no purging of well at this time.

APPENDIX A - RW-6 HYDROCARBON RECOVERY LOG
2/22/05 thru 12/2017

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level [1] (ft)	Product Bailed/Purged [1] (gal)	Water Purged [1] (gal)
2/22/2005	14:30	1st	Bailer	Start	33.12	34.5	1.38	4.5	NR
3/3/2005	14:00	2nd	Bailer	Start	33.15	34	0.85	6	NR
6/24/2005	11:00	2nd	Bailer	Start	33.31	34.46	1.15	3.5	NR
9/16/2005	10:20	3rd	Bailer	Start	32.98	34.33	1.35	3	NR
3/16/2006	12:45	1st	Bailer	Start	32.67	33.75	1.08	2.5	NR
7/26/2006	15:00	2nd	Bailer	Start	33	34.12	1.12	1.5	NR
10/16/2006	09:55	4th	Bailer	Start	33.71	34.63	0.92	0.75	NR
2/13/2007	09:50	1st	Bailer	Start	33.29	34.5	1.21	0.75	NR
4/30/2007	11:25	2nd	Bailer	Start	34.42	34.58	0.16	0.25	NR
7/10/2007	10:08	3rd	Bailer	Start	33.29	34.58	1.29	6.78	NR
11/28/2007	08:10	4th	Bailer	Start	33.25	34.47	1.22	4.5	NR
2/18/2008	15:11	1st	Bailer	Start	33.44	34.35	0.91	0.11	20
5/21/2008	14:30	2nd	Bailer	Start	33.02	34.12	1.1	0.13	18
9/12/2008	14:35	3rd	Bailer	Start	32.12	32.83	0.71	0.09	15
11/3/2008	14:35	4th	Bailer	Start	32.46	32.69	0.23	0.04	15
2/11/2009	13:30	1st	Bailer	Start	32.19	32.35	0.16	0.12	15
5/5/2009	9:45	2nd	Bailer	Start	32.08	32.26	0.18	0.04	15
8/10/2009	9:55	3rd	Bailer	Start	32.04	32.28	0.24	0.03	15
10/28/2009	10:55	4th	Bailer	Start	31.81	32.03	0.22	0.03	12
3/3/2010	9:40	1st	Bailer	Start	31.78	32.01	0.23	0.05	15
6/3/2010	13:45	2nd	Bailer	Start	31.61	31.7	0.09	0.05	15
9/20/2010	14:30	3rd	Bailer	Start	32.04	32.28	0.24	0.03	15
11/3/2010	9:35	4th	Bailer	Start	32.01	32.1	0.09	0.02	15
3/9/2011	10:34	1st	Bailer	Start	30.24	30.26	0.02	0.04	25
6/27/2011	9:25	2nd	Bailer	Start	30.11	30.15	0.04	0.04	30
10/4/2011	9:05	3rd	Bailer	Start	29.91	29.94	0.03	0.09	30
11/8/2011	9:45	4th	Bailer	Start	29.90	29.93	0.03	0.05	25
3/15/2012	9:55	1st	Bailer	Start	0	29.46	0	0	17
6/4/2012	9:25	2nd	Bailer	Start	0	29.54	0	0	20
8/13/2012	11:00	3rd	Bailer	Start	0	29.57	0	0	15
10/8/2012	10:15	4th	Bailer	Start	0	29.62	0	0	15
3/26/2013	9:15	1st	Bailer	Start	0	29.59	0	0	20
6/17/2013	10:25	2nd	Bailer	Start	0	29.52	0	0	15
9/16/2013	10:10	3rd	Bailer	Start	0	29.13	0	0	20
11/12/2013	9:50	4th	Bailer	Start	0	29.1	0	0	15
3/17/2014	NR	1st	Bailer	Start	0	27.92	0	0	15
6/9/2014	NR	2nd	Bailer	Start	0	28.8	0	0	20
9/18/2014 [2]	NR	3rd	Bailer	Start	0	28.81	0	0	0
11/13/2014	NR	4th	Bailer	Start	0	28.77	0	0	16
3/23/2015	3:15	1st	N/A	N/A	0	29.18	0	0	0
6/9/2015	4:12	2nd	Bailer	Start	0	28.68	0	0	15
8/23/2015	9:27	3rd	Bailer	Start	0	29.06	0	0	20
10/29/2015	3:37	4th	Bailer	Start	0	27.97	0	0	19
3/4/2016	0:00	1st	Bailer	Start	0	28.25	0	0	14
6/7/2016	3:45	2nd	Bailer	Start	0	28.24	0	0	18

RW-6 HYDROCARBON RECOVERY LOG - Continued

Measurement Date	Time	Quarter	Method	Status	Depth to Product (ft)	Depth to Water (ft)	Product Thickness Level [1] (ft)	Product Bailed/Purged [1] (gal)	Water Purged [1] (gal)
9/13/2016	9:50	3RD	Bailer	Start	0	27.99	0	0	20
11/16/2016	9:15	4th	Bailer	Start	0	27.72	0	0	20
3/16/2017	0:00	1st	Bailer	Start	0	27.5	0	0	20
6/20/2017	0:00	2nd	Bailer	Start	25.5	33.62	8.12	10	10
9/19/2017	0:00	3RD	Bailer	Start	25.89	30.97	5.08	8	20
12/12/2017	11:13	4th	Bailer	Start	24.83	33.85	9.02	13	NR
							TOTALS	**65.99**	**659**

NOTES:

FT - Feet NR - Not recorded

Gal - Gallon

1) Measurements given are estimated values based on the technicians interpretation.

2) Annual grab samples collected - no purging of well at this time.

APPENDIX A
ESTIMATED ANNUAL RECOVERY VOLUMES 1995 THRU 2017

RW-1

Year	Product Thickness Level [1] (ft)	Product Bailed/Purged [1] (gal)	Water Purged [1] (gal)
2005	25.9	431.5	1210.5
2006	6.25	23.52	1107
2007	7.45	1.72	148.5
2008	18	3.99	152
2009	2.6	1.78	338
2010	0.53	0.66	128
2011	0.39	0.42	165
2012	1.54	0.97	137
2013	1.54	25.698	86
2014	2.37	2.37	83
2015	33.18	19	157
2016	19.79	17	103
2017	7.23	10.5	50
TOTAL		**539.128**	**3865**

RW-5

Year	Product Thickness Level [1] (ft)	Product Bailed/Purged [1] (gal)	Water Purged [1] (gal)
2005	4.22	17	NR
2006	1.52	1.75	NR
2007	4.33	7.25	NR
2008	3.35	0.43	68
2009	0.07	0.05	15
2010	0	0	0
2011	0	0	71
2012	0	0	50
2013	0	34	55
2014	0	0	51
2015	0	0	120
2016	0	0	61
2017	23.44	34	61
TOTAL		**94.48**	**552**

RW-6

Year	Product Thickness Level [1] (ft)	Product Bailed/Purged [1] (gal)	Water Purged [1] (gal)
2005	4.73	17	NR
2006	3.12	4.75	NR
2007	3.88	12.28	NR
2008	2.95	0.37	68
2009	0.8	0.22	57
2010	0.65	0.15	60
2011	0.12	0.22	110
2012	0	0	67
2013	0	0	70
2014	0	0	51
2015	0	0	126
2016	0	0	50
2017	22.22	31	50
TOTAL		**65.99**	**709**

NOTES:

NR - Not recorded

1) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.

APPENDIX B
FIELD INSPECTION LOGS

WESTERN REFINING - GALLUP REFINERY

1st QTR 2017 ~~2015~~

SAMPLE ID/LOCATION		TEST PARAMATERS								
NAPIS-2			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/21/17	(1)	1203	7.18	22.58	1674	1.088	.85	80.5	-146.9
GAUGE TIME	1120	(2)	1205	7.16	22.44	1673	1.088	.85	76.7	-141.7
DTB (feet) Depth to Bottom	13.61	(3)	1207	7.14	22.31	1672	1.087	.85	75.5	-139.1
DEDICATED PUMP	—	(4)	1209	7.14	22.16	1657	1.077	.84	73.9	-135.8
DTW (feet) Depth to Water	7.89									
DTB - DTW	5.72									
Capacity per foot										
2 Well Volumes	3gals									
PURGE DATE	✓									
PURGE TIME	1125									
SAMPLE DAY										
SAMPLE TIME	1208									
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

WTR - Clear - slight yw tint turned pmk/brn at end of bailing

SAMPLE LOG

Vault - dry. E Bay NAPIS - Down

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1ST QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
KA-3			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/21/17	(1)	~~1222~~ 1210	~~7.10~~	22.74	1351	.878	.68	26.2	-100.4
GAUGE TIME	~~1120~~	(2)	1224	7.10	22.62	1354	.880	.68	~~103.1~~ 25	-103.1
DTB (feet) Depth to Bottom	23.20	(3)	26	7.11	22.49	1355	.881	.68	24.6	-106.0
DEDICATED PUMP		(4)	28	7.10	22.36	1354	.880	.68	26.3	-106.7
DTW (feet) Depth to Water	7.37									
DTB - DTW	15.83									
Capacity per foot	.163									
2 Well Volumes	8 gal									
PURGE DATE										
PURGE TIME	1130									
SAMPLE DAY										
SAMPLE TIME	~~1228~~									
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Clear, Breezy

WATER APPEARANCE

Clear -

SAMPLE LOG

Vault DRY - E Bay NAPIS - Open + OOS.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
NAPIS-3			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/21/17	(1)	1531	8.17	19.69	1977	1.285	1.01	78.2	-115.0
GAUGE TIME	1122	(2)	1533	8.12	19.68	1978	1.285	1.01	58.9	-114.7
DTB (feet) Depth to Bottom	30.42	(3)	1535	8.12	19.67	1977	1.285	1.01	56.2	-114.6
DEDICATED PUMP	—	(4)	1537	8.13	19.66	1977	1.285	1.01	55.2	-114.6
DTW (feet) Depth to Water	9.2									
DTB - DTW	21.22									
Capacity per foot										
2 Well Volumes	10 gals									
PURGE DATE										
PURGE TIME	1138									
SAMPLE DAY										
SAMPLE TIME	~~1039~~									
PUMP DEPTH	1535									
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Clear, Breezy

WATER APPEARANCE

purged 5.5 gals
Clear - murky brown

SAMPLE LOG

allowed to recharge - wtr pink/brown

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR 2015 7

1

SAMPLE ID/LOCATION		TEST PARAMATERS								
NAPIS - 1			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/21/17	(1)	1328	7.7	13.14	2060	1.339	1.06	194.4	-124.1
GAUGE TIME	1320	(2)	1330	7.17	13.65	2028	1.318	1.04	14.9	-133.4
DTB (feet) Depth to Bottom	13.53	(3)	1332	7.19	13.74	2021	1.313	1.04	18.5	-136.5
DEDICATED PUMP	—	(4)	1334	7.19	13.74	2021	1.314	1.04	17.5	-135.9
DTW (feet) Depth to Water	6.7									
DTB - DTW	7.53									
Capacity per foot										
2 Well Volumes	4 gal									
PURGE DATE										
PURGE TIME	1323									
SAMPLE DAY										
SAMPLE TIME	1335									
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Clear, breezy, 55-60°

WATER APPEARANCE

Clear, no odor

SAMPLE LOG

Weed spraying in area.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1ST QTR ~~2015~~ 2017

SAMPLE ID/LOCATION	
STP1-NW	
GAUGE DATE	2/21/17
GAUGE TIME	1351
DTB (feet) Depth to Bottom	50.00
DEDICATED PUMP	/
DTW (feet) Depth to Water	20.47
DTB - DTW	29.53
Capacity per foot	9163
3 Well Volumes	14 gals
PURGE DATE	
PURGE TIME	1
SAMPLE DAY	
SAMPLE TIME	1432
PUMP DEPTH	
DTW (feet) at end of Purging	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1426	7.92	13.42	5950	3.867	3.25	34.3	-124.1
(2)	1428	7.87	13.47	5945	3.864	3.25	34.0	-123.1
(3)	1430	7.84	13.48	5947	3.866	3.25	35.0	-121.9
(4)	1432	7.82	13.50	5947	3.865	3.25	34.5	-121.0

WEATHER CONDITIONS

clear - ptly cldy - breezy

WATER APPEARANCE

clear -

SAMPLE LOG

Weed spraying in area

Duplicate

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature: _____

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2016~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
WLDU			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/21/17	(1)								
GAUGE TIME	1555	(2)								
DTB (feet) Depth to Bottom		(3)								
DEDICATED PUMP		(4)								
DTW (feet) Depth to Water	6.84	WEATHER CONDITIONS: clear breezy								
DTB - DTW										
Capacity per foot										
2 Well Volumes	1600 Sunk									
PURGE DATE		WATER APPEARANCE: yw - dk green - oily odor								
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										
PUMP DEPTH										
DTW (feet) at end of Purging										

SAMPLE LOG

East Bay 005

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature: _____

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
ELDU			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/21/17	(1)								
GAUGE TIME	1610	(2)								
DTB (feet) Depth to Bottom		(3)								
DEDICATED PUMP		(4)								
DTW (feet) Depth to Water	3.31	WEATHER CONDITIONS								
DTB - DTW		Clear breezy								
Capacity per foot										
2 Well Volumes										
PURGE DATE		WATER APPEARANCE								
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME	1615									
PUMP DEPTH										
DTW (feet) at end of Purging										

SAMPLE LOG

greenish color slight odor

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

SWS Seal
2/21/17
1400

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017 1615

SAMPLE ID/LOCATION		TEST PARAMATERS								
GWM-01			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	3/16/17	(1)								
GAUGE TIME		(2)								
DTB (feet) Depth to Bottom	26.20	(3)								
~~DEDICATED PUMP~~ PTP	21.74	(4)								
DTW (feet) Depth to Water	22.04									
~~DTB - DTW~~										
Capacity per foot										
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										
MP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Windy

WATER APPEARANCE

oily (dk yellow) layer

SAMPLE LOG

Bailed 1 gal. Total w/ 3/4 of Hydrocarbons

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature: _____

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
GWM-2			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	3/16/17	(1)								
GAUGE TIME		(2)								
DTB (feet) Depth to Bottom	18.81	(3)								
DEDICATED PUMP		(4)								
DTW (feet) Depth to Water	N/A									
DTB - DTW										
Capacity per foot										
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										
UMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Breezy

WATER APPEARANCE

DRY

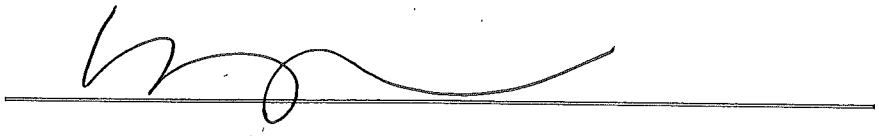
SAMPLE LOG

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Bailer

Signature: 

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017 1615

SAMPLE ID/LOCATION		TEST PARAMATERS								
GWM-3			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	3/16/17	(1)								
GAUGE TIME		(2)								
DTB (feet) Depth to Bottom	17.80	(3)								
DEDICATED PUMP		(4)								
DTW (feet) Depth to Water	N/A									
DTB - DTW										
Capacity per foot										
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Breezy

WATER APPEARANCE

DRY

SAMPLE LOG

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Bailer

Signature: _____

WESTERN REFINING - GALLUP REFINERY

KS QTR 2017

NOT GWM-3
GWM-2
GWM-1 24.74
22.04

3.89

SAMPLE ID/LOCATION		TEST PARAMATERS								
RW-6			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	3-16-17	(1)								
GAUGE TIME	1135	(2)								
DTB (feet) Depth to Bottom	48.04	(3)								
~~DEDICATED PUMP~~	27.05	(4)								
DTW (feet) Depth to Water	30.35									
DTB - DTW										
Capacity per foot										
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										
PUMP DEPTH										
DTW (feet) at end of Purging										

DTP

Bailed 1 gal total .75 HC

WEATHER CONDITIONS

clear, breezy

NAP 2 - DTB = 14.33
KA 3 - 24.1
NAP 3 - 31.12

WATER APPEARANCE

hydro layer
yw-oily

SAMPLE LOG

Total 18 gals
4 gals hydrocarbons

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
OAPLS -1			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/21/17	(1)								
GAUGE TIME	1010	(2)								
DTB (feet) Depth to Bottom	26.0'	(3)								
DEDICATED PUMP	—	(4)								
DTW (feet) Depth to Water	11.6									
DTB - DTW	14.4									
Capacity per foot	.163									
3 Well Volumes	7 gals									
PURGE DATE										
PURGE TIME	1015									
SAMPLE DAY										
SAMPLE TIME	1038									
PUMP DEPTH										
DTW (feet) at end of Purging	—									

WEATHER CONDITIONS

Clear, slight breeze.

WATER APPEARANCE

yw tint w/ brown specs Sloughs sheen, slight odor

SAMPLE LOG

Carter on-site - weed spraying

@270 Dup

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature: _____

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
RW-2			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	3/16/17	(1)								
GAUGE TIME	10 56	(2)								
DTB (feet) Depth to Bottom	3980	(3)								
DEDICATED PUMP		(4)								
DTW (feet) Depth to Water	21.65									
DTB - DTW										
Capacity per foot										
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME	1104									
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Clear / ~~Breezy~~ Breezy / 65°-70°

WATER APPEARANCE

Clear / cloudy Pink

SAMPLE LOG

Bail 20 gals.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
RW-5			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	3/16/17	(1)								
GAUGE TIME	907	(2)								
DTB (feet) Depth to Bottom	39.59	(3)								
DEDICATED PUMP		(4)								
DTW (feet) Depth to Water	27.53									
DTB - DTW										
Capacity per foot										
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME	10:28									
UMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Clear / Breezy / 65° - 70°°

WATER APPEARANCE

Clear / clear with film

SAMPLE LOG Bail 20 gals -

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS							
RW-6		Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	3/16/17	(1)							
GAUGE TIME	9:13	(2)							
DTB (feet) Depth to Bottom	40.90	(3)							
DEDICATED PUMP		(4)							
DTW (feet) Depth to Water	27.57								
DTB - DTW									
Capacity per foot									
2 Well Volumes									
PURGE DATE									
PURGE TIME									
SAMPLE DAY									
SAMPLE TIME	10:35								
UMP DEPTH									
DTW (feet) at end of Purging									

WEATHER CONDITIONS

Clear / Breezy / 65° — 70°

WATER APPEARANCE

Clear / film on top, very slight Pink tint

SAMPLE LOG

bail 20 gals.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature: Eng Vail

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
OW-14			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	~~02/27/17~~	(1)	910	7.09	12.21	1.291	1.111	.87	21	-140.1
GAUGE TIME	~~08 45~~	(2)	912	7.10	11.35	1.267	1.114	.87	17.9	-131.2
DTB (feet) Depth to Bottom	~~46.52~~ ~~22.83~~	(3)	914	7.11	10.71	1.250	1.117	.88	17.9	-122.7
DEDICATED PUMP		(4)	916	7.11	10.16	1.23	1.119	.88	18.2	-114.8
DTW (feet) Depth to Water	22.83									
DTB - DTW	~~23.69~~									
Capacity per foot	.74									
2 Well Volumes	53 gal									
PURGE DATE	02/27									
PURGE TIME	0850									
SAMPLE DAY										
SAMPLE TIME	0915									
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Overcast/Cloudy - breezy, 30-35°

WATER APPEARANCE

clear, no odor

SAMPLE LOG

8260
8015
W & CC Metals
8011

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
OW 29			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	03/27/17	(1)	1000	7.28	10.83	1.158	1.032	.81	19.9	-112.5
GAUGE TIME	0920	(2)	1004	7.25	10.42	1.154	1.040	.81	19.6	-110.7
DTB (feet) Depth to Bottom	51.08	(3)	1004	7.24	9.95	1.140	1.040	.81	19.0	-111.7
DEDICATED PUMP	yes	(4)	1006	7.25	9.62	1.130	1.040	.81	18.9	-112.9
DTW (feet) Depth to Water	17.82									
DTB - DTW	33.26									
Capacity per foot	.74									
2 Well Volumes	74 gals									
PURGE DATE										
PURGE TIME	0925									
SAMPLE DAY										
SAMPLE TIME	1005									
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

Cloudy, Breezy, 30-35°F

WATER APPEARANCE

Clear, no odor

SAMPLE LOG

8260
8015D
WQCC Metals
8011

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
SW-30			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/27/17	(1)	1100	7.19	11.43	1.220	1.071	.84	22.6	-126.7
GAUGE TIME	1030	(2)	1102	7.17	10.78	1.206	1.077	.84	18.1	-128.9
DTB (feet) Depth to Bottom	49.90	(3)	1104	7.14	10.38	1.195	1.078	.84	17.0	-128.6
DEDICATED PUMP		(4)	1106	7.13	10.41	1.187	1.078	.84	16.2	-128.2
DTW (feet) Depth to Water	22.24	WEATHER CONDITIONS								
DTB - DTW	27.66	OC/cldy - breezy - 30.35								
Capacity per foot	.74									
2 Well Volumes	6 gals									
PURGE DATE		WATER APPEARANCE								
PURGE TIME	1035	clear, no odor								
SAMPLE DAY										
SAMPLE TIME	1105									
PUMP DEPTH										
DTW (feet) at end of Purging										

SAMPLE LOG

8260
8015
Well nutrals
8011 for EDB

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature: _____

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
OW-13			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/27/17	(1)	1223	8.19	11.43	1.048	.681	.52	14.2	-164.1
GAUGE TIME	1115	(2)	1225	8.20	11.15	1.049	.682	.52	12.4	-166.8
DTB (feet) Depth to Bottom	49.15	(3)	1227	8.20	10.83	1.050	.682	0.52	11.7	-167.1
DEDICATED PUMP	yes	(4)	1229	8.19	10.58	1.051	.683	0.52	11.2	-166.8
DTW (feet) Depth to Water	21.11									
DTB - DTW	28.04									
Capacity per foot	.74									
2 Well Volumes	173gal									
PURGE DATE										
PURGE TIME	1117									
SAMPLE DAY										
SAMPLE TIME	1228									
PUMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

oc/cldy, breezy, 30850

WATER APPEARANCE

Clear, no odor

SAMPLE LOG

8260
8015D
WQCC Metals

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR 2015 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
OW-1			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/27/17	(1)	1410	8.98	10.14	1141	.742	.57	-150.9	38.9
GAUGE TIME	1300	(2)	1412	8.95	9.89	1141	742	1	-150.5	36.9
DTB (feet) Depth to Bottom	94.55	(3)	14	8.92	9.87	1136	.738	1	-150.1	37.6
DEDICATED PUMP	yes	(4)	16	8.94	9.60	1142	.742	1	-149.6	36.7
DTW (feet) Depth to Water	1.71	WEATHER CONDITIONS								
DTB - DTW	92.84	OC/Cldy - breezy - 35.40								
Capacity per foot										
2 Well Volumes	2206 gals									
PURGE DATE		WATER APPEARANCE								
PURGE TIME	1305	Clear - ~~pink~~ pink								
SAMPLE DAY										
SAMPLE TIME	1415									
UMP DEPTH										
DTW (feet) at end of Purging										

SAMPLE LOG

8260
8015
8011
WQCC Met
Cat/Anns

purged 4 80 gallons - lost suction - allowed to recharge collect samples

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

1st QTR ~~2015~~ 2017

SAMPLE ID/LOCATION		TEST PARAMATERS								
OW - 10			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	2/27/17	(1)	~~1538~~ 1538	~~1.24~~ 7.56	~~24~~ 11.24	2170	1.41	1.12	19.1	-152.9
GAUGE TIME	1445	(2)	1541	7.53	10.57	2178	1.416	1.12	11.3	-157.8
DTB (feet) Depth to Bottom	60.33	(3)	1543	7.5	10.10	2182	1.418	1.12	9.1	-158.8
DEDICATED PUMP	YES	(4)	1545	7.49	9.66	2187	1.421	1.13	8.4	-158.4
DTW (feet) Depth to Water	5.56									
DTB - DTW	54.77									
Capacity per foot	.24									
2 Well Volumes	13.29									
PURGE DATE	2/27									
PURGE TIME	1447									
SAMPLE DAY										
SAMPLE TIME	1545									
UMP DEPTH										
DTW (feet) at end of Purging										

WEATHER CONDITIONS

OC | cldy, Breezy, 35-40°

WATER APPEARANCE

Clear

SAMPLE LOG

8260 + Duplicate
8015
8011
WQCC Met
Cat / Anions

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Bailer

Signature:

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-13	
GAUGE DATE	3/16/17
GAUGE TIME	1240
DTB (feet) Depth to Bottom	21.25
DTP	—
DTW	12.6
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.65
Capacity per foot	.74
3 Well Volumes	19gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1343

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1339	8.16	22.70	51	.033	.02	10.9	-228.3
(2)	1341	6.93	13.16	1529	994	.97	21.2	-263.2
(3)	1343	6.98	13.35	1528	.993	.77	16.8	-264.2
(4)	1345	7.00	13.57	1531	.995	.78	15.0	-262.8

WEATHER CONDITIONS

Overcast, calm, 60-65

WATER APPEARANCE

clear - yw - sheen - odor. Duplicate pink - silty

SAMPLE LOG/NOTES: stopped @ 17 gals - WTR turned silty/muddy - will allow to recharge.

Duplicate @ 1350

MKTF-12	
GAUGE DATE	3/15/17
GAUGE TIME	1309
DTB (feet) Depth to Bottom	25.60
DTP	17.75
DTW	17.81
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	7.79
Capacity per foot	.74
3 Well Volumes	17
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1353

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

overcast calm, 60-65

WATER APPEARANCE

Hydrocarbon - black oily - odor

SAMPLE LOG/NOTES:

Total 10 gals - ½ gallon HC - Rest WTR

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-39	
GAUGE DATE	3-14-17
GAUGE TIME	1015
DTB (feet) Depth to Bottom	15.20
DTP	—
DTW	6.44
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	8.76
Capacity per foot	1.43
3 Well Volumes	4 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1029

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1028	7.89	20.68	205	.134	.10	108.4	-133.1
(2)	1030	7.08	14.15	3916	2.545	2.08	14.5	-214.0
(3)								
(4)								

WEATHER CONDITIONS

ptly cldy - breeze - 40-45

WATER APPEARANCE

clear - sheen - odor

SAMPLE LOG/NOTES:

MKTF-20	
GAUGE DATE	3-14-17
GAUGE TIME	1050
DTB (feet) Depth to Bottom	9.89
DTP	—
DTW	5.7
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	4.19
Capacity per foot	.17
3 Well Volumes	3 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	3-14-17
SAMPLE TIME	1104

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1100	7.97	28.99	240	.156	.11	79.8	-126.5
(2)	1102	6.85	13.48	3468	2.254	1.83	11.5	-176.9
(3)	1104	6.89	13.54	3456	2.246	1.83	9.5	-177.9
(4)	1106	6.90	13.49	3466	2.253	1.83	9.2	-167.5

WEATHER CONDITIONS

ptly cldy - breeze - 40-45

WATER APPEARANCE

utr - green - black - odor

sheen

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.

55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKMF-16	
GAUGE DATE	3/14/17
GAUGE TIME	1157
DTB (feet) Depth to Bottom	14.10
DTP	
DTW	7.45
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	~~7.15~~ 6.65
Capacity per foot	@.163
3 Well Volumes	3gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1115

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1111	7.35	15.97	2937	1.901	1.54	20.7	-148.0
(2)	1113	7.19	15.77	2900	1.885	1.52	20.0	-146.9
(3)	1115	7.19	15.77	2885	1.876	1.51	18.9	-147.2
(4)	1117	7.18	15.76	2877	1.870	1.5	18.7	-145.9

WEATHER CONDITIONS

ptly Cldy - breeze -40-45°F

WATER APPEARANCE

clear - slight sheen
no odor

SAMPLE LOG/NOTES: WR inside Vault

MKMF-21	
GAUGE DATE	3/14/17
GAUGE TIME	1143
DTB (feet) Depth to Bottom	9.89
DTP	
DTW	5.5
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	4.39
Capacity per foot	.74
3 Well Volumes	9gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1337

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1331	6.88	13.14	2290	1.488	1.18	12.3	-152.6
(2)	1333	6.90	13.61	2285	1.486	1.18	11.4	-150.3
(3)	1335	6.90	14.09	2283	1.484	1.18	11.8	-147.8
(4)	1337	6.92	13.25	2244	1.459	1.16	21.1	-155.6

WEATHER CONDITIONS

ptly Cldy - breeze -40-45°F

WATER APPEARANCE

SAMPLE LOG/NOTES: allowed to recharge (purged 4gals) before Collecting Samples.

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-2	
GAUGE DATE	3/16/17
GAUGE TIME	1325
DTB (feet) Depth to Bottom	20.48
DTP	
DTW	17.34
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	13.14
Capacity per foot	
3 Well Volumes	30 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	3/16/17
SAMPLE TIME	1245

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	7.62	1240	11.51	2468	1.604	1.28	63.9	-177.9
(2)	7.65	1242	11.84	2478	1.610	1.29	56.1	-178.9
(3)	7.65	1244	12.27	2480	1.612	1.29	57.7	-177.3
(4)	7.67	1246	12.70	2483	1.614	1.29	54.2	-175.3

WEATHER CONDITIONS

Clear, breezy, 60-65°F

WATER APPEARANCE

Clear

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

3/16/17

WATER APPEARANCE

RW-2 1112

RW-5 1028

RW-6 1035

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-38	
GAUGE DATE	3/14/17
GAUGE TIME	1155
DTB (feet) Depth to Bottom	20.29
DTP	
DTW	6.41
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	13.88
Capacity per foot	.163
3 Well Volumes	7 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1208

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1204	8.15	20.01	39	.025	.02	114.7	-133.1
(2)	1206	7.41	13.08	1439	.936	.73	31.6	-149.1
(3)	1208	7.36	13.18	1437	.934	.73	30.1	-151.8
(4)	1210	7.34	13.51	1433	.931	.72	29.4	-151.1

WEATHER CONDITIONS

Clear, Calm

WATER APPEARANCE

clear - slight orange color - cloudy.

SAMPLE LOG/NOTES: WR inside vault. Duplicate

MKTF-2	
GAUGE DATE	3/14/17
GAUGE TIME	1233
DTB (feet) Depth to Bottom	20.48
DTP	
DTW	6.5
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	13.98
Capacity per foot	.74
3 Well Volumes	31
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear, Calm, 60-65°

WATER APPEARANCE

clear, cloudy, slight yellow tint slight odor

*

SAMPLE LOG/NOTES:

CTT - purging sumps intermittently Purged 21 gals - hit btm - will allow to recharge before purging (24 hrs) (Stopped @ 1300)

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-1	
GAUGE DATE	3/14
GAUGE TIME	1234
DTB (feet) Depth to Bottom	17.42
DTP	4.65 ~~4.75~~
DTW	4.81 4.65
DTP-DTW (Hydrocarbon Layer)	~~.26~~
DTW-DTB	12.77
Capacity per foot	
3 Well Volumes	28 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

oily layer.

SAMPLE LOG/NOTES: GTI purging sumps in area. purged 28 gals - approx - 1.25 gals hydrocarbon no samples collected

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-9	
GAUGE DATE	3/15/17
GAUGE TIME	0836
DTB (feet) Depth to Bottom	22.70
DTP	—
DTW	12.64
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	10.06
Capacity per foot	.74
3 Well Volumes	22
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1110

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1107	7.85	20.99	73	.048	.03	94.8	-225.8
(3)	1109	7.15	12.29	1558	1.013	.79	26.4	-271.0
(4)	1111	7.11	12.33	1555	1.91	.79	21.0	-260.1

WEATHER CONDITIONS

clear, calm, 35-40°.

WATER APPEARANCE

clear - yw/or tint - pink - cldy slight o clr

SAMPLE LOG/NOTES:

MKTF-8	
GAUGE DATE	3/15/17
GAUGE TIME	0836
DTB (feet) Depth to Bottom	21.98
DTP	11.99
DTW	12.6
DTP-DTW (Hydrocarbon Layer)	.61
DTW-DTB	9.38
Capacity per foot	—
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	Not Applicable							
(3)								
(4)								

WEATHER CONDITIONS

Clear, calm, 35-40

WATER APPEARANCE

Total Bailed ≈ 26 gals

½ gal - hydrocarbons

25½ - WTR

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.

55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF - 7	
GAUGE DATE	3-15-17
GAUGE TIME	0839
DTB (feet) Depth to Bottom	17.62
DTP 10.63	—
DTW 12.6	~~10.63~~
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	~~7.18~~
Capacity per foot	~~7.61~~
3 Well Volumes	~~46~~
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

clear, Calm, 35-40°F

WATER APPEARANCE

Bailed 5 gals hydrocarbons
4 gals - WTR
Total bailed 9 gals.

SAMPLE LOG/NOTES:

MKTF - 6	
GAUGE DATE	3-15-17
GAUGE TIME	0843
DTB (feet) Depth to Bottom	23.77
DTP 15.95	—
DTW 16.05	~~16.05~~
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	~~7.72~~
Capacity per foot	17 gals
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear, Calm, 35-40°F

WATER APPEARANCE

total Gal bailed = 13gal
1 gal Hydrocarbons
12 gal water

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-17	
GAUGE DATE	3/8/17
GAUGE TIME	1226
DTB (feet) Depth to Bottom	24.11
DTP	—
DTW	8.2
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	15.91
Capacity per foot	.163
3 Well Volumes	8 gals
PURGE DATE	
PURGE TIME	3/15/17
SAMPLE DAY	
SAMPLE TIME	~~1400~~ 1285

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1200	7.63	13.05	1167	.759	0.58	31.8	-216.3
(2)	1202	7.64	12.30	1168	0.759	0.58	300	-217.4
(3)	1204	7.64	11.71	1168	0.759	0.58	29.9	-215.8
(4)	1206	7.63	11.86	1155	0.751	0.58	30.5	-214.8

WEATHER CONDITIONS

Clear - Calm - 40-45°

WATER APPEARANCE

Clear - pink - silty

SAMPLE LOG/NOTES:

WTR inside vault - below pump - 1240 - Bailed 4 w 3.5 gals - down - silty + only got 1/3 of a bail. Will allow to recharge 4 hrs.

MKTF - 19	
GAUGE DATE	3/8/17
GAUGE TIME	1248
DTB (feet) Depth to Bottom	17.47
DTP	—
DTW	9.82
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	7.65
Capacity per foot	.163
3 Well Volumes	4 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	3/15/17
SAMPLE TIME	1235

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear - Calm - 40-45°

WATER APPEARANCE

Clear - pink - silty

SAMPLE LOG/NOTES:

Stopped @ 1303 hrs - bailed 4 gals - WTR silty will allow to recharge before sampling (24hrs)

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-43	
GAUGE DATE	3/8/17
GAUGE TIME	0904
DTB (feet) Depth to Bottom	15.43
DTP	—
DTW	5.34
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	10.09
Capacity per foot	0.163
3 Well Volumes	5 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0914

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	Did not Record data.							
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear, calm, 30 35°

WATER APPEARANCE

Clear - no oder

SAMPLE LOG/NOTES:

MKTF-44	
GAUGE DATE	3/8/17
GAUGE TIME	0946
DTB (feet) Depth to Bottom	51.15
DTP	—
DTW	25.39
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	25.76
Capacity per foot	.163
3 Well Volumes	13 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1017

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1012	7.66	12.86	10215	6.64	5.79	137.2	-140.3
(2)	1014	7.54	12.87	10193	6.625	5.78	76.7	-147.5
(3)	1016	7.60	13.13	10189	6.623	5.78	65.5	-147.1
(4)								

WEATHER CONDITIONS

Clear, calm, 30 35°

WATER APPEARANCE

Clear, Cloudy no oder

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-33	
GAUGE DATE	3/8/17
GAUGE TIME	1054
DTB (feet) Depth to Bottom	33.2
DTP	—
DTW	22.16
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	11.04
Capacity per foot	.1103
3 Well Volumes	5
PURGE DATE	
PURGE TIME	3/8/17
SAMPLE DAY	
SAMPLE TIME	1315

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1311	7.46	1331	1589	1.033	.81	121.2	-135.8
(2)	1313	7.41	1333	1561	1,014	0.79	63.3	-152.8
(3)	1315	7.38	13.66	1552	1,009	0.79	61.0	-150.9
(4)	1317	7.38	14.02	1552	1.009	0.79	46.1	-150.5

WEATHER CONDITIONS

Clear, slight breeze, 35-40°

WATER APPEARANCE

Clear, cloudy, pink - silty

SAMPLE LOG/NOTES: Bailed 5 gals - wtr silty - @ .1103. Will allow to recharge before collecting samples.

MKTF-22	
GAUGE DATE	3/8/17
GAUGE TIME	1110
DTB (feet) Depth to Bottom	35.25
DTP	—
DTW	25.1
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	10.15
Capacity per foot	.1103
3 Well Volumes	5 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1342

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1338	7.03	13.36	1445	.939	.73	54.7	-130.0
(2)	1340	7.05	13.34	1437	.934	0.73	29.5	-133.0
(3)	1342	7.06	13.44	1438	.935	0.73	26.5	-130.9
(4)	1344	7.06	13.54	1439	.935	0.73	25.2	-126.5

WEATHER CONDITIONS

clear, slight breeze, 35-40°

WATER APPEARANCE

clear - cloudy - pink - silty

SAMPLE LOG/NOTES: Stopped @ 1125 - purged 5 gals - wtr turned muddy - silty. Well allow to recharge before collecting sample.

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-23	
GAUGE DATE	3/8/17
GAUGE TIME	14:35
DTB (feet) Depth to Bottom	20.36
DTP	13.94
DTW	14.2
DTP-DTW (Hydrocarbon Layer)	.26
DTW-DTB	6.16
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear - slight breeze - 40-45°

WATER APPEARANCE

grey oily -

SAMPLE LOG/NOTES:

Bailed 4.5 gals - hydrocarbon ~~layer~~ estimated @ less than .25 gallons.

MKTF-14	
GAUGE DATE	3/8/17
GAUGE TIME	1510
DTB (feet) Depth to Bottom	17.46
DTP	5.77
DTW	6.75
DTP-DTW (Hydrocarbon Layer)	.98
DTW-DTB	10.71
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

grey - oily -

SAMPLE LOG/NOTES:

Bailed ~ 25 gals w/ 1.25 product

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

Bailer

8011
8260
8015
8270
WQCC
Cat/An

MKTF-31	
GAUGE DATE	3/7/17
GAUGE TIME	1158
DTB (feet) Depth to Bottom	22.81
DTP	—
DTW	7.84
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	14.97
Capacity per foot	.163
3 Well Volumes	4.3
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1215

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1210	7.17	9.65	3564	2.316	1.88	29.5	-99.3
(2)	1212	7.17	9.85	3564	2.317	1.88	28.1	-100.5
(3)	1214	7.17	9.90	3575	2.324	1.89	27.9	-99.8
(4)	1216	7.16	10.15	3572	2.322	1.89	27.5	-99.5

WEATHER CONDITIONS

clear, breezy, 30-35°F

WATER APPEARANCE

clear - cloudy - purple

SAMPLE LOG/NOTES:

MKTF-40	
GAUGE DATE	3/7/17
GAUGE TIME	1250
DTB (feet) Depth to Bottom	23.64
DTP	—
DTW	13.14
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	10.5
Capacity per foot	.163
3 Well Volumes	5
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1311

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	13.07	7.2	12.56	11850	7.703	6.8	66.3	-112.
(2)	13.09	7.05	12.59	11791	7.664	6.76	42.7	-122.8
(3)	13.11	7.05	12.9	11795	7.667	6.76	40.3	-123.7
(4)	1313	7.03	13.26	11797	7.668	6.77	39.8	-122.1

WEATHER CONDITIONS

WATER APPEARANCE

clear - slight orange tint
no odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-42	
GAUGE DATE	3/7/17
GAUGE TIME	1334
DTB (feet) Depth to Bottom	33.15
DTP	
DTW	17.43
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	15.72
Capacity per foot	8 gals
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1400

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1354	8.25	13.25	2984	1.94	1.56	10.8	-145.2
(2)	1356	8.10	13.69	2995	1.947	1.57	7.6	-149.3
(3)	1358	8.07	14.19	2987	1.942	1.57	6.0	-149.1
(4)	1400	8.03	14.63	2978	1.936	1.56	4.9	-141.1

WEATHER CONDITIONS

Clear, breezy, 30-35°F

WATER APPEARANCE

Clear - orange tint - slight odor

SAMPLE LOG/NOTES:

~~purged 8 gals - wtr turned brown-silty-mud~~ allow to

MKTF-32	
GAUGE DATE	3/7/17
GAUGE TIME	1424
DTB (feet) Depth to Bottom	27.75
DTP	
DTW	13.7
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	14.05
Capacity per foot	1.63
3 Well Volumes	7 gals
PURGE DATE	
PURGE TIME	3/7/17
SAMPLE DAY	
SAMPLE TIME	1615

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1410	7.74	12.51	2292	1.49	1.18	58.8	-115.0
(2)	1412	7.78	12.47	2294	1.491	1.19	54.1	-122.4
(3)	1414	7.88	12.46	2295	1.492	1.19	51.4	-120.5
(4)	1416	7.85	12.41	2297	1.493	1.19	50.5	-118.5

WEATHER CONDITIONS

Clear, breezy, 35-40°F

WATER APPEARANCE

Clear - cloudy - pink

SAMPLE LOG/NOTES:

purged 8 gals - wtr turned brown - silty - mud
allow to recharge before collecting samples
Stopped purge @ 1440

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

8021

MKTF-41	
GAUGE DATE	3/7/17
GAUGE TIME	1456
DTB (feet) Depth to Bottom	40.10
DTP	
DTW	19.6
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	20.5
Capacity per foot	.163
3 Well Volumes	10
PURGE DATE	
PURGE TIME	3/7/17
SAMPLE DAY	
SAMPLE TIME	1521

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1517	8.50	13.43	2632	1.711	1.37	30.5	-140.5
(2)	1519	8.48	13.42	2635	1.711	1.37	30.2	-157.2
(3)	1521	8.47	13.38	2630	1.713	1.37	31.5	-155.5
(4)	1523	8.41	17.30	1106	1.709	0.55	81.0	-116.4

WEATHER CONDITIONS

WATER APPEARANCE

Clear - cloudy - no odor

Duplicate 1530

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

8011
8260
8270
WQCC
Cat/Anio

MKTF-30	
GAUGE DATE	3/6/17
GAUGE TIME	0942
DTB (feet) Depth to Bottom	23.20
DTP	—
DTW	14.13
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	9.07
Capacity per foot	.163
3 Well Volumes	4.5
PURGE DATE	3/6/17
PURGE TIME	0945
SAMPLE DAY	
SAMPLE TIME	1005

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	959	7.52	11.73	3518	2.281	1.86	45.3	-85.1
(2)	1001	7.54	11.27	3530	2.294	1.87	44.7	-87.7
(3)	1003	7.54	10.90	3536	2298	1.87	44.7	-110.2
(4)	1005	7.54	10.64	3537	2299	1.87	44.7	-98.2

WEATHER CONDITIONS

Cldy, breezy (20-25), 25-30°

WATER APPEARANCE

clear - pink - cloudy
no odor

SAMPLE LOG/NOTES:

8260

MKTF-29	
GAUGE DATE	3/6/17
GAUGE TIME	1040
DTB (feet) Depth to Bottom	22.84
DTP	—
DTW	0.99
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	21.85
Capacity per foot	.163
3 Well Volumes	11 gals
PURGE DATE	
PURGE TIME	3/6/17
SAMPLE DAY	
SAMPLE TIME	1115

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1111	7.52	10.36	2073	1.348	1.06	18.0	-106.7
(2)	1113	7.48	10.33	2077	1.350	1.07	17.3	-106.3
(3)	1115	7.48	10.29	2079	1.351	1.07	16.9	-107.8
(4)	1117	7.48	10.25	2080	1.352	1.07	17.2	-107.8

WEATHER CONDITIONS

cldy, breezy, 25-30°

WATER APPEARANCE

clear - cloudy - pink
no-odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

8260

MKTF-27	
GAUGE DATE	3/6/17
GAUGE TIME	1140
DTB (feet) Depth to Bottom	14.72
DTP	
DTW	6.02
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.7
Capacity per foot	4.3
3 Well Volumes	4.30
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1155

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1150	6.92	9.04	17483	11.364	10.3	27.6	-85.4
(2)	1152	6.90	8.54	17627	11.457	10.38	24.8	-89.6
(3)	1154	6.89	8.23	17663	11.474	10.39	24.3	-90.2
(4)	1156	6.90	8.04	17661	11.480	10.39	23.5	-90.2

WEATHER CONDITIONS

Cldy - Breezy - 25-30°F

WATER APPEARANCE

Clear - slight yw tint cloudy

no odor

SAMPLE LOG/NOTES:

Bail 8011 dry 8260

MKTF-26	
GAUGE DATE	3/6/17
GAUGE TIME	1215
DTB (feet) Depth to Bottom	17.15
DTP	7.44
DTW	8.19
DTP-DTW (Hydrocarbon Layer)	0.75
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			No Samples					
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

yw - cldy - odor

SAMPLE LOG/NOTES:

No Samples Collected - has hydrocarbon layer retention panels full - East of wells

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

3/29/17

MKTF-24	
GAUGE DATE	3/6/17
GAUGE TIME	1236
DTB (feet) Depth to Bottom	30.47
DTP	—
DTW	20.61
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	9.86
Capacity per foot	.163
3 Well Volumes	5gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	~~3/6/17~~
SAMPLE TIME	~~1445~~ (1255)

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1010	7.03	11.69	3250	2.112	1.71	16.1	-231.1
(2)	1012	7.03	11.35	3264	2.121	1.72	14.4	-231.4
(3)	1014	7.02	11.22	3264	2.121	1.72	16.2	-232.3
(4)	1016	7.02	10.98	3267	2.123	1.72	16.3	-233.6

WEATHER CONDITIONS

Cldy - breezy - 25-30°

WATER APPEARANCE

clear - pink - cloudy - muddy

SAMPLE LOG/NOTES: stopped @ 5gals - wtr muddy will allow to recharge before sampling.
Resampled 3/29/17 @ 1015AM

MKTF-25	
GAUGE DATE	3/6/17
GAUGE TIME	1335
DTB (feet) Depth to Bottom	19.43
DTP	—
DTW	9.52
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.91
Capacity per foot	.163
3 Well Volumes	5
PURGE DATE	
PURGE TIME	
SAMPLE DAY	3/6/17
SAMPLE TIME	1408

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1402	7.03	8.41	2684	1.744	1.39	22.8	~~-960~~ -97.7
(2)	1404	7.05	8.44	2683	1.744	1.34	22.9	-96.0
(3)	1406	7.06	8.47	2685	1.745	1.39	21.4	-93.7
(4)	1408	7.07	8.46	2688	1.747	1.4	20.9	-93.4

WEATHER CONDITIONS

windy

WATER APPEARANCE

clear

8011 + 8260 8015 WQCC Cat/Anion 8270 + Duplicate 1414

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-28	
GAUGE DATE	3/6/17
GAUGE TIME	1500
DTB (feet) Depth to Bottom	16.16
DTP	—
DTW	4.68
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	11.48
Capacity per foot	.163
3 Well Volumes	6 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1514

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1508	8.25	16.05	51	.033	.02	76.1	-94.6
(2)	1510	8.36	17.03	50	.033	.02	77.3	-93.3
(3)	1512	8.39	17.11	51	.033	.02	78.3	-94.4
(4)	1514	8.43	17.11	47	.031	.02	78.4	-95.0

WEATHER CONDITIONS

WATER APPEARANCE

- clear - slight orange tint
no odor.

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

missing 2011

MKTF-37	
GAUGE DATE	3/1/17
GAUGE TIME	1000
DTB (feet) Depth to Bottom	24.60
DTP	
DTW	6.9
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	17.7
Capacity per foot	.163
3 Well Volumes	8 gals
PURGE DATE	3/1/17
PURGE TIME	1004
SAMPLE DAY	
SAMPLE TIME	1025

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	Not Available -							
(2)								
(3)	Did not record readings.							
(4)								

WEATHER CONDITIONS

Clear, slight breeze, 30-35°F

WATER APPEARANCE

Clear - gray - sheen - odor

SAMPLE LOG/NOTES: WTR inside vault - below Plug.

MKTF-18	
GAUGE DATE	3/1/17
GAUGE TIME	1058
DTB (feet) Depth to Bottom	25.38
DTP	
DTW	7.81
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	17.57
Capacity per foot	.163
3 Well Volumes	9 gals
PURGE DATE	
PURGE TIME	1100
SAMPLE DAY	
SAMPLE TIME	1418

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1414	7.24	12.87	1367	.888	.69	32.4	-161.7
(2)	1416	7.20	12.34	1371	.891	.69	29.8	-159.1
(3)	1418	7.22	11.98	1374	.893	.69	28.9	-159.1
(4)	1420	7.22	11.78	1372	.892	.69	29.9	-160.3

WEATHER CONDITIONS

Clear

WATER APPEARANCE

Clear - pink - brown - no odor

stopped purge @ 1108

SAMPLE LOG/NOTES: Bailed ~4.5 gallons - mud - Will allow to recharge ~5 to

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.

55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF - 04	
GAUGE DATE	3/2/17
GAUGE TIME	0940
DTB (feet) Depth to Bottom	~~22.15~~ 23.77
DTP	
DTW	8.31
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	~~15.46~~ 13.84
Capacity per foot	.74
3 Well Volumes	30
PURGE DATE	~~0442~~
PURGE TIME	0942
SAMPLE DAY	3/2/17
SAMPLE TIME	1130

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1126	7.01	12.27	1809	1.176	.92	36.6	-91.6
(2)	1128	7.01	12.17	1814	1.179	.93	32.9	-88.1
(3)	~~1128~~ 1130	7.0	12.00	1819	1.182	.93	31.1	-85.4
(4)	1132	7.01	12.12	1819	1.182	.93	29.8	-83.6

WEATHER CONDITIONS

clear, slight breeze, 25-30°

WATER APPEARANCE

clear - gray - muddy - sheen slight odor

SAMPLE LOG/NOTES: Stopped purge @ 21 gallons - turned muddy, (100) silty - will allow to recharge.

MKTF - 05	
GAUGE DATE	3/2/17
GAUGE TIME	0935
DTB (feet) Depth to Bottom	17.75
DTP	13.33
DTW	13.62
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

Need bail

WEATHER CONDITIONS

clear - slight breeze 25-30°

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

*Bail dry

MKTF-07B	
GAUGE DATE	3/2/17
GAUGE TIME	
DTB (feet) Depth to Bottom	~~22.15~~ 18.45
DTP	6.42
DTW	7.59
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	.74
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear, slight breeze, 30.35°

WATER APPEARANCE

odor

SAMPLE LOG/NOTES:

MKTF-11	
GAUGE DATE	3/2/17
GAUGE TIME	1021
DTB (feet) Depth to Bottom	18.14
DTP	
DTW	6.96
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	11.18
Capacity per foot	.74
3 Well Volumes	25
PURGE DATE	3/2/17
PURGE TIME	1025
SAMPLE DAY	3/2/17
SAMPLE TIME	1146

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1141	8.23	1708	13	.009	0	78.0	-94.9
(2)	1143	7.24	13.28	3168	2.059	1.67	17.6	-111.7
(3)	1145	7.25	11.77	3187	2.071	1.68	15.1	-111.9
(4)	1147	7.26	11.48	3194	2.076	1.68	15.1	-110.8

WEATHER CONDITIONS

clear, breeze, 30.35°F

WATER APPEARANCE

clear - gray - murky - odor sheen

SAMPLE LOG/NOTES:

Bailed 2.5 gals - wtr - gray-murky - will allow to recher before sumpling. Stopped @ 1044.

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

8260
8015D
WQCC
Cat/An
8270

MKTF-10	
GAUGE DATE	3/2/17
GAUGE TIME	1054
DTB (feet) Depth to Bottom	15.99
DTP	—
DTW	7.47
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.52
Capacity per foot	.74
3 Well Volumes	19
PURGE DATE	
PURGE TIME	1057
SAMPLE DAY	
SAMPLE TIME	1212

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1208	7.0	12.14	1847	1.201	.94	22.9	-112.2
(2)	1210	7.07	11.63	1859	1.209	.95	17.8	-106.7
(3)	1212	7.09	11.32	1864	1.212	.95	17.6	-103.0
(4)								

WEATHER CONDITIONS

Clear, breezy, 30-35°F

WATER APPEARANCE

clear - pink - gray - murky

SAMPLE LOG/NOTES: bailed 4 gals - turned murky - brown
Stopped purge @ 1108 - will allow to recharge before collecting samples
Collected - Dup

MKTF-15	
GAUGE DATE	3/2/17
GAUGE TIME	1248
DTB (feet) Depth to Bottom	19.48
DTP	—
DTW	12.15
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	7.33
Capacity per foot	.163
3 Well Volumes	4 gals
PURGE DATE	
PURGE TIME	1250
SAMPLE DAY	
SAMPLE TIME	1310

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1305	6.68	13.45	10220	6.643	5.80	27.7	-134.7
(2)	1307	6.70	13.19	10278	6.687	5.83	19.8	-141.0
(3)	1309	6.71	13.13	10290	6.689	5.84	16.7	-130.2
(4)	1311	6.71	13.09	10311	6.702	5.85	15.2	-134.5

WEATHER CONDITIONS

WATER APPEARANCE

odor, clear - pink

SAMPLE LOG/NOTES: WTR inside vault - below plug

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-36	
GAUGE DATE	3/11/17
GAUGE TIME	1125
DTB (feet) Depth to Bottom	15.45
DTP	
DTW	5.56
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.89
Capacity per foot	.163
3 Well Volumes	5 gal
PURGE DATE	
PURGE TIME	1127
SAMPLE DAY	
SAMPLE TIME	1138

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1132	7.64	12.93	1412	.918	.71	83.7	-180.2
(2)	1134	7.0	10.54	1463	.951	.74	18.2	-199.1
(3)	1136	6.99	9.70	1466	.953	.74	22.7	-198.4
(4)	1138	6.98	9.29	1466	.953	.74	20.4	-195.2

WEATHER CONDITIONS

clear, breezy, 30-35°F

WATER APPEARANCE

WTR inside vault - bailed before removing opening plug

clear - gray - sheen - odor

8011
8260
WQCC
Cat/An
8270

SAMPLE LOG/NOTES:

@ 1240
+ Duplicate
8011
Sodium Thiosulfate

MKTF-35	
GAUGE DATE	3/11/17
GAUGE TIME	1200
DTB (feet) Depth to Bottom	16.45
DTP	
DTW	6.18
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.27
Capacity per foot	@ .163
3 Well Volumes	5gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1220

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1214	7.45	9.9	1236	.803	.62	21.4	-224.4
(2)	1216	7.37	9.11	1240	.806	.62	18.9	-223.6
(3)	1218	7.33	8.45	1243	.808	.62	16.4	-221.4
(4)	1220	7.33	8.01	1246	.810	.62	15.7	-217.1

WEATHER CONDITIONS

w

WATER APPEARANCE

WTR inside vault - below plug

clear - slightly gray - no odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-34	
GAUGE DATE	3/1/17
GAUGE TIME	1310
DTB (feet) Depth to Bottom	27.68
DTP	
DTW	16.5
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	11.18
Capacity per foot	.163
3 Well Volumes	55 gal
PURGE DATE	
PURGE TIME	1313
SAMPLE DAY	
SAMPLE TIME	1327

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1314	7.69	13.14	1684	1.095	.86	48.8	-161.9
(2)	1316	7.67	12.89	1692	1.1	.86	48.6	-158.8
(3)	1318	7.66	12.97	1690	1.098	.86	48.3	-163.5
(4)	1320	7.67	13.01	1690	1.099	.86	48.5	-177.1

WEATHER CONDITIONS

clear, breezy, 30-35°

WATER APPEARANCE

clear - no odor detected

SAMPLE LOG/NOTES:

MKTF-45	
GAUGE DATE	3-1-17
GAUGE TIME	1428
DTB (feet) Depth to Bottom	30.24
DTP	10.32
DTW	10.63
DTP-DTW (Hydrocarbon Layer)	.31
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			none taken					
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

yw - clear - odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

Resample

MKTF-27	
GAUGE DATE	3/29/17
GAUGE TIME	0810
DTB (feet) Depth to Bottom	14.72
DTP	
DTW	6.55
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.17
Capacity per foot	.163
3 Well Volumes	4 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0820

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	814	7.41	12.03	13987	8.571	7.62	4005	-124.6
(2)	816	7.21	8.36	14414	9.269	6.35	52.9	-162.6
(3)	818	7.22	7.79	14521	9.439	6.41	4.38	-167.1
(4)	820	7.23	7.41	14589	9.483	8.44	39.4	-191.1

WEATHER CONDITIONS

Clear, calm, 30-35°

WATER APPEARANCE

Clear - turned murk

SAMPLE LOG/NOTES:

MKTF-28	
GAUGE DATE	3/29/17
GAUGE TIME	0840
DTB (feet) Depth to Bottom	16.16
DTP	
DTW	11.48
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	4.68
Capacity per foot	
3 Well Volumes	2 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0851

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	848	8.11	12.96	56	.036	.03	9604.3	-150.3
(2)	850	8.76	13.77	3426	1.573	1.25	46.5	-170.3
(3)	852	7.72	13.11	2467	1.564	1.25	41.4	-168.8
(4)								

WEATHER CONDITIONS

Clear - breezy - 30-35°

WATER APPEARANCE

clear - cldy - orange tint

SAMPLE LOG/NOTES:

Excavation near mill - BWON project - FW Line

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

Re Sample 8011

MKTF-30	
GAUGE DATE	3/29/17
GAUGE TIME	904
DTB (feet) Depth to Bottom	23.20
DTP	—
DTW	13.10
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	10.1
Capacity per foot	
3 Well Volumes	5
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0920

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	917	7.54	10.51	8584	2.329	1.90	46.7	-186.6
(3)	919	7.50	10.26	3573	2.322	1.89	36.3	-187.2
(4)	921	7.50	9.40	3595	2.337	1.90	33.6	-188.2

WEATHER CONDITIONS

~~Clear~~ P/C, breezy, 30-35°

WATER APPEARANCE

Clear - cldy - pink

SAMPLE LOG/NOTES:

Dup 0950

MKTF-29	
GAUGE DATE	3/29/17
GAUGE TIME	0926
DTB (feet) Depth to Bottom	22.84
DTP	—
DTW	10
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	22.74
Capacity per foot	
3 Well Volumes	11 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0944

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	938	7.62	10.75	2128	1.383	1.09	23.4	-224.4
(2)	940	7.54	10.25	2123	1.38	1.09	18.1	-225.8
(3)	942	7.52	9.88	2116	1.375	1.09	17.0	-225.1
(4)	944	7.51	9.57	2117	1.376	1.09	15.3	-224.1

WEATHER CONDITIONS

P/C, breezy, 30-35°

WATER APPEARANCE

clear

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

Resample

8011

MKTF-24	
GAUGE DATE	3/29/17
GAUGE TIME	1000
DTB (feet) Depth to Bottom	30.47
DTP	
DTW	20.66
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.81
Capacity per foot	
3 Well Volumes	5gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1015

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1010	7.03	11.69	3250	2.112	1.71	16.1	-231.1
(2)	1012	7.03	11.35	3264	2,121	1.72	14.4	-234
(3)	1014	7.02	11.22	3264	2.121	1.72	16.2	-232.3
(4)	1016	7.02	10.98	3267	2.123	1.72	16.3	-233.6

WEATHER CONDITIONS

P/C, breezy, 30.35

WATER APPEARANCE

clear, clay, pink

SAMPLE LOG/NOTES:

Resample

8011

MKTF-25	
GAUGE DATE	3/29/17
GAUGE TIME	1040
DTB (feet) Depth to Bottom	19.43
DTP	
DTW	9.7
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.73
Capacity per foot	
3 Well Volumes	5gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1054

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)		7.17	9.50	2402	1.561	1.24	83.6	-173.1
(2)		7.14	9.04	2441	1.587	1.26	17.4	-210.8
(3)		7.15	8.81	2446	1.59	1.27	16.3	-214.7
(4)		7.15	8.79	2436	1.583	1.26	16.0	-212.6

WEATHER CONDITIONS

P/C, breezy, 30-35°F

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW-56	
GAUGE DATE	3/29/17
GAUGE TIME	1134
DTB (feet) Depth to Bottom	18.59
DTP	
DTW	12.29
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	6.3
Capacity per foot	
3 Well Volumes	3gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1146

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1142	8.81	19.27	35	.023	.02	98.2	-152.4
(2)	1144	8.49	11.63	2386	1.551	1.24	31.2	-199.0
(3)	1146	7.43	11.84	2388	1.552	1.24	28.5	-199.2
(4)	1148	7.45	12.22	2387	1.552	1.24	28.5	-199.2

WEATHER CONDITIONS

P/C breezy, 35-40

WATER APPEARANCE

clear - cldy - orange tint

SAMPLE LOG/NOTES:

OW-55	
GAUGE DATE	3/29/17
GAUGE TIME	1209
DTB (feet) Depth to Bottom	30.70
DTP	
DTW	18.39
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1215

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1210	6.98	13.51	2173	1.412	1.12	14.7	-231.7
(2)	1212	6.95	13.22	2179	1.416	1.12	11.4	-225.2
(3)	1214	6.96	13.05	2183	1.419	1.13	10.4	-219.5
(4)	1216	6.95	12.95	2185	1.420	1.13	10.6	-213.2

WEATHER CONDITIONS

P/C, breezy, 35-40

WATER APPEARANCE

clear -- brown/pink

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW-54	
GAUGE DATE	3/29/17
GAUGE TIME	1235
DTB (feet) Depth to Bottom	31.04
DTP	—
DTW	18.44
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	
Capacity per foot	
3 Well Volumes	6 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1249

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1242	7.42	12.13	1897	1.233	.97	37.8	-204.7
(2)	44	7.23	12.22	1878	1.221	.96	14.8	-211.5
(3)	46	7.22	12.32	1878	1.221	.96	14.7	-210.4
(4)	48	7.22	12.32	1878	1.221	.96	14.0	-209.0

WEATHER CONDITIONS

p/c, breezy, 45-50°

WATER APPEARANCE

clear - pink - brown

SAMPLE LOG/NOTES:

OW-53	
GAUGE DATE	3/29/17
GAUGE TIME	1306
DTB (feet) Depth to Bottom	33.90
DTP	—
DTW	DRY
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

p/c, breezy, 45-50°.

WATER APPEARANCE

~~clear~~ N/A.

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

flush mount @ End up RR Road

OW-58

GAUGE DATE	3/29/17
GAUGE TIME	1420
DTB (feet) Depth to Bottom	47.2 ~~47.31~~
DTP	
DTW	25.31
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	21.89
Capacity per foot	
3 Well Volumes	11 gals
PURGE DATE	
PURGE TIME	3/29/17
SAMPLE DAY	
SAMPLE TIME	1450

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1444	7.58	18.19	1461	.95	.74	118.5	-193.4
(2)	46	6.96	1382	1550	1.008	.79	17.6	-212.2
(3)	48	6.94	1352	1552	1.008	.79	16.4	-207.5
(4)	50	6.96	1334	1551	1.008	.79	15.5	-205.2

WEATHER CONDITIONS

WATER APPEARANCE

clear - pink

SAMPLE LOG/NOTES:

Bailed ~ 4 gals - wtr-turned pink/brn . . . < 1" wtr inside vault - below plug

NW Cor 574

OW-57

GAUGE DATE	3/29/17
GAUGE TIME	1510
DTB (feet) Depth to Bottom	28.1
DTP	
DTW	20.75
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	3.5
PURGE DATE	
PURGE TIME	Stopped @ 1320
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	did not							
(2)								
(3)	meter	malfunction						
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

hrs Clear - Cldy - pk

SAMPLE LOG/NOTES:

purged ~ 2 gals - turned muddy - will allow to recharge before collecting samples.

1320 3 7.75 1.63 6522 1550 1.008 .79 16.5 -215.3

Back @ 8/30/17 @ 1240 to collected samples -

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

STP 1 to EP 2	
GAUGE DATE	3-30-17
GAUGE TIME	~~0830~~
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	3-30-17
SAMPLE TIME	0840

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

O/C - calm, 35-40°

WATER APPEARANCE

SAMPLE LOG/NOTES:

EP-2	
GAUGE DATE	3/30/17
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	0845
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EP-3	
GAUGE DATE	3/2017
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0910

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

EP-4	
GAUGE DATE	3/2017
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0920

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EP-5	
GAUGE DATE	3/30/17
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0945

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

EP-6	
GAUGE DATE	3/30/17
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0955

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EP-7	
GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1015

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

EP-11	
GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1025

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EP-12A	
GAUGE DATE	3/30/17
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1110

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

green

SAMPLE LOG/NOTES:

EP-12B	
GAUGE DATE	3/30/17
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1120

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

green

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EP-8	
GAUGE DATE	3/30/17
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	1138
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

green

SAMPLE LOG/NOTES:

EP-9	
GAUGE DATE	3/30
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	1205
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

PW-4	
GAUGE DATE	3/30/17
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1220

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW-29	
GAUGE DATE	5/30/17
GAUGE TIME	1050
DTB (feet) Depth to Bottom	51.08
DTP	—
DTW	17.76
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	33.32
Capacity per foot	.74
3 Well Volumes	74 gals
PURGE DATE	5/30
PURGE TIME	1057
SAMPLE DAY	
SAMPLE TIME	1140

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1134	7.51	13.60	1652	1.074	.84	11.3	-98
(2)	1136	7.50	13.81	1642	1.067	.83	10.7	-95.1
(3)	1138	7.49	14.05	1637	1.064	.83	9.4	-88.0
(4)	1140	7.48	14.33	1635	1.063	.83	8.9	-87.5

WEATHER CONDITIONS

plc, slight breeze, 70-75° F

WATER APPEARANCE

Clear - no odor.

SAMPLE LOG/NOTES:

purged ~ 57 gals - lost suction. Allowed to recharge before collecting samples. © Purge wtr collected in 55 gal drum.

OW 14	
GAUGE DATE	5-30-17
GAUGE TIME	1:40
DTB (feet) Depth to Bottom	46.52
DTP	—
DTW	22.55
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	23.97
Capacity per foot	.74
3 Well Volumes	53.20
PURGE DATE	5/30/17
PURGE TIME	1:40
SAMPLE DAY	5/30/17
SAMPLE TIME	2:15

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1410	7.25	15.56	1711	1.112	.87	45.4	-136.4
(2)	1412	7.24	15.99	1710	1.111	.87	41.4	-132.5
(3)	1414	7.27	16.41	1709	1.111	.87	40.9	-131.1
(4)	1416	7.28	16.74	1711	1.112	.87	40.1	-129.6

WEATHER CONDITIONS

windy/cloudy 68°

WATER APPEARANCE

clear, no oder

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW 13	
GAUGE DATE	5-31-17
GAUGE TIME	8:58
DTB (feet) Depth to Bottom	99.15
DTP	—
DTW	21.1
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	78.05
Capacity per foot	.74
3 Well Volumes	173.27
PURGE DATE	5-31-17
PURGE TIME	9 02
SAMPLE DAY	5-31-17
SAMPLE TIME	12:03

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1154	8.24	13.99	1050	.683	.52	11.9	-187.9
(2)	1156	8.26	1442	1052	.684	.52	9.7	-191.0
(3)	1158	8.26	14.81	1052	.684	.52	9.7	-189.0
(4)	1200	8.24	15.20	1055	.684	.52	150	-191.2

WEATHER CONDITIONS

Breezy / overcast / 51°

WATER APPEARANCE

clear no odor

SAMPLE LOG/NOTES: Safety Alarm shut down - did not start purge process. Restart Purge time 10:17

OW 30	
GAUGE DATE	5-31-17
GAUGE TIME	7:58
DTB (feet) Depth to Bottom	49.90
DTP	—
DTW	22.09
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	~~27.80~~ ~~39.80~~
Capacity per foot	.74
3 Well Volumes	61.73 ~~77.27~~
PURGE DATE	5-31-17
PURGE TIME	8:05
SAMPLE DAY	5-31-17
SAMPLE TIME	8:20

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	816	7.33	12.80	1631	1.06	.83	30.9	-156.5
(2)	818	7.29	12.84	1631	1.06	.83	16.2	-161.9
(3)	820	7.30	12.93	1632	1.061	.83	12.7	-162.1
(4)	822	7.29	12.99	1631	1.06	.83	11.6	-159.5

WEATHER CONDITIONS

windy 46° Overcast

WATER APPEARANCE

clear no Odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW 1	
GAUGE DATE	5-31-17
GAUGE TIME	1248
DTB (feet) Depth to Bottom	94.55
DTP	~
DTW	1.77
DTP-DTW (Hydrocarbon Layer)	~
DTW-DTB	92.78
Capacity per foot	.74
3 Well Volumes	205.97
PURGE DATE	5-31-17
PURGE TIME	1251
SAMPLE DAY	5-31-17
SAMPLE TIME	1:53

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1349	9.10	14.49	1160	.754	.58	9.1	-197.2
(2)	1351	9.15	14.88	1168	.759	.58	9.2	-196.3
(3)	1353	9.13	1536	1172	.762	.59	8.0	-187.4
(4)	1355	9.07	1571	1176	.764	59	8.4	-188.3

WEATHER CONDITIONS

Overcast / Breezy 66°

WATER APPEARANCE

Clear no odor

SAMPLE LOG/NOTES:

OW 10	
GAUGE DATE	5-31-17
GAUGE TIME	2:15 PM
DTB (feet) Depth to Bottom	60.33
DTP	-
DTW	1.07
DTP-DTW (Hydrocarbon Layer)	-
DTW-DTB	59.26
Capacity per foot	.74
3 Well Volumes	131.55
PURGE DATE	5-31-17
PURGE TIME	2 20
SAMPLE DAY	5-31-17
SAMPLE TIME	3:05

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1500	7.72	14.14	3152	2.049	1.66	14.7	-134.4
(2)	1502	7.70	14.52	3158	2.053	1.66	134	-131.2
(3)	1504	7.70	14.79	3160	2.054	1.66	12.8	-128.7
(4)	1506	7.68	15.07	3162	2.055	1.66	12.2	-127.7

WEATHER CONDITIONS

Partly cloudy - windy 68°

WATER APPEARANCE

water clear / NO smell

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OAP 1S 1	
GAUGE DATE	6-1-17
GAUGE TIME	8:32
DTB (feet) Depth to Bottom	26.0
DTP	-
DTW	11.46
DTP-DTW (Hydrocarbon Layer)	-
DTW-DTB	14.54
Capacity per foot	.163
3 Well Volumes	7.11
PURGE DATE	6-1-17
PURGE TIME	8 36
SAMPLE DAY	6-1-17
SAMPLE TIME	8:54

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	850	7.21	15.03	5604	3.642	3.05	13.7	-134.9
(2)	852	7.18	15.02	5615	3.650	3.06	10.3	-131.3
(3)	854	7.18	1511	5620	3.653	3.06	11.3	-135.4
(4)	856	7.18	1519	5634	3.662	3.07	116.7	-118.1

WEATHER CONDITIONS

Breezy - Sunny 51°

WATER APPEARANCE

Clear with Yellow tint

SAMPLE LOG/NOTES:

NAP-2	
GAUGE DATE	6-1-17
GAUGE TIME	9:26
DTB (feet) Depth to Bottom	13.61
DTP	
DTW	8.35
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	5.26
Capacity per foot	2.57
3 Well Volumes	.163
PURGE DATE	6-1-17
PURGE TIME	9:31
SAMPLE DAY	6-1-17
SAMPLE TIME	1245

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1238	7.28	20.95	1710	1.112	.87	14.0	-146.4
(2)	1240	7.30	21.07	1713	1.114	.87	12.8	-145.7
(3)	1242	7.36	21.18	1717	1.116	.87	11.8	-146.2
(4)	1244	7.37	21.29	1719	1.117	.87	11.6	-142.7

WEATHER CONDITIONS

Breezy 51° Clear Sunny

WATER APPEARANCE

Clear

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

KA 3	
GAUGE DATE	6-1-17
GAUGE TIME	9:26
DTB (feet) Depth to Bottom	23.20
DTP	
DTW	8.22
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	14.98
Capacity per foot	.163
3 Well Volumes	7.32
PURGE DATE	6-1-17
PURGE TIME	9:36
SAMPLE DAY	6-1-17
SAMPLE TIME	1000

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1256	7.25	21.60	1631	1.06	.82	20.7	-81.6
(2)	1258	7.25	21.61	1633	1.061	.83	20.1	-79.2
(3)	1300	7.25	21.66	1635	1.062	.83	20.6	-76.3
(4)	1302	7.26	21.74	1636	1.064	.83	20.3	-74.2

WEATHER CONDITIONS

Breezy Sunny 51°

WATER APPEARANCE

Clear

SAMPLE LOG/NOTES: West API Bay 005 - Covers off

NAP-3	
GAUGE DATE	6-1-17
GAUGE TIME	9:28
DTB (feet) Depth to Bottom	30.42
DTP	
DTW	10.2
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	29.22
Capacity per foot	.163
3 Well Volumes	14.28
PURGE DATE	6-1-17
PURGE TIME	10:01
SAMPLE DAY	6-2-17
SAMPLE TIME	7:50

TEST PARAMATERS 6/2/18

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	743	8.18	18.34	987	.641	.49	44.5	-64.1
(2)	745	8.07	18.33	1804	1.172	.92	31.7	-68.6
(3)	747	8.01	17.77	1814	1.179	.93	30.0	-67.1
(4)	749	7.98	17.51	1818	1.182	.93	28.6	-67.2

WEATHER CONDITIONS

Breezy, Sunny 51°

WATER APPEARANCE

Clear

SAMPLE LOG/NOTES: 6-1 Lightning Storm did not complete
Returned 6-2 7:44 for sampling

Collected Duplicate

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

NAPIS-1	
GAUGE DATE	6-2
GAUGE TIME	0748
DTB (feet) Depth to Bottom	13.53
DTP	
DTW	6.85
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	6.68
Capacity per foot	.163
3 Well Volumes	3
PURGE DATE	
PURGE TIME	0750
SAMPLE DAY	6/2/17
SAMPLE TIME	0854

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	848	802	16.17	1745	1.134	0.89	13.95	-330
(2)	850	7.37	15.76	1740	1.131	0.89	39.1	-80.7
(3)	852	7.37	15.80	1740	1.131	0.89	38.1	-94.8
(4)	854	7.37	15.84	1739	1.131	0.89	37.7	-95.4

WEATHER CONDITIONS

P/C, calm

WATER APPEARANCE

clear - no odor

SAMPLE LOG/NOTES: 854 API - West bay OOS

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

GWM-3	
GAUGE DATE	6/2/17
GAUGE TIME	0850
DTB (feet) Depth to Bottom	
DTP	
DTW	DRY
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

GWM-2	
GAUGE DATE	6/2/17
GAUGE TIME	0852
DTB (feet) Depth to Bottom	
DTP	
DTW	DRY
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

GWM-1	
GAUGE DATE	6/2/17
GAUGE TIME	0853
DTB (feet) Depth to Bottom	26.20
DTP	21.54
DTW	
DTP-DTW (Hydrocarbon Layer)	21.98
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

oily Layer (yellow)

SAMPLE LOG/NOTES:

STP-1NW	
GAUGE DATE	6-2-17
GAUGE TIME	9:10
DTB (feet) Depth to Bottom	50
DTP	—
DTW	20.66
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	29.34
Capacity per foot	.162
3 Well Volumes	14.25
PURGE DATE	6.2.17
PURGE TIME	9:15
SAMPLE DAY	6.2.17
SAMPLE TIME	9:40

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	935	7.77	13.66	6000	3.9	3.28	37.3	-140.8
(2)	937	7.86	13.75	6007	3.905	3.28	34.3	-125.5
(3)	939	7.92	13.83	6021	3.913	3.29	33.5	-121.0
(4)	941	7.95	13.98	6023	3.915	3.29	33.3	-118.2

WEATHER CONDITIONS

clear 53°

WATER APPEARANCE

SAMPLE LOG/NOTES:

X Did not gauge STP1-DW Due to high H_2S levels in area. Not authorize entry.

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

Aerator Pond 2

EV 3/4S	
GAUGE DATE	6/2/17
GAUGE TIME	10
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1020

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

STP-1 to EP2	
GAUGE DATE	6-2-16
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	6-2-17
SAMPLE TIME	10 37

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Sunny 53°

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

LDU R	
GAUGE DATE	6-2-17
GAUGE TIME	11 00
DTB (feet) Depth to Bottom	
DTP	
DTW	8.1
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	1104
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Sunny Breezy

WATER APPEARANCE

SAMPLE LOG/NOTES:

LDU W	
GAUGE DATE	6-2-17
GAUGE TIME	11 02
DTB (feet) Depth to Bottom	
DTP	
DTW	9.42
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1115

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Sunny Breezy

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

Sample

MKTF-16	
GAUGE DATE	6-7-17
GAUGE TIME	1550
DTB (feet) Depth to Bottom	14.10
DTP	
DTW	7.66
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	6.44
Capacity per foot	.163
3 Well Volumes	3 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	6-8-17
SAMPLE TIME	1000 PM

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1252	8.47	2835	38	0025	.02	73.6	-81.7
(2)	1254	7.32	20.05	3092	2.01	1.62	19.8	-102.8
(3)	1256	7.27	2023	3085	2.005	1.61	15.8	-95.3
(4)	1258	7.25	20.35	3087	2.007	1.62	14.6	-91.9

WEATHER CONDITIONS

plc, breezy, 80-88°

WATER APPEARANCE

Clear to brn-cloudy - slight purple tint.

Duplicate #300

SAMPLE LOG/NOTES: WL inside vault below plug - Purged ~ 3 gals. Not enough WL to sample - will allow to recharge before sampling. Returned to sample 6-8-17

MKTF20	
GAUGE DATE	6-8-17
GAUGE TIME	1400
DTB (feet) Depth to Bottom	9.89
DTP	
DTW	5.57
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	12.94
Capacity per foot	.740
3 Well Volumes	9.50
PURGE DATE	6-8-17
PURGE TIME	1415
SAMPLE DAY	
SAMPLE TIME	1400

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Windy 79° Sunny

WATER APPEARANCE

Purged 5 gals before empty did not sample

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKT F 33	
GAUGE DATE	6-7-17
GAUGE TIME	7:48
DTB (feet) Depth to Bottom	33.2
DTP	-
DTW	22.07
DTP-DTW (Hydrocarbon Layer)	-
DTW-DTB	11.13
Capacity per foot	5.44
3 Well Volumes	.163
PURGE DATE	6-7-17
PURGE TIME	07.53
SAMPLE DAY	6-7-17
SAMPLE TIME	0805

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	756	8.57	12.75	1693	1.101	.80	183.7	-133.6
(2)	758	7.74	13.04	1508	.98	.76	27.3	-159.3
(3)	800	7.66	13.06	1480	.962	.75	21.9	-156.1
(4)	802	7.64	13.09	1480	.962	.75	21.1	-157.7

WEATHER CONDITIONS

Breezy / 57°

WATER APPEARANCE

Clear - cloudy - pink

SAMPLE LOG/NOTES:

MK TF 22	
GAUGE DATE	6-7-17
GAUGE TIME	8:20
DTB (feet) Depth to Bottom	35.25
DTP	
DTW	25.31
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.94
Capacity per foot	.163
3 Well Volumes	4.86
PURGE DATE	6.7.17
PURGE TIME	8.24
SAMPLE DAY	
SAMPLE TIME	~~1035~~

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1230	7.35	14.60	1526	.992	.77	25.2	-77.9
(2)	1232	7.28	14.89	1520	.988	.77	20.7	-74.7
(3)	1234	7.25	15.12	1520	.994	.77	19.8	-70.1
(4)	1236	7.23	15.74	1532	.996	.78	22.0	-85.3

WEATHER CONDITIONS

Windy 58° Sunny/Part Cloudy

WATER APPEARANCE

clear - cloudy - Muddy Brown

End @ 8:37

muddy Stop purge - Recharge for sampling

sample 6-8-17

SAMPLE LOG/NOTES:

6/8/17 - Collected samples @ 1240

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF 23	
GAUGE DATE	6-7-17
GAUGE TIME	845
DTB (feet) Depth to Bottom	20.36
DTP	14.2
DTW	14.9
DTP-DTW (Hydrocarbon Layer)	0.7
DTW-DTB	5.46
Capacity per foot	2.604
3 Well Volumes	.163
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Partly Cloudy Sunny 58°

WATER APPEARANCE

NO Samples collected

Has Product Layer

SAMPLE LOG/NOTES: Bailed 3 gals w/ 4 in layer of product

MKTF-14	
GAUGE DATE	6/7/17
GAUGE TIME	905
DTB (feet) Depth to Bottom	17.46
DTP	10.68
DTW	17.52
DTP-DTW (Hydrocarbon Layer)	.84
DTW-DTB	6.94
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

NO Samples Collected

Bailed 21 Gal out

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MCF-13	
GAUGE DATE	6/7/17
GAUGE TIME	0920
DTB (feet) Depth to Bottom	21.05
DTP	13.35
DTW	13.41
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

plc, breezy,

WATER APPEARANCE

Hydrocarbon - NO Samples Collected

Bailed 16 Gals

Bailed to dryness

SAMPLE LOG/NOTES:

MKTF 12	
GAUGE DATE	6-7-17
GAUGE TIME	9:45
DTB (feet) Depth to Bottom	25.60
DTP	18.60
DTW	18.79
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	.074
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

sunny / windy

WATER APPEARANCE

Hydrocarbons - no samples

Bailed 10 Gals

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MTKF 1	
GAUGE DATE	6-7-17
GAUGE TIME	1045
DTB (feet) Depth to Bottom	17.42
DTP	4.89
DTW	5.42
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Windy Sunny 70

WATER APPEARANCE

Bailed 20 gals
Did not Sample

SAMPLE LOG/NOTES:

MKTF 2	
GAUGE DATE	6/7/17
GAUGE TIME	1050
DTB (feet) Depth to Bottom	20.48
DTP	17.1
DTW	17.11
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Windy 71°

WATER APPEARANCE

Bailed 20 gal
No samples

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-5 MW-23	
GAUGE DATE	6/7/17
GAUGE TIME	1330
DTB (feet) Depth to Bottom	17.75
DTP	13.79
DTW	14.25
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Overcast, breezy, 70-75°

WATER APPEARANCE

hc layer - No Samples Collected

SAMPLE LOG/NOTES:

MKTF-4	
GAUGE DATE	6/7/17
GAUGE TIME	1345
DTB (feet) Depth to Bottom	22.15
DTP	9.28
DTW	14.02
DTP-DTW (Hydrocarbon Layer)	.74
DTW-DTB	12.87
Capacity per foot	.74
3 Well Volumes	29.8 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	6-8-17
SAMPLE TIME	8:30

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	822	7.26	14.76	1801	1.170	0.92	29.0	-76.9
(2)	824	7.24	14.86	1815	1.179	0.93	29.3	-74.4
(3)	826	7.24	15.10	1817	1.181	0.93	27.8	-74.6
(4)	828	7.25	15.40	1817	1.181	0.93	28.5	-68.7

WEATHER CONDITIONS

Sunny windy 60°

WATER APPEARANCE

Bailed 18 gals - WB turned grey murky - will allow to recharge before collecting samples Stopped @ 1400 hrs

SAMPLE LOG/NOTES: 8:30 Returned to sample well

Sample

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-03	
GAUGE DATE	6/07/17
GAUGE TIME	1400
DTB (feet) Depth to Bottom	18.45
DTP	6.95
DTW	8.25
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

h/c layer - Red tint
bailed ~ 2 gals ~ 1 gal HC

SAMPLE LOG/NOTES:

Sample

MKTF-11	
GAUGE DATE	6/7/17
GAUGE TIME	1440
DTB (feet) Depth to Bottom	18.14
DTP	
DTW	7.39
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.78
Capacity per foot	.44
3 Well Volumes	2.5
PURGE DATE	
PURGE TIME	
SAMPLE DAY	6/8/17
SAMPLE TIME	855

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	848	7.55	15.24	3035	1.973	1.59	3.00	-161.5
(2)	850	7.49	15.34	3037	1.974	1.59	18.8	-161.1
(3)	852	7.48	15.43	3038	1.974	1.59	17.5	-149.4
(4)	854	7.47	15.54	3036	1.974	1.59	17.3	-138.9

WEATHER CONDITIONS

plc, breezy, 75-80°

WATER APPEARANCE

@ 1500 hrs

clear - gray. stop bailed @ ~ 2 gals - WTR sudsy - will allow to recharge before sampling

SAMPLE LOG/NOTES: Returned 6/8/17 to sample well

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

Sample

MKTF-10	
GAUGE DATE	6/7/17
GAUGE TIME	1510
DTB (feet) Depth to Bottom	15.99
DTP	
DTW	7.02
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.97
Capacity per foot	.74
3 Well Volumes	20
PURGE DATE	
PURGE TIME	
SAMPLE DAY	6-8-17
SAMPLE TIME	9:35

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	930	7.24	15.26	1845	1.2	.94	19.3	-89.1
(2)	932	7.21	15.17	1850	1.203	.95	17.7	-97.8
(3)	934	7.21	15.33	1839	1.196	.94	17.1	-94.7
(4)	936	7.21	15.49	1831	1.19	.93	16.6	-88.6

WEATHER CONDITIONS

plc, breezy, 75-80°

WATER APPEARANCE

Clear 1st bail – brown – murky. ~~purged~~ bailed ~ 5 gals – turned murky but allow to recha before sampling

SAMPLE LOG/NOTES: Returned to sample 6-8-17

Sample

MKTF-15	
GAUGE DATE	6/7/17
GAUGE TIME	1530
DTB (feet) Depth to Bottom	19.48
DTP	
DTW	11.93
DTP-DTW (Hydrocarbon Layer)	7.55
DTW-DTB	1.63
Capacity per foot	~~20~~ gal 4
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	6-8-17
SAMPLE TIME	1000

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	952	6.65	15.08	10124	6.58	5.74	10.1	-139.0
(2)	954	6.66	15.34	10155	6.601	5.76	9.7	-115.4
(3)	956	6.67	15.75	10146	6.595	5.75	9.7	-96.6
(4)	958	6.67	15.97	10159	6.603	5.76	10.5	-117.2

WEATHER CONDITIONS

windy 70° Sunny

WATER APPEARANCE

odor – Clear – Cloudy – pink – murky bailed 4 gals – will allow to recha before sampling. stopped @ 1540

SAMPLE LOG/NOTES: WTR inside vault below plug. Returned 6-8-17 to Sample had a shine on top of water

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTR 39	
GAUGE DATE	6/8/17
GAUGE TIME	1:15
DTB (feet) Depth to Bottom	15.20
DTP	
DTW	6.25
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.95
Capacity per foot	0.163
3 Well Volumes	4.37
PURGE DATE	6/8/17
PURGE TIME	13:15
SAMPLE DAY	6/8/17
SAMPLE TIME	13:35

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1330	7.13	18.81	3130	2.034	1.64	14.7	-160.6
(2)	1332	7.14	19.10	3130	2.035	1.64	14.4	-152.1
(3)	1334	7.14	19.37	3130	2.035	1.64	13.8	-144.3
(4)	1336	7.15	19.63	3133	2.037	1.64	13.2	-135.4

WEATHER CONDITIONS

Windy Sunny 80°

WATER APPEARANCE

order & sheen

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-29	
GAUGE DATE	6/21/17
GAUGE TIME	1350
DTB (feet) Depth to Bottom	9.89
DTP	
DTW	5.09
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	4.8
Capacity per foot	.74
3 Well Volumes	11
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1415

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)		did not collect data						
(2)								
(3)								
(4)								

WEATHER CONDITIONS

plc - calm - HOT

WATER APPEARANCE

clear - gray - odor

SAMPLE LOG/NOTES:

MKTF-38	
GAUGE DATE	6/21/17
GAUGE TIME	1420
DTB (feet) Depth to Bottom	20.29
DTP	
DTW	6.40
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	13.89
Capacity per foot	.163
3 Well Volumes	7 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1435

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)		did not store data						
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Cldy - Rain Sprinkles, windy

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

V210672LM SV076LFM ASO ?

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MCTF-37	
GAUGE DATE	6/14/17
GAUGE TIME	0835
DTB (feet) Depth to Bottom	24.60
DTP	7.2
DTW	7.24
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear, calm

WATER APPEARANCE

No Samples Collected
has # C layer + odor

SAMPLE LOG/NOTES:

@ 1045

MCTF-18	
GAUGE DATE	6/14/17
GAUGE TIME	0850
DTB (feet) Depth to Bottom	29.38
DTP	
DTW	6.3
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	19.08
Capacity per foot	.163
3 Well Volumes	9 gals
PURGE DATE	6/14/17
PURGE TIME	0855
SAMPLE DAY	
SAMPLE TIME	1045

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)	
(1)	1038	7.36	15.50	1391	.904	.70	39.4	-97.	1
(2)	1040	7.41	15.61	1380	.901	.70	36.1	-105.	1
(3)	1042	7.42	15.62	1388	.902	.70	35.3	-105	4
(4)									

WEATHER CONDITIONS

Clear, calm,

WATER APPEARANCE

Bailed 9 gals - WTR turned brown, murky - will allow to recha. for sampling. stopped @ 0905
Clear - brown/muddy.

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

0935 Sampled 8011

MKTF-36

GAUGE DATE	6/14/17
GAUGE TIME	0915
DTB (feet) Depth to Bottom	15.45
DTP	
DTW	5.4
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.05
Capacity per foot	.163
3 Well Volumes	5gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	0919
SAMPLE TIME	0935

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	926	7.07	17.26	1386	.901	.70	26.1	-119.1
(2)	928	7.05	17.26	1379	.897	.69	14.6	-118.4
(3)	930	7.05	17.24	1374	.893	.69	11.8	-114.6
(4)	932	7.04	17.17	1363	.886	.69	11.7	-118.6

WEATHER CONDITIONS

Clear, Calm

WATER APPEARANCE

Clear - gray - cloudy sheen - odor

SAMPLE LOG/NOTES: WTR inside vault > plug - bailed WTR before removing plug.

1015 8011

MKTF-35

GAUGE DATE	6/14/17
GAUGE TIME	0955
DTB (feet) Depth to Bottom	16.45
DTP	
DTW	7.12
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.33
Capacity per foot	.163
3 Well Volumes	5gal
PURGE DATE	
PURGE TIME	0957
SAMPLE DAY	
SAMPLE TIME	1015

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1004	7.31	15.79	1244	.809	.62	18.0	-124.7
(2)	1006	7.31	15.83	1240	.806	.62	17.9	-132.2
(3)	1008	7.30	15.78	1239	.806	.62	17.2	-136.4
(4)	1010	7.31	15.73	1239	.805	.62	17.0	-136.5

WEATHER CONDITIONS

Clear - slight breeze

WATER APPEARANCE

Clear, odor - gray

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

1330

MKTF-19	
GAUGE DATE	6/14/17
GAUGE TIME	1230
DTB (feet) Depth to Bottom	17.47
DTP	
DTW	10.58
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	6.89
Capacity per foot	.163
3 Well Volumes	3 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1330

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1320	7.30	14.40	1613	1.049	.82	17.3	-132.4
(2)	1322	7.12	14.64	1607	1.045	.82	14.1	-133.4
(3)	1324	7.08	14.91	1608	1.045	.82	13.4	-131.4
(4)	1326	7.08	15.33	1607	1.045	.82	13.0	-128.7

WEATHER CONDITIONS

Clear, calm,

WATER APPEARANCE

clear - pink - odor

SAMPLE LOG/NOTES:

MKTF-17	
GAUGE DATE	6/14/17
GAUGE TIME	1340
DTB (feet) Depth to Bottom	24.11
DTP	
DTW	9.98
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	14.13
Capacity per foot	.163
3 Well Volumes	7 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1410

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1400	8.41	34.96	71	.046	.03	83.8	-27.1
(2)	1402	7.27	15.11	1181	.767	.59	21.0	-223.1
(3)	1404	7.32	15.49	1175	.764	.59	18.5	-242.2
(4)	1406	7.39	17.61	547	.356	.27	19.1	-249.6

WEATHER CONDITIONS

Clear, Calm

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

1450

MKTF-34

GAUGE DATE	6/14/17
GAUGE TIME	1430
DTB (feet) Depth to Bottom	27.68
DTP	
DTW	17.63
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.05
Capacity per foot	@ .16
3 Well Volumes	5gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1450

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1445	7.92	1482	1700	1.105	.87	65.7	+31.9
(2)	1447	7.87	1553	1696	1.102	.86	66.9	-29.6
(3)	1449	7.84	1627	1692	1.100	.86	58.6	-26.5
(4)	1451	7.82	16.86	1693	1.101	.86	58.1	-23.4

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

Clear - No odor

Duplicate 1500 ~~1500~~

SAMPLE LOG/NOTES:

MKTF 45

GAUGE DATE	6/14/17
GAUGE TIME	1330
DTB (feet) Depth to Bottom	30.24
DTP	1.5
DTW	12.0
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

HC - odor

no samples

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-06	6/12/17
GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	23.77
DTP	16.6
DTW	17.24
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

no samples collected H Clayton

odor -

SAMPLE LOG/NOTES:

MKTF-07	6/12/17
GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	17.62
DTP	10.2
DTW	11.5
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

Odor - no Samples collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-08	
GAUGE DATE	6/12/17
GAUGE TIME	
DTB (feet) Depth to Bottom	21.98
DTP	11.98
DTW	12.4
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

clear, breezy, 70-75°

WATER APPEARANCE

No Samples - HC layer

SAMPLE LOG/NOTES:

MKTF-09	
GAUGE DATE	6/12/17
GAUGE TIME	
DTB (feet) Depth to Bottom	22.70
DTP	
DTW	12.64
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.06
Capacity per foot	.74
3 Well Volumes	22.8 gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1320

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1312	7.28	14.19	1602	1.041	0.81	36.3	-137.8
(2)	1314	7.28	14.42	1604	1.043	.81	25.4	-151.6
(3)	1316	7.28	14.94	1603	1.042	.81	22.5	-162.6
(4)	1318	7.28	15.21	1617	1.051	.82	21.9	-165.0

WEATHER CONDITIONS

Clear, breezy, 70-75°

WATER APPEARANCE

Clear - grey - slight odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF 20	
GAUGE DATE	6/12/17
GAUGE TIME	1345
DTB (feet) Depth to Bottom	9.89
DTP	
DTW	5.57
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	4.32
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	6/12/17
SAMPLE DAY	
SAMPLE TIME	1400

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	~~1350~~							
(2)	1352	6.96	20.97	2541	1.652	1.31	19.1	-194.6
(3)	1354	6.98	20.96	2536	1.648	1.31	11.0	-188.1
(4)	1356	6.98	21.08	2536	1.648	1.31	10.0	-175.0

WEATHER CONDITIONS

Clear

WATER APPEARANCE

clear to/yellow tint, odor

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF 28	
GAUGE DATE	6/5/17
GAUGE TIME	0830
DTB (feet) Depth to Bottom	16.16
DTP	
DTW	7.9
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.26
Capacity per foot	.163
3 Well Volumes	4 gal
PURGE DATE	
PURGE TIME	0835
SAMPLE DAY	
SAMPLE TIME	0845

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	836	7.76	18.48	2252	1.464	1.16	90.9	-30.9
(2)	838	7.64	17.24	2313	1.503	1.19	33.7	-50.8
(3)	840	7.67	17.39	2319	1.507	1.20	32.0	-51.3
(4)	842	7.70	17.53	2322	1.509	1.20	30.9	-52.3

WEATHER CONDITIONS

p/c - calm

WATER APPEARANCE

clear - no odor

cloudy

SAMPLE LOG/NOTES:

MKTF-27	
GAUGE DATE	6/5/17
GAUGE TIME	0910
DTB (feet) Depth to Bottom	14.72
DTP	
DTW	6.32
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	8.4
Capacity per foot	.163
3 Well Volumes	4 gal
PURGE DATE	
PURGE TIME	0912
SAMPLE DAY	
SAMPLE TIME	0925

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	918	7.15	13.65	10492	6.82	5.96	16.6	-61.0
(2)	920	7.15	13.78	10504	6.828	5.97	17.8	-61.6
(3)	922	7.16	13.93	10514	6834	5.98	16.6	-60.2
(4)	924	7.16	14.01	10530	6.845	5.99	16.6	-59.1

WEATHER CONDITIONS

p/c - calm

WATER APPEARANCE

clear - slightly cloudy / turbid

no odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.

55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-30	
GAUGE DATE	6/5/17
GAUGE TIME	0947
DTB (feet) Depth to Bottom	23.20
DTP	—
DTW	13.89
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	9.33
Capacity per foot	.163
3 Well Volumes	5gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1005

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1000	7.65	15.29	3155	2.051	1.66	28.9	-102.8
(2)	1002	7.64	15.46	3157	2.052	1.66	28.3	-101.4
(3)	1004	7.63	15.48	3161	2.054	1.66	27.8	-100.4
(4)	1006	7.62	15.5	3163	2.056	1.66	27.3	-98.4

80 ft

WEATHER CONDITIONS

plc, breezy

WATER APPEARANCE

Clear - pink - cldy - No Odor

SAMPLE LOG/NOTES:

MKTF-29	
GAUGE DATE	6/5/17
GAUGE TIME	1025
DTB (feet) Depth to Bottom	22.84
DTP	—
DTW	0.95
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	21.89
Capacity per foot	.163
3 Well Volumes	11gal
PURGE DATE	
PURGE TIME	1037
SAMPLE DAY	6/5/17
SAMPLE TIME	1045

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1040	8.40	26.53	17	.011	.01	328.8	-66.1
(2)	1042	7.66	14.75	2163	1.406	1.11	18.2	-102.0
(3)	1044	7.65	14.97	2161	1.405	1.11	15.5	-115.4
(4)								

WEATHER CONDITIONS

plc, breezy

WATER APPEARANCE

Clear - brownish-pink -

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF 24	
GAUGE DATE	6/5/17
GAUGE TIME	1115
DTB (feet) Depth to Bottom	17.15
DTP	8.03
DTW	8.99
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	.163
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

plc, slight breeze

WATER APPEARANCE

has HC layer

~~clear~~ no samples collected

SAMPLE LOG/NOTES:

MKTF 24	
GAUGE DATE	6/5/17
GAUGE TIME	1125
DTB (feet) Depth to Bottom	30.47
DTP	
DTW	21.07
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.4
Capacity per foot	.163
3 Well Volumes	5 gal
PURGE DATE	
PURGE TIME	1127
SAMPLE DAY	
SAMPLE TIME	1615

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1609	8.38	14.01	2645	1.719	1.38	321.6	15
(2)	1611	7.36	13.6	2586	1.681	1.34	34.4	-5.3
(3)	1613	7.31	14.05	2586	1.681	1.35	28.1	-10.9
(4)	1615	7.30	14.41	2587	1.681	1.35	27.0	-13.9

WEATHER CONDITIONS

plc - slight breeze

WATER APPEARANCE

clear - pinkish brown - turned silty @ end of Samplings will allow to recharge before collecting samples.

SAMPLE LOG/NOTES:

8011

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF 25	
GAUGE DATE	9/5/17
GAUGE TIME	1145
DTB (feet) Depth to Bottom	19.43
DTP	
DTW	10.23
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	9.2
Capacity per foot	.163
3 Well Volumes	5
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1205

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1200	7.27	12.91	2366	1.528	1.22	24.1	-68.4
(2)	1202	7.26	13.65	2363	1.536	1.22	16.3	-70.7
(3)	1204	7.25	14.22	2365	1.537	1.22	15.0	-65.4
(4)	1206	7.25	14.47	2379	1.546	1.23	14.2	-58.8

WEATHER CONDITIONS

P/C, breezy

WATER APPEARANCE

clear, slightly cloudy - pink tint

SAMPLE LOG/NOTES:

Collected DUPLICATE @ 1220

MKTF-40	
GAUGE DATE	9/5/17
GAUGE TIME	1320
DTB (feet) Depth to Bottom	23.64
DTP	13.29
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.35
Capacity per foot	.163
3 Well Volumes	5 gal
PURGE DATE	
PURGE TIME	1325
SAMPLE DAY	
SAMPLE TIME	1310

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1334	7.23	14.59	10353	6.729	5.88	55.4	11.4
(2)	1336	7.24	14.95	10367	6.738	5.89	53.5	12.8
(3)	1338	7.24	15.28	10383	6.741	5.90	50.6	14.4
(4)								

WEATHER CONDITIONS

P/C, breezy, 75-80°

WATER APPEARANCE

clear

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF 31	
GAUGE DATE	6/5/17
GAUGE TIME	1415
DTB (feet) Depth to Bottom	22.81
DTP	
DTW	7.58
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	15.23
Capacity per foot	4.83
3 Well Volumes	1 gals
PURGE DATE	0
PURGE TIME	1420
SAMPLE DAY	
SAMPLE TIME	1445

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1440	7.26	15.31	3423	2.225	1.81	27.2	33.9
(2)	1442	7.28	15.57	3430	2.229	1.81	25.4	26.9
(3)	1444	7.29	15.81	3437	2.234	1.81	26.0	23.3
(4)	1446	7.30	16.07	3441	2.237	1.82	27.3	19.3

WEATHER CONDITIONS

WATER APPEARANCE

8011

SAMPLE LOG/NOTES:

MKTF-44	
GAUGE DATE	6/5/17
GAUGE TIME	1515
DTB (feet) Depth to Bottom	51.15
DTP	
DTW	32.9
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	18.25
Capacity per foot	2.9
3 Well Volumes	9 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1550

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)		Not Available						
(2)								
(3)								
(4)								

WEATHER CONDITIONS

7 Clear, cloudy, windy

WATER APPEARANCE

P/C, slight brown 2

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MCTF-43	
GAUGE DATE	6/6/17
GAUGE TIME	1415
DTB (feet) Depth to Bottom	15.43
DTP	
DTW	3.60
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	11.81
Capacity per foot	.163
3 Well Volumes	6
PURGE DATE	
PURGE TIME	1417
SAMPLE DAY	
SAMPLE TIME	1435

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1430	8.20	14.54	30466	19.803	18.95	338	54.3
(2)	1432	7.03	14.84	30528	19.843	18.99	26.6	47.3
(3)	1434	6.96	15.20	30577	19.875	19.03	24.7	-10.1
(4)	~~1436~~							

WEATHER CONDITIONS

Cloudy, breezy

WATER APPEARANCE

Clear - cloudy - no odor

SAMPLE LOG/NOTES:

MCTF-42	
GAUGE DATE	6/6
GAUGE TIME	1444
DTB (feet) Depth to Bottom	33.15
DTP	
DTW	17.12
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	16.03
Capacity per foot	.163
3 Well Volumes	8 gals
PURGE DATE	
PURGE TIME	1445
SAMPLE DAY	
SAMPLE TIME	1505

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1504	8.40	16.26	3248	2.111	1.71	45.5	33.6
(3)	1506	8.32	16.55	3257	2.117	1.71	30.3	-31.7
(4)								

WEATHER CONDITIONS

Cloudy - breezy -

WATER APPEARANCE

Clear - slight orange tint

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MCTF-32	
GAUGE DATE	6/6/17
GAUGE TIME	1520
DTB (feet) Depth to Bottom	27.75
DTP	
DTW	13.79
DTP-DTW (Hydrocarbon Layer)	13.96
DTW-DTB	~~25.66~~
Capacity per foot	~~.163~~
3 Well Volumes	~~13 gals~~ gal
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1535

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

clear - cloudy

8011

SAMPLE LOG/NOTES:

MCTF 41	
GAUGE DATE	6/6/17
GAUGE TIME	3:50
DTB (feet) Depth to Bottom	40.10
DTP	-
DTW	18.49
DTP-DTW (Hydrocarbon Layer)	-
DTW-DTB	21.61
Capacity per foot	.0163
3 Well Volumes	10.56
PURGE DATE	6-6-17
PURGE TIME	15:37
SAMPLE DAY	6/6/17
SAMPLE TIME	1615

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	NO Data available							
(2)								
(3)	~~14.28 7.11 1522~~			2638	1.686	1.32		
(4)								

WEATHER CONDITIONS

Overcast 84°

WATER APPEARANCE

clear - cloudy

8011

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

Trip Blank 6/20/17

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

RW-5	
GAUGE DATE	6/20/17
GAUGE TIME	0900
DTB (feet) Depth to Bottom	39.59
DTP	25.3
DTW	33.3
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

No Samples

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

Clear, odor, sheen

SAMPLE LOG/NOTES:

RW-6	
GAUGE DATE	6/20/17
GAUGE TIME	0905
DTB (feet) Depth to Bottom	40.90
DTP	25.5
DTW	33.62
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

No Samples

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

Clear, odor - sheen

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

RW-2	
GAUGE DATE	6/20/17
GAUGE TIME	
DTB (feet) Depth to Bottom	39.80
DTP	—
DTW	21.19
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	18.61
Capacity per foot	.74
3 Well Volumes	41.3
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1450

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear, calm. HOT!

WATER APPEARANCE

Clear

SAMPLE LOG/NOTES:

6/21/17
1345,

OW-57	
GAUGE DATE	6/20/17
GAUGE TIME	0930
DTB (feet) Depth to Bottom	
DTP	—
DTW	20.52
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	6/20/17
PURGE TIME	1400
SAMPLE DAY	6/21/17
SAMPLE TIME	1345

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	Data not recorded/							
(3)	Collected							
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

Bailed ~ 1.5 gals - clear 1st bail, brown murky rust bail. Will allow to recharge to 4 collecting samples stopped @ 1400 hrs

SAMPLE LOG/NOTES: EOC alert - shut down for 2.5 hours.

1345 - 6/21/17 Collected Samples.

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

RW - 1	
GAUGE DATE	6/20/17
GAUGE TIME	1515
DTB (feet) Depth to Bottom	43.04
DTP	26.77
DTW	28.42
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1535

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

plc. cuhm, HOT!!! 100

WATER APPEARANCE

Took Sample for Distillate - WR Lab

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW-53	
GAUGE DATE	6/21/17
GAUGE TIME	0945
DTB (feet) Depth to Bottom	33.9
DTP	
DTW	DRY
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

Clear, Calm, HOT!!

WATER APPEARANCE

DRY - No Samples

SAMPLE LOG/NOTES:

Sampled 1010

OW-54	
GAUGE DATE	6/21/17
GAUGE TIME	0950
DTB (feet) Depth to Bottom	31.04
DTP	
DTW	18.63
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	12.41
Capacity per foot	.163
3 Well Volumes	6 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1010

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	Data not collected							
(3)								
(4)								

WEATHER CONDITIONS

Clear, Calm, HOT!!

WATER APPEARANCE

Clear - Clay - pink

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW-55	
GAUGE DATE	6/21/17
GAUGE TIME	1030
DTB (feet) Depth to Bottom	30.70
DTP	
DTW	18.47
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	12.23
Capacity per foot	.163
3 Well Volumes	6 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1050

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	Data not collected							
(3)								
(4)								

WEATHER CONDITIONS

Clear, calm, HOT!! 90

WATER APPEARANCE

clear - cldy - gray

SAMPLE LOG/NOTES:

1130

OW-56	
GAUGE DATE	6/21/17
GAUGE TIME	1120
DTB (feet) Depth to Bottom	18.59
DTP	
DTW	13.53
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	5.06
Capacity per foot	
3 Well Volumes	2
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1130

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	Data not collected							
(3)								
(4)								

WEATHER CONDITIONS

Clear, calm, Hot !!

WATER APPEARANCE

Clear, cldy, slight Orange tint

Dup 1135

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

OW-58	
GAUGE DATE	6/20/17
GAUGE TIME	1445
DTB (feet) Depth to Bottom	47.55
DTP	25.14
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	22.41
Capacity per foot	1.63
3 Well Volumes	11 gal
PURGE DATE	1
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1505

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	Data not collected							
(3)								
(4)								

WEATHER CONDITIONS

Cldy - breezy -

WATER APPEARANCE

clear - pink
baled

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

NAPIS-1

GAUGE DATE	9/5/17
GAUGE TIME	0930
DTB (feet)	
Depth to Bottom	13.53
DEDICATED PUMP	N
DTW (feet)	6.32
Depth to Water	7.18 DTP
DTB - DTW	
Capacity per foot	0.163
3 Well Volumes	
PURGE DATE	/
PURGE TIME	
SAMPLE DAY	/
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(3)								
(4)								

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

Odor - clear, slight yellow tint

SAMPLE LOG

TOOK 8015D only @ 1215

No Samples Collected - Detection of product

NAPIS-2

GAUGE DATE	9/5/17
GAUGE TIME	0949
DTB (feet)	
Depth to Bottom	13.61
DEDICATED PUMP	N
DTW (feet)	8.32
Depth to Water	5.29
DTB - DTW	
Capacity per foot	0.163
3 Well Volumes	2.5
PURGE DATE	
PURGE TIME	0950
SAMPLE DAY	9/5/17
SAMPLE TIME	1000

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1030	8.05	22.71	1701	1.106	.89	33.1	-105.2
(2)	1032	7.97	22.84	1703	1.107	.89	27.7	-112.8
(3)	1034	7.94	22.89	1703	1.107	.86	25.5	-114.1
(4)	1036	7.94	22.95	1704	1.107	.86	24.7	-111.5

WEATHER CONDITIONS

Clear, calm.

WATER APPEARANCE

Clear.

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Polyethylene Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

NAPIS-3	
GAUGE DATE	9/5/17
GAUGE TIME	0945
DTB (feet) Depth to Bottom	30.42
DTP	/
DTW	9.10
DTP-DTW (Hydrocarbon Layer)	/
DTW-DTB	10
Capacity per foot	0.163
3 Well Volumes	10.43
PURGE DATE	9/5
PURGE TIME	1015
SAMPLE DAY	
SAMPLE TIME	1145

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1138	8.88	19.94	2207	1.434	1.13	29.3	-80.3
(2)	1140	8.81	20.03	2210	1.436	1.14	27.3	-76.7
(3)	1142	8.77	20.09	2215	1.440	1.14	26.2	-73
(4)	1144	8.75	20.16	2221	1.443	1.14	25.4	-69.3

WEATHER CONDITIONS

Clear

WATER APPEARANCE

Clear - murky

SAMPLE LOG/NOTES: Bailed ~ 7 gals - turned murky @ end of purge - allowed to recharge before collecting samples

KA-3	
GAUGE DATE	9/5/17
GAUGE TIME	0947
DTB (feet) Depth to Bottom	23.20
DTP	/
DTW	8.21
DTP-DTW (Hydrocarbon Layer)	/
DTW-DTB	14.99
Capacity per foot	0.163
3 Well Volumes	17.33
PURGE DATE	
PURGE TIME	1000
SAMPLE DAY	
SAMPLE TIME	1115

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1100	7.93	24.27	1597	1.038	0.8	32.4	-55.5
(2)	1102	7.83	24.39	1596	1.037	0.8	30.4	-48.6
(3)	1104	7.80	24.47	1596	1.037	0.8	29.6	-43.5
(4)	1106	7.79	24.55	1597	1.038	0.8	29.3	-39.4

WEATHER CONDITIONS

Clear

WATER APPEARANCE

clear w/slight orange tint

Dup @ 1125

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY
3RD QTR 2017

Oil Sump LDU		WEATHER CONDITIONS
GAUGE DATE	9/5/17	Clear, calm - 75-80°
GAUGE TIME	1300	WATER APPEARANCE
DTB (feet) Depth to Bottom	NA	NOT APPLICABLE
DTW (feet) Depth to Water	DRY	
DTB - DTW	NA	NOTES
PURGE DATE	NA	No samples collected - dry
PURGE TIME	NA	
SAMPLE DATE	N/A	
SAMPLE TIME		

East LDU		WEATHER CONDITIONS
GAUGE DATE	9/5/17	Clear, calm - 75-80°
GAUGE TIME	1305	WATER APPEARANCE
DTB (feet) Depth to Bottom	NA	Clear, grayish tint
DTW (feet) Depth to Water	~~11.16~~ Full	
DTB - DTW	NA	NOTES
PURGE DATE	NA	Leaking from flanged patch
PURGE TIME	NA	area
SAMPLE DATE	N/A	
SAMPLE TIME	1315	

West LDU		WEATHER CONDITIONS
GAUGE DATE	9/5/17	Clear, calm 75-80°
GAUGE TIME	1310	WATER APPEARANCE
DTB (feet) Depth to Bottom	NA	greenish tint · odor
DTW (feet) Depth to Water	~~12.12~~ 5.7	
DTB - DTW	NA	NOTES
PURGE DATE	NA	
PURGE TIME	NA	
SAMPLE DATE	1325	
SAMPLE TIME	~~N/A~~	

INSTRUMENTS USED:
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Polyethylene Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY

3RD QTR/ANNUAL 2017

STP1-NW

GAUGE DATE	9/5/17
GAUGE TIME	1400
DTB (feet)	
Depth to Bottom	50.00
DEDICATED PUMP	N
DTW (feet)	20.81
Depth to Water	
DTB - DTW	29.19
Capacity per foot	0.163
3 Well Volumes	14 gals
PURGE DATE	
PURGE TIME	1405
SAMPLE DAY	
SAMPLE TIME	1435

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1428	8.52	28.72	46	.03	.02	101.4	11.0
(2)	1430	8.39	25.64	42	.027	.02	103.9	9.6
(3)	1432	8.35	23.38	40	.026	.02	109.0	7.9
(4)	1434	8.34	21.79	40	.026	.02	113.8	5.6

WEATHER CONDITIONS

Clear, Calm, 80-85°

WATER APPEARANCE

Clear - slight yellow tint

SAMPLE LOG

STP1-SW

GAUGE DATE	9/5/17
GAUGE TIME	1400
DTB (feet)	
Depth to Bottom	29.10
DEDICATED PUMP	N
DTW (feet)	DRY
Depth to Water	
DTB - DTW	
Capacity per foot	0.163
2 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	N/A
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	**None taken - dry well**							
(3)								
(4)								

WEATHER CONDITIONS

~~75-80~~ 80-85°

Clear, calm ~~65-70~~ degrees

WATER APPEARANCE

Not Applicable

SAMPLE LOG

High H_2S levels @ STP-1 - No entry allowed.

INSTRUMENTS USED:

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Disposable Polyethylene Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

GWM-2	
GAUGE DATE	9/5/17
GAUGE TIME	
DTB (feet)	
Depth to Bottom	~~18.81~~ 19.07
DEDICATED PUMP	N
DTW (feet)	
Depth to Water	DRY
DTB - DTW	
Capacity per foot	0.163
2 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	None taken - well is DRY							
(3)								
(4)								

WEATHER CONDITIONS

ptly cldy, slight breeze, 80-85°

WATER APPEARANCE

Not Applicable

SAMPLE LOG

GWM-3	
GAUGE DATE	9/5/17
GAUGE TIME	1500
DTB (feet)	
Depth to Bottom	17.80
DEDICATED PUMP	N
DTW (feet)	
Depth to Water	DRY
DTB - DTW	
Capacity per foot	0.163
2 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	None taken - well is DRY							
(3)								
(4)								

WEATHER CONDITIONS

ptly Cldy, slight breeze, 80-85°

WATER APPEARANCE

Not Applicable

SAMPLE LOG

INSTRUMENTS USED:
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

GWM-1		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/5/17	(1)								
GAUGE TIME	1510	(2)	None taken - has hydrocarbon level							
DTB (feet) Depth to Bottom	26.20	(3)								
Depth to Product	21.49	(4)								
DTW (feet) Depth to Water	21.71									
PRODUCT LAYER										
Capacity per foot	0.163									
2 Well Volumes										
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										

WEATHER CONDITIONS

ptly cloudy, slight breeze
80.85

WATER APPEARANCE

oily - Odor

SAMPLE LOG

No samples collected

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Polyethylene Bailer

Signature: _____

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

OAPIS-1		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/5/17	(1)	~~1518~~	~~4.26~~	~~16.29~~	~~5705~~	~~3.71~~	~~3.14~~		
GAUGE TIME	1520	(2)	1544	8.56	16.42	5629	3.659	3.06	21.3	-227
DTB (feet) Depth to Bottom	28.30	(3)	1546	8.38	16.61	5645	3.669	3.07	15.6	-220.9
DEDICATED PUMP	N	(4)	1548	8.23	16.80	5660	3.671	3.08	13.6	-209.5
DTW (feet) Depth to Water	11.09	WEATHER CONDITIONS								
DTB - DTW	17.21	pt cldy, breezy, 80-85°F								
Capacity per foot	0.163									
3 Well Volumes	8 gals									
PURGE DATE		WATER APPEARANCE								
PURGE TIME	1530	clear - gw tint								
SAMPLE DAY										
SAMPLE TIME	1550									
PUMP DEPTH										
DTW (feet) at end of Purging	1									

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Polyethylene Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

Dup @ 1000

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

★ 8011

OW-29

GAUGE DATE	9/26/17
GAUGE TIME	0915
DTB (feet)	
Depth to Bottom	51.08
DEDICATED PUMP	Y
DTW (feet)	18.05
Depth to Water	
DTB - DTW	33.03
Capacity per foot	0.740
3 Well Volumes	73
PURGE DATE	9/25
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1000

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	~~953~~							
(2)	955	8.60	1403	1648	1.071	.84	32.4	-25.5
(3)	957	8.33	1424	1642	1.067	.83	22.0	-33.2
(4)	959	8.14	1451	1637	1.064	.83	18.4	-36.6

WEATHER CONDITIONS

ptly cldy, slight breeze,

WATER APPEARANCE

clear, no odor

SAMPLE LOG

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

★ 8011

OW-30

GAUGE DATE	9/26/17
GAUGE TIME	0805
DTB (feet)	
Depth to Bottom	49.90
DEDICATED PUMP	Y
DTW (feet)	22.28
Depth to Water	
DTB - DTW	27.62
Capacity per foot	0.740
3 Well Volumes	61
PURGE DATE	
PURGE TIME	0820
SAMPLE DAY	
SAMPLE TIME	0845

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	840	8.23	1327	1628	1.058	.83	21.4	-8.4
(2)	842	8.10	13.27	1630	1.06	.83	17.4	-9.2
(3)	844	8.01	1335	1631	1.06	.83	15.1	-9.6
(4)	846	7.95	1348	1632	1.061	.83	13.9	-9.5

WEATHER CONDITIONS

ptly cldy, calm, 70-75°

WATER APPEARANCE

clear, no odor

SAMPLE LOG

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Dedicated pumps

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

*8011

OW-13

GAUGE DATE	9/6/17
GAUGE TIME	1110
DTB (feet)	
Depth to Bottom	99.15
DEDICATED PUMP	Y
DTW (feet)	21.41
Depth to Water	77.74
DTB - DTW	
Capacity per foot	0.740
3 Well Volumes	173
PURGE DATE	
PURGE TIME	1115
SAMPLE DAY	
SAMPLE TIME	1220

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1212	9.26	13.45	1043	1678	0.82	29.0	-33.4
(2)	1214	9.08	13.75	1042	1677	.82	20.7	-39.3
(3)	1216	8.96	14.16	1043	1678	.82	17.9	-41.6
(4)	1218	8.87	14.59	1044	1679	.82	17.4	-43

WEATHER CONDITIONS

Clear, breezy, 75-80°

WATER APPEARANCE

Clear - no odor

SAMPLE LOG

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

*8011

OW-14

GAUGE DATE	9/6/17
GAUGE TIME	1025
DTB (feet)	
Depth to Bottom	46.52
DEDICATED PUMP	Y
DTW (feet)	22.56
Depth to Water	23.96
DTB - DTW	
Capacity per foot	0.740
3 Well Volumes	53
PURGE DATE	
PURGE TIME	1030
SAMPLE DAY	
SAMPLE TIME	1055

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1050	8.83	17.89	1517	.986	.77	169.5	-64.8
(2)	52	8.23	14.09	1642	1.067	.83	28.5	-170.6
(3)	54	8.03	14.18	1645	1.069	.84	21.1	-191.4
(4)	56	7.96	14.37	1647	1.071	.84	19.0	-195.1

WEATHER CONDITIONS

Clear - breezy, 75-80°

WATER APPEARANCE

Clear, no odor

SAMPLE LOG

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Dedicated pumps

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY

3RD QTR/ANNUAL 2017

~~8011~~

OW-1

GAUGE DATE	9/6/17
GAUGE TIME	1500
DTB (feet) Depth to Bottom	94.55
DEDICATED PUMP	Y
DTW (feet) Depth to Water	1.7
DTB - DTW	92.85
Capacity per foot	0.740
3 Well Volumes	206
PURGE DATE	9/7/17
PURGE TIME	1505
SAMPLE DAY	~~9/6/17~~ 9/7/17
SAMPLE TIME	~~1550~~ 0950

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	944	9.53	13.56	1176	.764	.59	34.2	48.6
(2)	946	9.50	13.62	1176	.768	.59	24.2	45.3
(3)								
(4)								

WEATHER CONDITIONS

Overcast / windy, 75-80

WATER APPEARANCE

clear, no odor

SAMPLE LOG

Lost suction @ 75 gals - will allow to recharge overnight

Stopped @ 1615

9/7/17 @ 0935 started purge. Sampled @ 0950

OW-10

GAUGE DATE	9/7/17
GAUGE TIME	1055
DTB (feet) Depth to Bottom	60.33
DEDICATED PUMP	Y
DTW (feet) Depth to Water	1.88
DTB - DTW	58.45
Capacity per foot	0.740
3 Well Volumes	130 gal
PURGE DATE	9/7/17
PURGE TIME	1100
SAMPLE DAY	9/7/17
SAMPLE TIME	1140

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1132	8.34	14.07	2843	1.848	1.49	18.5	28.8
(2)	1134	8.29	14.34	2851	1.853	1.49	15.9	27.1
(3)	1136	8.22	14.77	2849	1.852	1.49	15.3	26.2
(4)	1138	8.16	15.20	2848	1.851	1.49	14.1	25.6

WEATHER CONDITIONS

Overcast, breezy, 70-75°

WATER APPEARANCE

Clear - no odor.

~~8011~~ Dup 1155

SAMPLE LOG

Purged water collected in 55 gallon drums and disposed of upstream of the WW treatment Plant.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
bailer.

Signature: _____

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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STP1 to EP2		TEST PARAMETERS							
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/7/17	(1)								
GAUGE TIME	1220	(2)								
DTB (feet) Depth to Bottom		(3)								
DEDICATED PUMP DTW (feet) Depth to Water		(4)								
DTB - DTW Capacity per foot 3 Well Volumes										
PURGE DATE		WEATHER CONDITIONS: overcast, breezy, 75-80°								
PURGE TIME										
SAMPLE DAY		WATER APPEARANCE: white, cloudy								
SAMPLE TIME	1225									

SAMPLE LOG

grab samples only @ inlet to EP-2

E/V-3/4-N		TEST PARAMETERS							
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/7/17	(1)								
GAUGE TIME		(2)								
DTB (feet) Depth to Bottom		(3)								
DEDICATED PUMP DTW (feet) Depth to Water		(4)								
DTB - DTW Capacity per foot 3 Well Volumes										
PURGE DATE		WEATHER CONDITIONS: cloudy, breezy, 75-80°								
PURGE TIME										
SAMPLE DAY		WATER APPEARANCE: gray - ~~oily~~								
SAMPLE TIME	1240									

SAMPLE LOG

grab sample only for TDS - North Sprayer

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature: _____

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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OW-56

GAUGE DATE	9/11/17
GAUGE TIME	0755
DTB (feet) Depth to Bottom	18.59
DEDICATED PUMP DTW (feet) Depth to Water	14.50
DTB - DTW	4.09
Capacity per foot	.163
3 Well Volumes	2 gals
PURGE DATE	
PURGE TIME	0758
SAMPLE DAY	
SAMPLE TIME	0805

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	800	7.67	13.24	2474	1.608	1.28	48.1	28.8
(2)	802	7.51	13.10	2478	1.610	1.29	34.7	23.8
(3)	804	7.45	12.97	2480	1.612	1.29	32.3	22.4
(4)	806	7.42	12.89	2482	1.613	1.29	29.5	22.1

WEATHER CONDITIONS

pthy cldy, calm

WATER APPEARANCE

clear - slight gw tint - last bail

SAMPLE LOG

OW-55

GAUGE DATE	9/11/17
GAUGE TIME	0830
DTB (feet) Depth to Bottom	30.7
DEDICATED PUMP DTW (feet) Depth to Water	18.49
DTB - DTW	12.21
Capacity per foot	
3 Well Volumes	6 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0855

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	850	7.41	13.90	2048	1.31	1.05	23.2	-200.1
(2)	852	7.28	13.99	2049	1.332	1.05	17.1	-224.3
(3)	854	7.26	14.12	2049	1.332	1.05	14.7	-234.7
(4)	856	7.27	14.21	2052	1.334	1.05	13.4	-232.7

WEATHER CONDITIONS

~~pthy~~ Clear, calm

WATER APPEARANCE

Clear-1st bail - cldy - gray - remaining sheen on wtr

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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Duplicate 0950

OW-54

GAUGE DATE	9/11/17
GAUGE TIME	0915
DTB (feet) Depth to Bottom	31.04
DEDICATED PUMP DTW (feet) Depth to Water	18.7
DTB - DTW Capacity per foot	12.34
3 Well Volumes	6 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0940

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	934	7.61	13.87	1811	1.177	.93	26.0	-106.5
(2)	936	7.58	14.20	1810	1.176	.92	24.4	-105.1
(3)	938	7.56	14.47	1811	1.177	.92	23.5	-103.8
(4)	940	7.55	14.83	1808	1.176	.92	23.1	-101.5

WEATHER CONDITIONS

clear, slight breeze,

WATER APPEARANCE

clear - first bail, pink - brownish remainin

SAMPLE LOG

OW-53

GAUGE DATE	9/11/17
GAUGE TIME	1045
DTB (feet) Depth to Bottom	~~33.89~~
DEDICATED PUMP DTW (feet) Depth to Water	33.64 DRY
DTB - DTW Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

DRY - NO Samples

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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EDB

OW-50

GAUGE DATE	9/11/17
GAUGE TIME	1146
DTB (feet) Depth to Bottom	64.00
DEDICATED PUMP	N
DTW (feet) Depth to Water	15.6
DTB - DTW	48.4
Capacity per foot	0.163
3 Well Volumes	24 gal
PURGE DATE	
PURGE TIME	1200
SAMPLE DAY	
SAMPLE TIME	1225

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1220	8.37	20.11	988	.643	.49	10.6	-48.7
(3)	1222	8.37	20.18	990	.643	.49	10.7	-48.7
(4)								

WEATHER CONDITIONS

pt cldy, slight breeze

WATER APPEARANCE

clear - no odor

SAMPLE LOG

EDB

OW-52

GAUGE DATE	9/11/17
GAUGE TIME	1055
DTB (feet) Depth to Bottom	77.74
DEDICATED PUMP	N
DTW (feet) Depth to Water	14.85
DTB - DTW	62.89
Capacity per foot	0.163
3 Well Volumes	31 gal
PURGE DATE	
PURGE TIME	1058
SAMPLE DAY	
SAMPLE TIME	1130

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1124	8.48	14.54	840	.546	.42	17.4	-73.3
(2)	1126	8.47	14.79	841	.546	.42	16.3	-94.6
(3)	1128	8.49	15.01	841	.547	.42	15.6	-72.5
(4)	1130	8.48	15.23	841	.547	.42	14.8	-69.7

WEATHER CONDITIONS

pt cldy - slight breeze

WATER APPEARANCE

clear - no odor

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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SMW-2

GAUGE DATE	9/11/17
GAUGE TIME	1400
DTB (feet) Depth to Bottom	52.80
DEDICATED PUMP	Y
DTW (feet) Depth to Water	24.79
DTB - DTW	28.01
Capacity per foot	0.163
3 Well Volumes	14 gals
PURGE DATE	
PURGE TIME	1419
SAMPLE DAY	
SAMPLE TIME	1441

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1436	7.98	20.43	9524	6.191	5.36	58.7	-19.3
(2)	1438	7.90	20.68	9528	6.193	5.37	64.5	-18.8
(3)	1440	7.86	20.91	9526	6.192	5.36	57.1	-18.3
(4)	1442	7.84	21.09	9528	6.193	5.36	56.0	-17.8

WEATHER CONDITIONS

Cldy, calm,

WATER APPEARANCE

Clear - slight gw tint - noodor

SAMPLE LOG

SMW-4

GAUGE DATE	9/11/17
GAUGE TIME	1457
DTB (feet) Depth to Bottom	69.68
DEDICATED PUMP	Y
DTW (feet) Depth to Water	29.33
DTB - DTW	40.35
Capacity per foot	0.163
3 Well Volumes	20 gals
PURGE DATE	
PURGE TIME	1505
SAMPLE DAY	
SAMPLE TIME	1530

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1524	9.17	17.16	1089	.708	.54	58.0	27.2
(2)	1526	8.95	17.23	1075	.699	.54	35.4	40.5
(3)	1528	9.11	17.43	1078	.700	.54	30.6	29.2
(4)	1530	9.06	17.59	1079	.701	.54	30.3	30.7

WEATHER CONDITIONS

Cldy, calm.

WATER APPEARANCE

Clear, cloudy -

SAMPLE LOG bailed 13 gals - lost suction - allowed to recharge.

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Bailer

Signature: _____

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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MW-4		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE		(1)								
GAUGE TIME		(2)								
DTB (feet) Depth to Bottom	121.72	(3)								
DEDICATED PUMP	Y	(4)								
DTW (feet) Depth to Water		WEATHER CONDITIONS								
DTB - DTW										
Capacity per foot	1.020									
3 Well Volumes										
PURGE DATE		WATER APPEARANCE								
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME										

SAMPLE LOG

MW-5		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/11/17	(1)								
GAUGE TIME	1545	(2)	1743	9.33	13.96	964	.627	.48	67.7	36
DTB (feet) Depth to Bottom	130.83	(3)	1745	9.41	14.37	954	0.62	0.47	21.8	29.1
DEDICATED PUMP	Y	(4)								
DTW (feet) Depth to Water	11.22	WEATHER CONDITIONS								
DTB - DTW	119.61									
Capacity per foot	0.740	Cldy, breezy.								
3 Well Volumes	2.16 gal									
PURGE DATE	9/11/17	WATER APPEARANCE								
PURGE TIME	1555									
SAMPLE DAY	9/11/17	Clear - no odor								
SAMPLE TIME	1745									

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature: _____

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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BW-1A		TEST PARAMETERS							
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/13/17	(1)							
GAUGE TIME	0815	(2)	None taken - well is DRY						
DTB (feet)	08:16								
Depth to Bottom	46.06	(3)							
DEDICATED PUMP	N	(4)							
DTW (feet) Depth to Water	DRY	WEATHER CONDITIONS							
DTB - DTW		clear, calm							
Capacity per foot	0.163								
2 Well Volumes									
PURGE DATE	NA	WATER APPEARANCE							
PURGE TIME	NA								
SAMPLE DAY	N/A	DRY							
SAMPLE TIME									
SAMPLE LOG	No Samples Collected.								

BW-1B		TEST PARAMETERS							
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/13/17	(1)							
GAUGE TIME		(2)	None taken - well is DRY						
DTB (feet)	13.9								
Depth to Bottom	76.29	(3)							
DEDICATED PUMP	N	(4)							
DTW (feet) Depth to Water	DRY	WEATHER CONDITIONS							
DTB - DTW		clear, calm							
Capacity per foot	0.163								
2 Well Volumes									
PURGE DATE	NA	WATER APPEARANCE							
PURGE TIME	NA								
SAMPLE DAY	N/A	DRY							
SAMPLE TIME									
SAMPLE LOG	No Samples Collected								

INSTRUMENTS USED:
Plastic dipper

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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BW-1C		TEST PARAMETERS							
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/13/17	(1)	850	8.92	15.92	1111	.722	.55	36.7	55.4
GAUGE TIME	0820	(2)	852	8.88	1581	1103	.717	.55	21.3	30.7
DTB (feet)		(3)	854	8.88	15.96	1106	.719	.55	15.0	15.4
Depth to Bottom	141.89	(4)	856	8.9	16.15	1107	.720	.55	13.3	8.1
DEDICATED PUMP	Y									
DTW (feet) Depth to Water	12.60 ~~12.55~~	WEATHER CONDITIONS								
DTB - DTW	129.29	Clear, calm								
Capacity per foot	0.163									
3 Well Volumes	19 Gals									
PURGE DATE		WATER APPEARANCE								
PURGE TIME	0830	Clear, no odor								
SAMPLE DAY										
SAMPLE TIME	0900									

SAMPLE LOG

BW-2A		TEST PARAMETERS							
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/13/17	(1)	1414	8.75	24.37	17	0.011	.01	117.3	23.1
GAUGE TIME	1215	(2)	1416	8.59	14.73	1142	.742	.57	26.4	-26.6
DTB (feet)		(3)	1418	8.42	15.14	1140	.741	.57	21.4	-44.9
Depth to Bottom	67.57	(4)	1420	8.31	15.58	1141	.742	.57	19.5	-50.2
DEDICATED PUMP	Y									
DTW (feet) Depth to Water	32.44	WEATHER CONDITIONS								
DTB - DTW	35.13									
Capacity per foot	0.163									
3 Well Volumes	17 gals									
PURGE DATE		WATER APPEARANCE								
PURGE TIME	1315	Stopped due to Rainshower - Resume @ 1405 hrs								
SAMPLE DAY										
SAMPLE TIME	1420									

SAMPLE LOG

Purged water collected in 55 gallon drum and disposed of upstream of the WWT plant.

INSTRUMENTS USED:

YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Polyethylene Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

1510
#Duplicate

WESTERN REFINING - GALLUP REFINERY
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BW-2B

GAUGE DATE	9/13/17
GAUGE TIME	1210
DTB (feet)	
Depth to Bottom	92.26
DEDICATED PUMP	Y
DTW (feet)	
Depth to Water	28.28
DTB - DTW	63.98
Capacity per foot	0.163
3 Well Volumes	31 gals
PURGE DATE	
PURGE TIME	1435
SAMPLE DAY	
SAMPLE TIME	~~1435~~ 1455

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1449	8.29	14.31	1867	1.214	.95	11.3	-79.0
(2)	1451	8.22	14.7	1871	1.216	.96	10.5	-82.8
(3)	1453	8.16	15.12	1875	1.219	.96	10.5	-83.8
(4)	1455	8.12	15.46	1884	1.224	.96	10.4	-84.5

WEATHER CONDITIONS

Cldy, breezy

WATER APPEARANCE

Clear - cldy

SAMPLE LOG Lost suction @ 9 gals

BW-2C

GAUGE DATE	9/13/17
GAUGE TIME	1205
DTB (feet)	
Depth to Bottom	152.84
DEDICATED PUMP	N
DTW (feet)	
Depth to Water	20.9
DTB - DTW	131.94
Capacity per foot	0.163
3 Well Volumes	65 gals
PURGE DATE	
PURGE TIME	1230
SAMPLE DAY	
SAMPLE TIME	1305

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1301	9.20	18.72	1130	.735	.56	74.6	14.0
(2)	1303	9.13	18.90	1124	.730	.56	42.2	19.2
(3)	1305	9.17	19.33	1124	.730	.56	36.3	16.5
(4)								

WEATHER CONDITIONS

ptly cldy, Breezy - Rain

WATER APPEARANCE

Clear, cloudy no odor

SAMPLE LOG Lost suction @ 18 gals.

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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BW-3A	
GAUGE DATE	9/12/17
GAUGE TIME	1020
DTB (feet) Depth to Bottom	52.35
DEDICATED PUMP	N
DTW (feet) Depth to Water	DRY
DTB - DTW	
Capacity per foot	0.163
2 Well Volumes	
PURGE DATE	NA
PURGE TIME	NA
SAMPLE DAY	N/A
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	None taken - well is DRY							
(3)								
(4)								

WEATHER CONDITIONS

~~Partly cloudy, breezy, 75-80 Deg F.~~ Clear, calm

WATER APPEARANCE

Not Applicable

SAMPLE LOG

No Samples collected

BW-3B	
GAUGE DATE	9/13/17
GAUGE TIME	1015
DTB (feet) Depth to Bottom	69.40
DEDICATED PUMP	Y
DTW (feet) Depth to Water	33.38
DTB - DTW	36.02
Capacity per foot	0.163
3 Well Volumes	18 gals
PURGE DATE	
PURGE TIME	1130
SAMPLE DAY	
SAMPLE TIME	1150

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1144	8.83	17.4	1272	.827	.64	25	-136.5
(2)	1146	8.81	17.54	.275	.829	.64	23.5	-153.9
(3)	1148	8.79	17.71	1277	.830	.64	22.9	-163.4
(4)	1150	8.78	17.80	1280	.832	.64	22.6	-161.1

WEATHER CONDITIONS

Clear, calm

WATER APPEARANCE

Clear

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Disposable Bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

BW-3C	
GAUGE DATE	9/13/17
GAUGE TIME	1017
DTB (feet)	
Depth to Bottom	154.55
DEDICATED PUMP	N
DTW (feet) Depth to Water	7.8
DTB - DTW	146.75
Capacity per foot	0.163
3 Well Volumes	72 gal
PURGE DATE	
PURGE TIME	1030
SAMPLE DAY	
SAMPLE TIME	1120

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1112	8.42	13.92	1287	.836	.65	20.1	-122.6
(2)	1114	8.47	14.51	1283	.834	.64	17.6	-158.8
(3)	1116	8.42	15.25	1278	.831	.64	17.8	-178.9
(4)	1118	8.39	15.65	1280	.832	.64	17.1	-165.2

WEATHER CONDITIONS

clear, calm

WATER APPEARANCE

clear, slightly cloudy, no odor

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

PW-3	9/18/17
GAUGE DATE	9/18/17
GAUGE TIME	1120
DTB (feet) Depth to Bottom	
DEDICATED PUMP DTW (feet) Depth to Water	
DTB - DTW Capacity per foot 3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	~~9/18/17~~
SAMPLE TIME	1125

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	N/A							
(3)								
(4)								

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

SAMPLE LOG Opened Valve - allow to Run for 5min before collecting samples

PW-4	9/18/17
GAUGE DATE	9/18/17
GAUGE TIME	1200
DTB (feet) Depth to Bottom	
DEDICATED PUMP DTW (feet) Depth to Water	
DTB - DTW Capacity per foot 3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1210

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	N/A							
(3)								
(4)								

WEATHER CONDITIONS

Clear - breezy

WATER APPEARANCE

SAMPLE LOG Opened Value - allow to run for 5 mins before sampling.

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature: _____

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

PW-2		TEST PARAMETERS							
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/18/17	(1)								
GAUGE TIME	1230	(2)	N/A							
DTB (feet) Depth to Bottom		(3)								
DEDICATED PUMP DTW (feet) Depth to Water		(4)								
DTB - DTW		WEATHER CONDITIONS								
Capacity per foot		clear, breezy								
3 Well Volumes		WATER APPEARANCE								
PURGE DATE		clear								
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME	1240									

SAMPLE LOG Opened valve allowed to run 5 mins before collecting samples

Duplicate		TEST PARAMETERS							
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE		(1)								
GAUGE TIME		(2)								
DTB (feet) Depth to Bottom		(3)								
DEDICATED PUMP DTW (feet) Depth to Water		(4)								
DTB - DTW		WEATHER CONDITIONS								
Capacity per foot										
3 Well Volumes		WATER APPEARANCE								
PURGE DATE										
PURGE TIME										
SAMPLE DAY										
SAMPLE TIME	1250									

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

OW-11		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/18/17	(1)	Did	not	sure	date				
GAUGE TIME	1335	(2)								
DTB (feet) Depth to Bottom	65.79	(3)								
DEDICATED PUMP	N	(4)								
DTW (feet) Depth to Water	18.08	WEATHER CONDITIONS								
DTB - DTW	47.71	clear, breezy								
Capacity per foot	0.740									
3 Well Volumes	106 gals									
PURGE DATE										
PURGE TIME	1345	WATER APPEARANCE								
SAMPLE DAY		clear no odor								
SAMPLE TIME	1420									

SAMPLE LOG

OW-12		TEST PARAMETERS								
			Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE		(1)								
GAUGE TIME		(2)								
DTB (feet) Depth to Bottom	128.85	(3)								
DEDICATED PUMP	N	(4)								
DTW (feet) Depth to Water		WEATHER CONDITIONS								
DTB - DTW		partly cloudy, breezy								
Capacity per foot	0.740									
3 Well Volumes										
PURGE DATE										
PURGE TIME		WATER APPEARANCE								
SAMPLE DAY		Clear, no odor detected.								
SAMPLE TIME										

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

OW-11

GAUGE DATE	9/18/17
GAUGE TIME	1335
DTB (feet) Depth to Bottom	65.79
DEDICATED PUMP	N
DTW (feet) Depth to Water	18.08
DTB - DTW	47.71
Capacity per foot	0.740
3 Well Volumes	106 gals
PURGE DATE	
PURGE TIME	1345
SAMPLE DAY	
SAMPLE TIME	1420

SAMPLE LOG

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

clear, breezy

WATER APPEARANCE

clear no odor

OW-12

GAUGE DATE	9/19/17
GAUGE TIME	0900
DTB (feet) Depth to Bottom	128.85
DEDICATED PUMP	N
DTW (feet) Depth to Water	46.74
DTB - DTW	82.11
Capacity per foot	0.740
3 Well Volumes	182
PURGE DATE	
PURGE TIME	0910
SAMPLE DAY	
SAMPLE TIME	0950

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	946	955	14.0	929	.604	.46	53.5	77.2
(2)	948	950	13.84	928	.603	.46	49.4	78.5
(3)	950	958	13.88	926	.602	.46	47.1	78.7
(4)	952	958	13.86	928	.603	.46	51.6	78.9

WEATHER CONDITIONS

partly cloudy, ~~breezy~~ Windy 14mph+

WATER APPEARANCE

Clear, no odor detected.

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
bailer

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

OW-57

GAUGE DATE	9/19/17
GAUGE TIME	1024
DTB (feet) Depth to Bottom	28.1
DEDICATED PUMP DTW (feet) Depth to Water	20.15
DTB - DTW	7.95
Capacity per foot	.163
3 Well Volumes	4 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1050

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1046	8.78	26.40	46	.03	.02	118.5	263
(2)		7.95	14.66	1520	.988	.77	29.6	-112.7
(3)	1048							
(4)	1050	7.70	14.94	1512	.983	.77	23.4	-132.7

WEATHER CONDITIONS

pt cldy, windy

WATER APPEARANCE

clear - pink

SAMPLE LOG Bailed 1.5 gals - turned pinkish brown.

OW-58

GAUGE DATE	9/19/17
GAUGE TIME	1140
DTB (feet) Depth to Bottom	47.3
DEDICATED PUMP DTW (feet) Depth to Water	25.04
DTB - DTW	22.26
Capacity per foot	.163
3 Well Volumes	10
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1215

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1210	7.84	14.63	1513	.983	.77	24.4	-126.2
(2)	1212	7.72	14.65	1514	.984	.77	22.5	-147.0
(3)	1214	7.54	14.91	1511	.982	.76	21.6	-152.5
(4)	1216	7.44	15.24	1512	.983	.77	21.5	-145.3

WEATHER CONDITIONS

pt cldy, windy

WATER APPEARANCE

clear, cldy - pink

SAMPLE LOG

915 @ 914

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
2017 QUARTERLY INSPECTION

RW-1 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/19/17	Product Thickness (ft)		
GAUGE TIME	1225	Volume of Product Purged (Gallons)		
DTB (feet) Depth to Bottom	43.04	Volume of Water Purged (Gallons)		WATER APPEARANCE
		PURGE DATE		
DTP (feet) Depth to Product	26.52	PURGE TIME		
DTW (feet) Depth to Water	27.6	SAMPLE DAY	N/A	
DTB - DTW		SAMPLE TIME	N/A	
WELL PURGING				Notes
START DATE	START TIME	END DATE	END TIME	

ADDITIONAL NOTES:

Used a 2" bailer to collect the hydrocarbon layer in the well - bailed approximately 2.5 gallons of product. Bailed a total of 10 gallons of water.

RW-2 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/19/17	Product Thickness (ft)		
GAUGE TIME	1105	Volume of Product Purged (Gallons)		
DTB (feet) Depth to Bottom	39.80	Volume of Water Purged (Gallons)		WATER APPEARANCE
		PURGE DATE		
DTP (feet) Depth to Product	—	PURGE TIME		
DTW (feet) Depth to Water	20.71	SAMPLE DAY	1125	
DTB - DTW	19.09	SAMPLE TIME		
WELL PURGING				Notes
START DATE	START TIME	END DATE	END TIME	
N/A				

ADDITIONAL NOTES:

Purged water disposed of upstream of WWTP.

INSTRUMENTS USED:
YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.
WaterMark oil Water Interface Meter (100 ft), Model 101L/SMOIL, S/N 01-5509
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
5 gallon buckets to catch purge water.
Dedicated portable pump used for RW-1

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

WESTERN REFINING - GALLUP REFINERY
2017 QUARTERLY INSPECTION

RW-5 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/19/17	Product Thickness (ft)		ptly cldy, windy
GAUGE TIME	0959	Volume of Product Purged (Gallons)	N/A	
DTB (feet) Depth to Bottom	39.59	Volume of Water Purged (Gallons)	20	**WATER APPEARANCE**
		PURGE DATE		has hydrocarbons
DTP (feet) Depth to Product	25.46	PURGE TIME		
DTW (feet) Depth to Water	31.65	SAMPLE DAY		
DTB - DTW		SAMPLE TIME		
WELL PURGING				**Notes**
START DATE	START TIME	END DATE	END TIME	No Samples Collected

ADDITIONAL NOTES:

Purged water disposed of upstream of the WWTP.

RW-6 (Recovery Well)				WEATHER CONDITIONS
GAUGE DATE	9/13/2016 ~~9/7/17~~	Product Thickness (ft)	0.000	Ptly cloudy, ~~breezy~~ windy
GAUGE TIME	1004 ~~950~~	Volume of Product Purged (Gallons)	N/A	
DTB (feet) Depth to Bottom	40.90	Volume of Water Purged (Gallons)	20	**WATER APPEARANCE**
		PURGE DATE		Clear - cloudy - sheen - odor
DTP (feet) Depth to Product	25.89 ~~0.00~~	PURGE TIME		hydrocarbons
DTW (feet) Depth to Water	30.97 ~~27.98~~	SAMPLE DAY	9/13/2016	
DTB - DTW	~~12.91~~	SAMPLE TIME	1025	
WELL PURGING				**Notes**
START DATE	START TIME	END DATE	END TIME	~~Bailed 20 gallons - samples~~ collected.
				No Samples Collected

ADDITIONAL NOTES:

Purged water disposed of upstream of the WWTP.

INSTRUMENTS USED:
YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
5 gallon buckets to catch purge water.
3 foot disposable bailer.

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

WESTERN REFINING - GALLUP REFINERY
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MW-1	
GAUGE DATE	9/20/17
GAUGE TIME	1000
DTB (feet) Depth to Bottom	130.83
DEDICATED PUMP	Y
DTW (feet) Depth to Water	7.02
DTB - DTW	123.81
Capacity per foot	1.020
3 Well Volumes	378 gals
PURGE DATE	
PURGE TIME	1015
SAMPLE DAY	
SAMPLE TIME	1200

SAMPLE LOG

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1184	9.34	17.81	964	.627	.48	72.3	303
(2)	1154	9.34	17.09	965	.627	.48	62.1	255
(3)	1158	9.33	17.34	966	.628	.48	57.5	19.6
(4)	1200	9.29	18.08	960	.624	0.48	53.3	13.5

WEATHER CONDITIONS

Clear, windy

WATER APPEARANCE

Clear, no odor

Duplicate
1645

MW-2	
GAUGE DATE	9/20/17
GAUGE TIME	1430
DTB (feet) Depth to Bottom	137.48
DEDICATED PUMP	Y
DTW (feet) Depth to Water	15.64
DTB - DTW	121.84
Capacity per foot	1.020
3 Well Volumes	373 gals
PURGE DATE	
PURGE TIME	1450
SAMPLE DAY	
SAMPLE TIME	1630

SAMPLE LOG

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1624	9.18	16.07	952	.619	.47	15.9	48.3
(2)	1626	9.21	16.49	948	.617	.47	16.0	45.0
(3)	1628	9.22	16.64	950	.618	.47	17.1	44.7
(4)	1630	9.22	16.90	952	.619	.47	17.1	47.6

WEATHER CONDITIONS

Clear, windy

WATER APPEARANCE

Clear, no odor

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
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MW-4	
GAUGE DATE	9/21/17
GAUGE TIME	0945
DTB (feet) Depth to Bottom	121.72
DEDICATED PUMP DTW (feet) Depth to Water	7.56
DTB - DTW	114.16
Capacity per foot	.02
3 Well Volumes	3.49 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1056

SAMPLE LOG

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	No Data Available							
(4)								

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

Clear, no odor

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DEDICATED PUMP DTW (feet) Depth to Water	
DTB - DTW	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

SAMPLE LOG

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature: _____

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

BW-5C		TEST PARAMETERS							
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE	9/21/17	(1) 1324	8.46	14.80	4308	2.8	2.31	16.5	-99.3
GAUGE TIME	1228	(2) 1326	8.33	15.13	4306	2.799	2.31	13.5	-150.8
DTB (feet) Depth to Bottom	76.35	(3) 1328	8.25	15.01	4304	2.799	2.30	12.9	-164.2
DEDICATED PUMP DTW (feet) Depth to Water	2.99	(4) 1330	8.19	15.95	4306	2.799	2.30	12.5	-159.0
DTB - DTW	73.36								
Capacity per foot	.163	**WEATHER CONDITIONS**							
3 Well Volumes	36gal	Clear, windy							
PURGE DATE		**WATER APPEARANCE**							
PURGE TIME	1300	Clear, slight tint							
SAMPLE DAY									
SAMPLE TIME	1330								

SAMPLE LOG

		TEST PARAMETERS							
		Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
GAUGE DATE		(1)							
GAUGE TIME		(2)							
DTB (feet) Depth to Bottom		(3)							
DEDICATED PUMP DTW (feet) Depth to Water		(4)							
DTB - DTW		**WEATHER CONDITIONS**							
Capacity per foot									
3 Well Volumes									
PURGE DATE		**WATER APPEARANCE**							
PURGE TIME									
SAMPLE DAY									
SAMPLE TIME									

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

Duplicate 1505

OW-59	
GAUGE DATE	9/21/17
GAUGE TIME	1110
DTB (feet) Depth to Bottom	38.3
DEDICATED PUMP DTW (feet) Depth to Water	24.3
DTB - DTW	14.0
Capacity per foot	.163
3 Well Volumes	7 gals
PURGE DATE	9/21/17
PURGE TIME	1112
SAMPLE DAY	9/21/17
SAMPLE TIME	1450

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1448	8.22	14.17	9476	6.159	5.35	48.3	-9.9
(3)								
(4)	1450	8.11	14.96	9424	6.126	5.32	42.5	-12.9

WEATHER CONDITIONS

Clear, windy

WATER APPEARANCE

clear 1st bail - pink - brown

SAMPLE LOG

will allow to recharge before collection
Samples - WTR brown - silty Stopped @1120

OW 60	
GAUGE DATE	9/21/17
GAUGE TIME	1520
DTB (feet) Depth to Bottom	45.55
DEDICATED PUMP DTW (feet) Depth to Water	16.45
DTB - DTW	
Capacity per foot	
3 Well Volumes	
PURGE DATE	9/21/17
PURGE TIME	1530
SAMPLE DAY	9/21/17
SAMPLE TIME	1605

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1602	8.16	15.27	6081	3.952	3.33	25.7	34.9
(3)	1604	8.13	15.46	6088	3.957	3.33	23.8	26.7
(4)	1606	8.06	15.47	6076	3.949	3.32	20.8	25.0

WEATHER CONDITIONS

Clear, windy

WATER APPEARANCE

clear, pink, brown

SAMPLE LOG

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

BW-4A

GAUGE DATE	9/21/17
GAUGE TIME	1145
DTB (feet) Depth to Bottom	38.8
DEDICATED PUMP DTW (feet) Depth to Water	DRY
DTB - DTW	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	N/A							
(3)								
(4)								

WEATHER CONDITIONS

Clear, windy

WATER APPEARANCE

DRY

SAMPLE LOG

BW-4B

GAUGE DATE	9/21/17
GAUGE TIME	1149
DTB (feet) Depth to Bottom	63.5
DEDICATED PUMP DTW (feet) Depth to Water	31.58
DTB - DTW	31.92
Capacity per foot	1 Gal
3 Well Volumes	
PURGE DATE	
PURGE TIME	1200
SAMPLE DAY	
SAMPLE TIME	1430

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1426	9.38	11.10	1301	.8446	.65	52.3	70.4
(2)	1428	9.27	10.95	1302	.8446	.65	51.0	63.4
(3)	1430	9.21	10.81	1304	.8448	.66	50.8	58.9
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

Clear - pink - brown/silty

SAMPLE LOG Stopped @ 1210 - will allow to recharge sampled before collecting samples. Checked @ 1430 - muddy

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY
3RD QTR/ANNUAL 2017

BW-5A

GAUGE DATE	9/21/17
GAUGE TIME	1220
DTB (feet) Depth to Bottom	23.0
DEDICATED PUMP DTW (feet) Depth to Water	DRY
DTB - DTW	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	N/A							
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

DRY

SAMPLE LOG

BW-5B

GAUGE DATE	9/21/17
GAUGE TIME	1225
DTB (feet) Depth to Bottom	61.45
DEDICATED PUMP DTW (feet) Depth to Water	8.65 52.8
DTB - DTW	52.8
Capacity per foot	.163
3 Well Volumes	26 gal
PURGE DATE	
PURGE TIME	1235
SAMPLE DAY	
SAMPLE TIME	1405

TEST PARAMETERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (uS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1400	9.35	14.41	1042	.678	.52	34.1	-25.1
(2)	1402	9.29	14.47	1042	.677	.52	28.5	-26.9
(3)	1404	9.22	14.99	1044	.679	.52	28.1	-26.0
(4)	1406	9.2	15.54	1036	.673	.52	25.2	-25.1

WEATHER CONDITIONS

WATER APPEARANCE

clear - mild - brown

SAMPLE LOG

allowed to recharge

INSTRUMENTS USED:
YSI 556 MPS instrument used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Signature:

Cheryl Johnson / Environmental Specialist / Gallup Refinery

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-42	
GAUGE DATE	9/25/17
GAUGE TIME	0404
DTB (feet) Depth to Bottom	33.15
DTP	/
DTW	16.83
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	16.32
Capacity per foot	163
3 Well Volumes	8820
PURGE DATE	
PURGE TIME	0908
SAMPLE DAY	
SAMPLE TIME	0915

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	902	8.72	12.53	3038	1.975	1.59	25.4	209.0
(2)	904	8.78	12.09	3041	1.977	1.60	19.5	204.0
(3)	906	8.87	12.12	3058	1.988	1.60	19.0	199.5
(4)	908	8.86	12.15	3053	1.984	1.60	16.0	196.0

WEATHER CONDITIONS

clear, calm

WATER APPEARANCE

clear w/ orange tint -

SAMPLE LOG/NOTES:

EDB

MKTF-32	
GAUGE DATE	9/25/17
GAUGE TIME	0930
DTB (feet) Depth to Bottom	27.75
DTP	/
DTW	14.11
DTP-DTW (Hydrocarbon Layer)	/
DTW-DTB	13.64
Capacity per foot	.163
3 Well Volumes	7 gals
PURGE DATE	
PURGE TIME	0935
SAMPLE DAY	
SAMPLE TIME	0958

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	954	8.50	14.36	2297	1.493	1.19	46.2	182.5
(3)	956	8.48	14.65	2295	1.492	1.19	39.2	173.0
(4)	958	8.58	14.95	2296	1.492	1.19	37.5	165.0

WEATHER CONDITIONS

Clear calm

WATER APPEARANCE

Clear, ~~slight tint~~ cloudy

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EDB

MKTF-41	
GAUGE DATE	9/25/17
GAUGE TIME	1010
DTB (feet) Depth to Bottom	40.10
DTP	—
DTW	19.85
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	20.25
Capacity per foot	.163
3 Well Volumes	10 gals
PURGE DATE	
PURGE TIME	1015
SAMPLE DAY	
SAMPLE TIME	1030

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1024	9.22	13.30	2608	1.695	1.36	74.1	149.0
(3)	1028	9.14	13.17	2612	1.698	1.36	54.2	148.0
(4)	1030	9.10	13.13	2615	1.700	1.36	49.2	146.6

WEATHER CONDITIONS

Clear, calm

WATER APPEARANCE

Clear - cloudy

SAMPLE LOG/NOTES:

1130 Duplicate

MKTF-43	
GAUGE DATE	9/25/17
GAUGE TIME	1045
DTB (feet) Depth to Bottom	15.43
DTP	—
DTW	4.14
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	11.29
Capacity per foot	.163
3 Well Volumes	10 gals
PURGE DATE	
PURGE TIME	1050
SAMPLE DAY	
SAMPLE TIME	1115

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1113	7.73	17.65	26428	17.35	16.08	28.8	114.1
(3)	1115	7.74	16.38	26402	17.16	16.2	20.3	110.8
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

Clear - slightly cldy

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-33	
GAUGE DATE	9/25/17
GAUGE TIME	1330
DTB (feet) Depth to Bottom	33.2
DTP	
DTW	22.5
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.7
Capacity per foot	0.163
3 Well Volumes	5 gals
PURGE DATE	
PURGE TIME	1335
SAMPLE DAY	
SAMPLE TIME	1348

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	1348	8.40	13.19	1553	1.009	.79	81.6	143.9
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

clear - cloudy

SAMPLE LOG/NOTES:

MKTF-44	
GAUGE DATE	9/25
GAUGE TIME	1420
DTB (feet) Depth to Bottom	51.15
DTP	
DTW	30.18
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	20.97
Capacity per foot	
3 Well Volumes	10 gals
PURGE DATE	
PURGE TIME	1425
SAMPLE DAY	
SAMPLE TIME	1450

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	1448	8.71	12.88	4701	3.055	2.53	54.6	132.2
(4)	1450	8.51	13.00	4703	3.057	2.53	52.5	130.2

WEATHER CONDITIONS

WATER APPEARANCE

Clear, no odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-40	
GAUGE DATE	9/25/17
GAUGE TIME	1500
DTB (feet) Depth to Bottom	23.64
DTP	/
DTW	13.28
DTP-DTW (Hydrocarbon Layer)	/
DTW-DTB	10.36
Capacity per foot	0.163
3 Well Volumes	5
PURGE DATE	
PURGE TIME	1305
SAMPLE DAY	13
SAMPLE TIME	1530

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)		NO Data Recorded						
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

Clear, cloudy

SAMPLE LOG/NOTES:

EDB

MKTF-31	
GAUGE DATE	9/25/17
GAUGE TIME	1540
DTB (feet) Depth to Bottom	22.81
DTP	/
DTW	8.29
DTP-DTW (Hydrocarbon Layer)	/
DTW-DTB	14.52
Capacity per foot	0.163
3 Well Volumes	7gal
PURGE DATE	
PURGE TIME	1545
SAMPLE DAY	26
SAMPLE TIME	1600

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1354	7.95	19.62	2890	1.878	1.51	26.1	134.3
(2)	1356	7.89	19.30	2891	1.879	1.51	29.1	133.6
(3)	1358	7.85	19.55	2892	1.880	1.51	25.6	133.6
(4)	1400	7.83	19.48	2891	1.879	1.51	23.8	133.6

WEATHER CONDITIONS

WATER APPEARANCE

Clear - pink tint @ end of bailing

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EDB

MKTF 25	
GAUGE DATE	9/25
GAUGE TIME	1630
DTB (feet) Depth to Bottom	19.43
DTP	
DTW	11.04
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	839
Capacity per foot	0.163
3 Well Volumes	4 gals
PURGE DATE	
PURGE TIME	1640
SAMPLE DAY	
SAMPLE TIME	1658

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	1656	8.16	14.91	2479	1.611	1.29	24.4	76.0
(4)	1658	8.01	14.90	2478	1.611	1.29	28.6	76.0

WEATHER CONDITIONS

WATER APPEARANCE

Clear - pink tint - odor

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-17	
GAUGE DATE	9/26/17
GAUGE TIME	0825
DTB (feet) Depth to Bottom	24.11
DTP	—
DTW	9.33
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	14.78
Capacity per foot	0.163
3 Well Volumes	7gal
PURGE DATE	9
PURGE TIME	0838
SAMPLE DAY	
SAMPLE TIME	0849

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	846	823	12.87	1246	0.81	.63	42.6	76.3
(4)	848	8.0	12.91	1251	0.813	.63	30.0	-18.9

WEATHER CONDITIONS

Clear, calm

WATER APPEARANCE

Clear - pink

SAMPLE LOG/NOTES:

MKTF-19	
GAUGE DATE	9/26/17
GAUGE TIME	0900
DTB (feet) Depth to Bottom	17.47
DTP	—
DTW	11.0
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	6.47
Capacity per foot	0.163
3 Well Volumes	3
PURGE DATE	
PURGE TIME	0905
SAMPLE DAY	
SAMPLE TIME	0920

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)		7.73	15.56	1583	1.029	0.8	18.0	-120.5
(2)		7.68	15.73	1581	1.028	0.8	14.3	-137
(3)		7.66	15.94	1580	1.027	0.8	12.3	-149.5
(4)		7.66	15.87	1582	1.028	0.8	11.8	-158.1

WEATHER CONDITIONS

WATER APPEARANCE

Clear - pink

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-34	
GAUGE DATE	9/26/17
GAUGE TIME	0930
DTB (feet) Depth to Bottom	27.68
DTP	—
DTW	17.62
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	10.06
Capacity per foot	.0163
3 Well Volumes	5 gals
PURGE DATE	
PURGE TIME	0943
SAMPLE DAY	
SAMPLE TIME	0954

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	952	8.45	13.44	1715	1.115	0.87	61.1	2.2
(4)	954	8.40	13.37	1715	1.114	0.87	57.8	5.9

WEATHER CONDITIONS

WATER APPEARANCE

Clear, slight pK tint

SAMPLE LOG/NOTES:

MKTF-21	
GAUGE DATE	9/26/17
GAUGE TIME	1015
DTB (feet) Depth to Bottom	9.89
DTP	—
DTW	5.69
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	4.2
Capacity per foot	0.16
3 Well Volumes	9 gals
PURGE DATE	
PURGE TIME	1020
SAMPLE DAY	
SAMPLE TIME	1030

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1026	8.16	21.67	4	.002	0	91.0	-42
(3)	1028	8.19	21.44	3	.002	0	91.1	-35.4
(4)	1030	8.21	21.21	3	.002	0	91.2	-30.3

WEATHER CONDITIONS

WATER APPEARANCE

Clear - gray w/small particles

SAMPLE LOG/NOTES:

not enough WTR to purge 9 gals - Collected grab sample.

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF 20	
GAUGE DATE	9/26/17
GAUGE TIME	1055
DTB (feet) Depth to Bottom	9.89
DTP	
DTW	6.23
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	3.66
Capacity per foot	.74
3 Well Volumes	8gals
PURGE DATE	
PURGE TIME	10
SAMPLE DAY	
SAMPLE TIME	1105

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1058	7.50	23.57	2510	1.631	1.29	16.2	-146.3
(2)	1100	7.46	22.76	2530	1.644	1.31	13.8	-124.6
(3)	1102	7.48	21.96	2541	1.651	1.31	13.8	-112.6
(4)	1104	7.49	21.46	2544	1.653	1.32	14.6	-102.9

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

wt Clear - gray - odor

SAMPLE LOG/NOTES:

not enough wtr for purging - collected grab sample after bailing 2 gals.

MKTF-16	
GAUGE DATE	9/26/17
GAUGE TIME	1120
DTB (feet) Depth to Bottom	14.10
DTP	
DTW	8.0
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	6.1
Capacity per foot	0.163
3 Well Volumes	3gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1140

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1134	7.6	21.59	3563	2.316	1.88	39.1	-106.1
(2)	1136	7.54	21.24	3571	2.321	1.88	29.0	-104.9
(3)	1138	7.49	20.90	3576	2.324	1.89	24.3	-102.4
(4)	1140	7.61	20.61	3578	2.325	1.89	24.7	-99.1

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

Clear

SAMPLE LOG/NOTES:

Bailed 2.5 gals.

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-15	
GAUGE DATE	9/26/17
GAUGE TIME	1200
DTB (feet) Depth to Bottom	19.48
DTP	12.0
DTW	12.1
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			ND	NA				
(3)								
(4)								

WEATHER CONDITIONS

1

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

MKTF-5	
GAUGE DATE	9/26/17
GAUGE TIME	1210
DTB (feet) Depth to Bottom	17.75
DTP	13.01
DTW	13.5
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			ND	NA				
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-8	
GAUGE DATE	9/26/17
GAUGE TIME	1220
DTB (feet) Depth to Bottom	12
DTP	12.15
DTW	12.6
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			N/A					
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

MKTF-7	
GAUGE DATE	9/26/17
GAUGE TIME	1225
DTB (feet) Depth to Bottom	9.8
DTP	11.1
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			N/A					
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-6	
GAUGE DATE	9/26/17
GAUGE TIME	1229
DTB (feet) Depth to Bottom	
DTP	16.01
DTW	16.72
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			N/A					
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

1350 + duplicate

MKTF-04	
GAUGE DATE	9/26/17
GAUGE TIME	1234
DTB (feet) Depth to Bottom	22.15
DTP	
DTW	8.8
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	13.35
Capacity per foot	.16
3 Well Volumes	30gal
PURGE DATE	
PURGE TIME	1300
SAMPLE DAY	
SAMPLE TIME	1335

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1329	8.10	16.85	1810	1.176	.92	46.6	-93.0
(2)	1331	7.99	17.08	1812	1.178	.92	24.9	-95.0
(3)	1333	7.90	17.32	1814	1.179	.93	31.9	-94.7
(4)	1335	7.85	17.54	1816	1.180	.93	33.2	-91.9

WEATHER CONDITIONS

WATER APPEARANCE

clear - gray - sheen

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-03	
GAUGE DATE	9/26/17
GAUGE TIME	1415
DTB (feet) Depth to Bottom	18.45
DTP	6.35
DTW	7.15
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			NA	NA				
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

MKTF-11	
GAUGE DATE	9/26/17
GAUGE TIME	1420
DTB (feet) Depth to Bottom	18.14
DTP	
DTW	6.7
DTP-DTW (Hydrocarbon Layer)	11.44
DTW-DTB	
Capacity per foot	
3 Well Volumes	25 gal
PURGE DATE	
PURGE TIME	1425
SAMPLE DAY	
SAMPLE TIME	1450

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1444	8.02	17.74	3489	2.268	1.84	45.1	-123.7
(2)	1446	8.02	17.91	3493	2.27	1.84	30.8	-124.0
(3)	1448	7.98	18.07	3500	2.275	1.85	27.3	-120.9
(4)	1450	7.97	18.27	3501	2.276	1.85	25.0	-117.1

WEATHER CONDITIONS

Cldy,

WATER APPEARANCE

Clear, grey - slight odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EDB

MKTF-36	
GAUGE DATE	9/27/17
GAUGE TIME	0806
DTB (feet) Depth to Bottom	1545
DTP	—
DTW	5.8
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	9.65
Capacity per foot	0.163
3 Well Volumes	5gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0820

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	N/A - WTR too dirty							
(3)								
(4)								

WEATHER CONDITIONS

Cldy, Rainshowers

WATER APPEARANCE

gray - sheen - oder

SAMPLE LOG/NOTES:

EDB

MKTF-35	
GAUGE DATE	9/27/17
GAUGE TIME	0840
DTB (feet) Depth to Bottom	16.45
DTP	—
DTW	7.7
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	8.75
Capacity per foot	0.163
3 Well Volumes	4gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	0915

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	913	8.64	17.25	1398	.908	.70	39.8	-119.5
(4)	915	8.42	16.03	1404	.913	.71	31.3	-128.0

WEATHER CONDITIONS

Cldy Rainshowers

WATER APPEARANCE

gray -

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-37	
GAUGE DATE	9/27/17
GAUGE TIME	0745
DTB (feet) Depth to Bottom	24.60
DTP	7.83
DTW	7.89
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	0.163
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			NA	NA				
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

MKTF-18	
GAUGE DATE	9/27/17
GAUGE TIME	0800
DTB (feet) Depth to Bottom	25.38
DTP	6.35
DTW	6.37
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			NA	NA				
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-10	
GAUGE DATE	9/27/17
GAUGE TIME	0925
DTB (feet) Depth to Bottom	15.99
DTP	—
DTW	6.78
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	9.21
Capacity per foot	.74
3 Well Volumes	20
PURGE DATE	9/28/17
PURGE TIME	1350
SAMPLE DAY	9/28/17
SAMPLE TIME	1409

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)	1408	8.23	17.58	1753	1.139	0.89	26.7	-108.4
(4)	1400	8.03	16.89	1755	1.140	0.89	21.9	-112.3

WEATHER CONDITIONS

Cldy, Rainshowers

WATER APPEARANCE

clear,

SAMPLE LOG/NOTES: 9/27/17 - Stopped - Severe weather warning - lightening - did not purged.

1245 * Duplicate

MKTF-9	
GAUGE DATE	9/28/17
GAUGE TIME	1200
DTB (feet) Depth to Bottom	22.70
DTP	—
DTW	12.69
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	10.01
Capacity per foot	0.74
3 Well Volumes	22
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1230

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1226	8.38	15.28	1649	1.072	.84	46.4	-148.0
(3)	1228	8.21	15.23	1650	1.072	.84	36.8	-145.0
(4)	1230	8.11	15.24	1650	1.073	.84	35.1	-140.4

WEATHER CONDITIONS

Cldy - breezy - Rain

WATER APPEARANCE

clear - slight odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-38	
GAUGE DATE	9/28/17
GAUGE TIME	1045
DTB (feet) Depth to Bottom	20.29
DTP	
DTW	6.32
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	13.97
Capacity per foot	
3 Well Volumes	7gals
PURGE DATE	
PURGE TIME	1047
SAMPLE DAY	
SAMPLE TIME	1105

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1100	8.66	18.53	1678	1.091	0.85	42.5	60.4
(3)	1104	8.46	18.51	1675	1.089	0.85	37.0	63.0
(4)	1106	8.35	18.38	1680	1.092	0.85	34.5	59.5

WEATHER CONDITIONS

ptly cldy - slight breeze

WATER APPEARANCE

clear, cloudy - pink tint

SAMPLE LOG/NOTES:

MKTF-39	
GAUGE DATE	9/28/17
GAUGE TIME	1130
DTB (feet) Depth to Bottom	19.20
DTP	
DTW	7.32
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	7.88
Capacity per foot	0.163
3 Well Volumes	4gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1145

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1142	7.94	19.90	9670	6.285	5.45	28.8	-118.8
(2)	1144	7.76	19.81	9708	6.311	5.48	19.5	-125.9
(3)	1146	7.66	19.64	9709	6.311	5.48	18.0	-132.3
(4)								

WEATHER CONDITIONS

ptly cldy, breezy

WATER APPEARANCE

clear - cldy - sheen, slight odor

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EDB

MKTF-24	
GAUGE DATE	10/3/17
GAUGE TIME	0825
DTB (feet) Depth to Bottom	30.47
DTP	—
DTW	21.52
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	8.95
Capacity per foot	0.163
3 Well Volumes	4 gal
PURGE DATE	
PURGE TIME	0830
SAMPLE DAY	
SAMPLE TIME	0855

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	852	8.65	12.66	3103	2.017	1.63	30.6	10.8
(2)	854	8.40	12.59	3107	2.02	1.63	25.2	-7.8
(3)	856	8.25	12.70	3103	2.017	1.63	23.6	-15.6
(4)								

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

Clear - pink tint @ end of purge

SAMPLE LOG/NOTES:

MKTF-26	
GAUGE DATE	10/3/17
GAUGE TIME	0925
DTB (feet) Depth to Bottom	17.15
DTP	7.77
DTW	8.6
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	X
PURGE TIME	X
SAMPLE DAY	X
SAMPLE TIME	X

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)		ND	NA					
(3)								
(4)								

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

no samples collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-29	
GAUGE DATE	10/31/17
GAUGE TIME	0938
DTB (feet) Depth to Bottom	22.84
DTP	
DTW	1.59
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	21.25
Capacity per foot	0.163
3 Well Volumes	10
PURGE DATE	
PURGE TIME	0940
SAMPLE DAY	
SAMPLE TIME	1010

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1004	8.35	16.39	2396	1.557	1.24	29.3	33.4
(2)	1006	8.31	16.18	2400	1.560	1.24	20.8	29.7
(3)	1008	8.26	16.11	2403	1.562	1.24	15.4	28.5
(4)	1010	8.21	16.12	2403	1.562	1.24	14.0	28.2

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

Clear - slight pink tint @ end of purging.

SAMPLE LOG/NOTES:

1055

Duplicate

MKTF-28	
GAUGE DATE	10/31/17
GAUGE TIME	1017
DTB (feet) Depth to Bottom	16.16
DTP	
DTW	4.28
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	11.88
Capacity per foot	0.163
3 Well Volumes	6gal
PURGE DATE	
PURGE TIME	1020
SAMPLE DAY	
SAMPLE TIME	1045

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1040	8.78	20.84	2344	1.524	1.21	54.5	39.2
(2)	1042	8.47	20.61	2359	1.533	1.22	35.8	51.1
(3)	1044	8.32	20.56	2374	1.543	1.22	31.9	54.2
(4)	1046	8.23	20.49	2369	1.540	1.22	29.3	56.0

WEATHER CONDITIONS

Clear, Calm

WATER APPEARANCE

Clear - Cloudy

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.

55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-27	
GAUGE DATE	10/3/17
GAUGE TIME	1104
DTB (feet) Depth to Bottom	14.72
DTP	—
DTW	5.9
DTP-DTW (Hydrocarbon Layer)	—
DTW-DTB	8.82
Capacity per foot	0.163
3 Well Volumes	4
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1125

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1122	8.28	17.57	8773	5.702	4.92	24.4	67.8
(2)	1124	8.12	17.56	8782	5.708	4.93	24.5	65.5
(3)	1126	8.01	17.55	8842	5.747	4.96	20.1	64.1
(4)								

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

clear, slight purple

SAMPLE LOG/NOTES:

MKTF-12	
GAUGE DATE	10/3/17
GAUGE TIME	1205
DTB (feet) Depth to Bottom	25.6
DTP	17.3
DTW	17.43
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)		N/A						
(3)								
(4)								

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-22	
GAUGE DATE	10/3/17
GAUGE TIME	1321
DTB (feet) Depth to Bottom	35.25
DTP	
DTW	25.19
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	10.06
Capacity per foot	0.163
3 Well Volumes	5 gals
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1346

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1342	8.05	13.88	1501	.976	.76	38.5	-91.8
(2)	1344	8.08	13.92	14604	.953	.74	29.2	-118.9
(3)	1346	7.99	14.18	1469	.955	.74	27.0	-126.4
(4)								

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

Clear - pink end of purge

SAMPLE LOG/NOTES:

MKTF-23	
GAUGE DATE	10/3/17
GAUGE TIME	1404
DTB (feet) Depth to Bottom	20.30
DTP	14.19
DTW	14.25
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			ND	NA				
(3)								
(4)								

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-13	
GAUGE DATE	10/3/17
GAUGE TIME	1415
DTB (feet) Depth to Bottom	21.25
DTP	11.91
DTW	11.94
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			N/A					
(3)								
(4)								

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

MKTF-14	
GAUGE DATE	10/3/17
GAUGE TIME	1418
DTB (feet) Depth to Bottom	17.46
DTP	5.77
DTW	6.11
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			N/A					
(3)								
(4)								

WEATHER CONDITIONS

Clear, breezy

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EDB

MKTF-30	
GAUGE DATE	10/3/17
GAUGE TIME	1442
DTB (feet) Depth to Bottom	23.20
DTP	
DTW	15.03
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1505

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)	1504	8.41	17.41	3274	2.128	1.72	59.0	36.2
(3)	1506	8.40	17.48	3273	2.127	1.72	52.1	37.2
(4)	1508	"						

WEATHER CONDITIONS

Clear, slight breeze

WATER APPEARANCE

Clear - slight orange tint

SAMPLE LOG/NOTES:

MKTF-01	
GAUGE DATE	10/3/17
GAUGE TIME	1515
DTB (feet) Depth to Bottom	17.42
DTP	10.2
DTW	6.56
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	X
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)			N/A					
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

No Samples Collected

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

EDB

MW-02	
GAUGE DATE	10/3/17
GAUGE TIME	1521
DTB (feet) Depth to Bottom	20.48
DTP	
DTW	6.67
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	13.81
Capacity per foot	0.74
3 Well Volumes	30.
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	1600

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)	1549	8.25	15.40	2516	1.635	1.31	34.7	-160.5
(2)	1551	8.13	15.45	2520	1.638	1.31	26.1	-161.6
(3)	1553	8.01	15.56	2526	1.642	1.31	23.5	-156.3
(4)	1555	7.99	15.72	2519	1.638	1.31	23.2	-152.9

WEATHER CONDITIONS

WATER APPEARANCE

Clear

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

WESTERN REFINING - GALLUP REFINERY

2017 Annual/Quarterly Well Log

MKTF-45	
GAUGE DATE	10/3/17
GAUGE TIME	
DTB (feet) Depth to Bottom	30.24
DTP	11.48
DTW	12.01
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SpH level - No Samples Collected

SAMPLE LOG/NOTES:

GAUGE DATE	
GAUGE TIME	
DTB (feet) Depth to Bottom	
DTP	
DTW	
DTP-DTW (Hydrocarbon Layer)	
DTW-DTB	
Capacity per foot	
3 Well Volumes	
PURGE DATE	
PURGE TIME	
SAMPLE DAY	
SAMPLE TIME	

TEST PARAMATERS

	Time (hrs)	pH	Temperature Deg C	Conductivity (µS), (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mV)
(1)								
(2)								
(3)								
(4)								

WEATHER CONDITIONS

WATER APPEARANCE

SAMPLE LOG/NOTES:

INSTRUMENTS USED & CALIBRATED WHERE APPLICABLE:

YSI 556 MPS Insrument with flow cell. Used to collect water quality parameters.
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.
Submersible bladder pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.
Disposable bailer - Polyethylene bailer (1.5" x 36" OAL). Individually sealed.
55 gallon drum or 5-gallon buckets to catch purge water

Signature: /s/

EVAPORATION PONDS

SAMPLE LOCATION	SAMPLE DATE/TIME	SAMPLE DATE/TIME for E-COLI/BOD	WEATHER CONDITIONS / NOTES
EP-2	10/24 @ 1510	———	
EP-3	10/24 @ 1400	1650	
EP-4	10/24 @ 1340	1640	
EP-5	10/24 @ 1320	@ 1630	
EP-6	10/24 @ 1305	@ 1620	
EP-7	10/24 @ 1255	@ 1552	
EP-8	10/24 @ 1220	@ 1606	
EP-9	10/24 @ 1250	1611	
EP-11	10/24 @ 1205	@ 1547	
EP-12A	10/24 @ 1140	@ 1540	
EP-12B	10/24 @ 1125	@ 1530	clear, slight breeze
~~BW-EP2~~			
~~STP-1 TO EP-2~~			

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-24		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial	0828	7.92	11.90	2.329	2.035	1.65	62.6	62.3
GAUGE TIME	0815	1	0833	7.49	12.83	2.456	2.082	1.69	31.4	4.3
DHC (FEET)	ND	2	0838	7.38	12.61	2.357	2.004	1.62	28.3	-24.7
DTW (FEET)	21.53	3		BAILED DRY @ 4 GALLONS						
DTB (FEET)	30.82	4								
DTB - DTW	9.29	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.51

PURGING DATA

3 WELL VOLUMES	4.54	WEATHER CONDITIONS: CLEAR, CALM 29°
PURGE DATE	11.20.17	WATER APPEARANCE / ODOR: CLEAR -> PINKISH BROWN, HC ODOR
END OF PURGE TIME	0840	COMMENTS:
PURGE AMOUNT	4.0	
DTW (FEET)	30.60	

SAMPLING DATA

SAMPLE DATE	11.20.17	WEATHER CONDITIONS: CLEAR, MOD WEST WIND, 62°
DTW (FEET)	22.15	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
SAMPLE TIME	1350	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-24	1350	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		~~1~~ 125 ML PLASTIC	1	HNO_3
			1	H_2SO_4
			1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-02		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial	0910	7.51	12.22	1.898	1.632	1.30	22.2	-20.5
GAUGE TIME	0900	1	0917	7.41	13.51	1.959	1.634	1.30	19.9	-75.5
DHC (FEET)	ND	2	0926	7.39	12.89	2.034	1.948	1.57	25.1	-96.2
DTW (FEET)	7.00	3			BAILED DRY @ 20 GALLONS					
DTB (FEET)	20.35	4								
DTB - DTW	13.35	5								
CAPACITY PER FOOT	(0.74 - 4")	6								
	0.163 - 2"									

9.88

PURGING DATA

3 WELL VOLUMES	29.62	WEATHER CONDITIONS: CLEAR, CALM, 46°
PURGE DATE	11.20.17	WATER APPEARANCE / ODOR: CLEAR → BROWN, HC ODOR
END OF PURGE TIME	0926	COMMENTS:
PURGE AMOUNT	20 GALS	
DTW (FEET)	20.00	

SAMPLING DATA

SAMPLE DATE	11.20.17	WEATHER CONDITIONS: CLEAR, MOD WEST WIND, 63°
DTW (FEET)	15.92	WATER APPEARANCE / ODOR: CLEAR, ODOR
SAMPLE TIME	1430	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-02	1430	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		↓	1	H_2SO_4
		↓	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-30		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial	1001	7.55	15.25	2.431	1.940	1.56	53.4	-12.7
GAUGE TIME	0957	1	1006	7.44	15.85	2.567	2.024	1.64	34.4	0.5
DHC (FEET)	ND	2	1011	7.43	15.72	2.546	2.012	1.62	53.2	5.2
DTW (FEET)	14.91	3			BAILED DRY @ 4 GALLONS					
DTB (FEET)	23.19	4								
DTB - DTW	8.28	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								
1.34		PURGING DATA								
3 WELL VOLUMES	4.04	WEATHER CONDITIONS: CLEAR, CALM, 48°								
PURGE DATE	11.20.17	WATER APPEARANCE / ODOR: CLEAR → BROWN, FAINT ODOR								
END OF PURGE TIME	1012	COMMENTS:								
PURGE AMOUNT	4 GALS									
DTW (FEET)	22.90									
		SAMPLING DATA								
SAMPLE DATE	11.20.17	WEATHER CONDITIONS: PARTLY CLOUDY, MOD WEST WIND, 59°								
DTW (FEET)	14.90	WATER APPEARANCE / ODOR: CLEAR, FAINT ODOR								
SAMPLE TIME	1525	COMMENTS:								

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-30	1525	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
			1	H_2SO_4
			1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 5.56 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-29		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial	1031	7.48	12.79	1.736	1.472	1.17	26.2	-3.1
GAUGE TIME	1025	1	1037	7.46	15.15	1.843	1.476	1.17	26.4	-6.3
DHC (FEET)	ND	2	1043	7.41	15.20	1.854	1.483	1.18	19.2	-6.0
DTW (FEET)	1.91	3	1048	7.40	15.21	1.860	1.485	1.18	18.9	-5.9
DTB (FEET)	22.80	4								
DTB - DTW	20.89	5								
CAPACITY PER FOOT	0.74 - 4" (0.163 - 2")	6								

3.41

PURGING DATA

3 WELL VOLUMES	10.21
PURGE DATE	11.20.17
END OF PURGE TIME	1048
PURGE AMOUNT	10.25
DTW (FEET)	10.10

WEATHER CONDITIONS: CLEAR, CALM, 52°

WATER APPEARANCE / ODOR: CLEAR → LT BROWN, NO ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.20.17
DTW (FEET)	10.10
SAMPLE TIME	1130

WEATHER CONDITIONS: SAME AS ABOVE

WATER APPEARANCE / ODOR: SAME AS ABOVE

COMMENTS: COLLECTED DUP01 & 1 EXTRA AMBER (1L)

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-29	1130	40 ML VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-27		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial	1158	7.55	14.38	5.709	4.654	3.96	95.7	-53.0
GAUGE TIME	11:50	1	1200	7.45	14.84	6.302	5.082	4.35	63.1	-19.1
DHC (FEET)	ND	2	1203	7.40	15.36	6.904	5.501	4.74	29.6	-11.0
DTW (FEET)	5.98	3	1206	7.38	15.36	7.010	5.680	4.92	33.5	-11.7
DTB (FEET)	14.72	4								
DTB - DTW	8.74	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								
	1.42									

PURGING DATA

3 WELL VOLUMES	4.29	WEATHER CONDITIONS: CLEAR, MOD WEST WIND, 70°
PURGE DATE	11.20.17	WATER APPEARANCE / ODOR: CLEAR TO GREYISH BROWN, FAINT ODOR
END OF PURGE TIME	1206	COMMENTS:
PURGE AMOUNT	4.5 G	
DTW (FEET)	12.77	

SAMPLING DATA

SAMPLE DATE	11.20.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	12.77	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1225	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-27	1225	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
			1	H_2SO_4
			1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-28		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial	1247	7.79	18.01	1.907	1.428	1.13	80.1	-84.1
GAUGE TIME	1240	1	1249	7.67	18.46	1.725	1.282	1.01	73.0	-53.2
DHC (FEET)	ND	2	1252	7.65	18.69	1.788	1.322	1.04	64.1	-39.2
DTW (FEET)	7.90	3	1255	7.65	18.70	1.790	1.380	1.14	53.0	-67.1
DTB (FEET)	16.13	4								
DTB - DTW	8.23	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								
	1.34									

PURGING DATA		
3 WELL VOLUMES	4.02	WEATHER CONDITIONS: CLEAR, MOD WEST WIND 68°
PURGE DATE	11.20.17	WATER APPEARANCE / ODOR: CLEAR -> SLIGHTLY CLOUDY, NO ODOR
END OF PURGE TIME	1255	COMMENTS:
PURGE AMOUNT	4.25	
DTW (FEET)	12.88	

SAMPLING DATA		
SAMPLE DATE	11.20.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	12.88	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1310	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-28	1310	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
			1	H_2SO_4
			1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-01		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial								
GAUGE TIME	1440	1								
DHC (FEET)	4.62	2		DID NOT SAMPLE						
DTW (FEET)	4.95	3		0.32 FEET OF SPH IN WELL						
DTB (FEET)	17.42	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-26		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.20.17	Initial								
GAUGE TIME	1445	1								
DHC (FEET)	8.09	2		DID	NOT SAMPLE					
DTW (FEET)	8.93	3	0.84	FEET	OF SPH IN WELL					
DTB (FEET)	17.15	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS									
MKTF-25		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.21.17	Initial	0807	7.65	11.54	1.804	1.679	1.26	144.5	14.3
GAUGE TIME	0755	1	0810	7.48	13.15	1.907	1.603	1.28	27.5	-20.2
DHC (FEET)	ND	2	0813	7.42	13.18	1.916	1.609	1.28	25.8	-29.8
DTW (FEET)	11.11	3	0816	7.40	13.16	1.918	1.610	1.29	24.6	-33.8
DTB (FEET)	19.80	4								
DTB - DTW	8.69	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.42

PURGING DATA

3 WELL VOLUMES	4.25
PURGE DATE	11.21.17
END OF PURGE TIME	0816
PURGE AMOUNT	4.25
DTW (FEET)	11.80

WEATHER CONDITIONS: CLEAR, CALM, 34°

WATER APPEARANCE / ODOR: CLEAR → PINKISH BROWN, HC ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.21.17
DTW (FEET)	11.80
SAMPLE TIME	0850

WEATHER CONDITIONS: SAME AS ABOVE

WATER APPEARANCE / ODOR: SAME AS ABOVE

COMMENTS: COLLECTED DUP02

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-25	0850	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	2	NEAT
		250ML AMBER	1	NEAT
		125 ML PLASTIC	1	NEAT
		125ML PLASTIC	1	HNO_3
		250ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
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WELL ID		TEST PARAMETERS								
MKTF-31		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.21.17	Initial	0932	7.60	14.46	2.068	1.683	1.35	24.6	-37.0
GAUGE TIME	0925	1	0934	7.46	15.26	2.257	1.803	1.45	21.4	-24.7
DHC (FEET)	ND	2	0937	7.43	15.30	2.224	1.766	1.42	22.7	-17.2
DTW (FEET)	8.15	3	0940	7.40	15.40	2.177	1.731	1.39	24.8	-11.1
DTB (FEET)	19.30	4								
DTB - DTW	11.15	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.82

PURGING DATA

3 WELL VOLUMES	5.45	WEATHER CONDITIONS: CLEAR, CALM, 48°
PURGE DATE	11.21.17	WATER APPEARANCE / ODOR: CLEAR - NO ODOR
END OF PURGE TIME	0940	COMMENTS:
PURGE AMOUNT	5.5	
DTW (FEET)	10.20	

SAMPLING DATA

SAMPLE DATE	11.21.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	10.20	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1000	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-31	1000	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		~~135~~ 125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-40		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.21.17	Initial	1026	7.51	14.69	4.129	3.341	2.78	96.0	-70.0
GAUGE TIME	1018	1	1028	7.52	15.27	5.340	4.265	3.61	70.5	-42.0
DHC (FEET)	ND	2	1030	7.51	15.25	5.490	4.440	3.80	65.5	-24.7
DTW (FEET)	13.71	3	1032	7.41	15.05	5.580	4.690	4.50	49.4	-13.7
DTB (FEET)	23.62	4								
DTB - DTW	9.91	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.62

PURGING DATA

3 WELL VOLUMES	4.85	WEATHER CONDITIONS: CLEAR, MOD NORTH WIND, 56°
PURGE DATE	11.21.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	1032	COMMENTS:
PURGE AMOUNT	5.0	
DTW (FEET)	20.28	

SAMPLING DATA

SAMPLE DATE	11.21.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	20.28	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1055	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-40	1055	40 ML VOA	5	HCL
		1 LITER AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250ML PLASTIC	1	HNO_3
		125ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

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WELL ID		TEST PARAMETERS								
MKTF-43		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial	0840	6.81	11.41	11.24	9.869	8.87	38.5	65.1
GAUGE TIME	0815	1	0842	6.82	11.52	11.40	9.980	8.98	24.7	56.0
DHC (FEET)	ND	2	0845	6.79	~~11.84~~ 12.32	~~12.72~~ 14.85	~~11.68~~ 12.72	11.68	29.6	59.4
DTW (FEET)	5.65	3	0848	6.77	13.00	15.25	13.25	12.50	28.5	55.1
DTB (FEET)	15.38	4								
DTB - DTW	9.73	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.59

PURGING DATA

3 WELL VOLUMES	4.75	WEATHER CONDITIONS: CLEAR, CALM, 50°
PURGE DATE	11.27.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	0848	COMMENTS:
PURGE AMOUNT	5.0	
DTW (FEET)	10.62	

SAMPLING DATA

SAMPLE DATE	11.27.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	10.62	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	0920	COMMENTS: COLLECTED DUP03 + 1 EXTRA 1L AMBER

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-43	0920	40 ML VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
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WELL ID		TEST PARAMETERS								
MKTF-44		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial	0957	7.06	13.48	2.529	2.106	1.71	76.4	27.2
GAUGE TIME	0950	1	1004	7.18	12.84	2.216	1.876	1.51	58.8	36.2
DHC (FEET)	ND	2	1011	7.19	12.65	2.254	1.917	1.54	51.9	43.4
DTW (FEET)	33.70	3		BAILED DRY @ 6.75 GALLONS						
DTB (FEET)	51.16	4								
DTB - DTW	17.46	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

2.85

PURGING DATA

3 WELL VOLUMES	8.53
PURGE DATE	11.27.17
END OF PURGE TIME	1018
PURGE AMOUNT	6.75
DTW (FEET)	50.90

WEATHER CONDITIONS: CLEAR, SW WIND, 67°
WATER APPEARANCE / ODOR: CLEAR → LIGHT BROWN, NO ODOR
COMMENTS: BAILED DRY @ 6.75 GALLONS

SAMPLING DATA

SAMPLE DATE	11.28.17
DTW (FEET)	48.80
SAMPLE TIME	0825

WEATHER CONDITIONS: CLEAR, CALM, 36°
WATER APPEARANCE / ODOR: CLEAR, NO ODOR
COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-44	0825	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
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WELL ID		TEST PARAMETERS								
MKTK-41		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial	10:56	7.43	14.94	2.115	1.701	1.36	46.7	52.6
GAUGE TIME	1045	1	1102	7.40	13.76	2.055	1.705	1.36	51.1	51.9
DHC (FEET)	ND	2	1108	7.40	13.31	2.025	1.694	1.36	41.7	50.8
DTW (FEET)	19.81	3	1114	7.40	13.09	2.014	1.694	1.36	30.8	47.8
DTB (FEET)	39.71	4								
DTB - DTW	19.90	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

3.24

PURGING DATA

3 WELL VOLUMES	9.73
PURGE DATE	11.27.17
END OF PURGE TIME	1114
PURGE AMOUNT	9.75
DTW (FEET)	33.45

WEATHER CONDITIONS: CLEAR, MOD. SW WIND, 65°

WATER APPEARANCE / ODOR: CLEAR - SLIGHTY BROWN, NO ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.27.17
DTW (FEET)	33.45
SAMPLE TIME	1135

WEATHER CONDITIONS: SAME AS ABOVE

WATER APPEARANCE / ODOR: SAME AS ABOVE

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-41	1135	40 ML VOA	5	HCL
		40ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

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WELL ID		TEST PARAMETERS								
MKTF-42		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial	1301	7.29	15.65	2.434	1.926	1.55	12.4	23.3
GAUGE TIME	1250	1	1306	7.28	14.62	2.430	1.969	1.59	16.0	20.0
DHC (FEET)	ND	2	1309	7.26	14.21	2.359	1.931	1.56	14.1	21.7
DTW (FEET)	16.81	3	1314	7.24	14.10	2.319	1.920	1.55	15.7	14.4
DTB (FEET)	33.18	4								
DTB - DTW	16.37	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

2.67

PURGING DATA

3 WELL VOLUMES	8.00	WEATHER CONDITIONS: CLEAR, STRONG SW WIND, 70°
PURGE DATE	11.27.17	WATER APPEARANCE / ODOR: CLEAR, AMBER, WEATHERED HC ODOR
END OF PURGE TIME	1314	COMMENTS:
PURGE AMOUNT	8.00	
DTW (FEET)	25.94	

SAMPLING DATA

SAMPLE DATE	11.27.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	25.94	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1335	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-42	1335	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-32		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial	1200	7.24	15.63	1.759	1.392	1.0	22.2	60.7
GAUGE TIME	13:51	1	1204	7.21	15.03	1.811	1.456	1.16	27.7	58.1
DHC (FEET)	ND	2	1208	7.20	14.90	1.831	1.489	1.18	21.1	53.2
DTW (FEET)	13.57	3	1211	7.19	14.49	1.833	1.495	1.19	20.2	52.5
DTB (FEET)	27.75	4								
DTB - DTW	14.18	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

2.31

PURGING DATA

3 WELL VOLUMES	6.93	WEATHER CONDITIONS: CLEAR, MOD SW WIND, 70°
PURGE DATE	11.27.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	12.11	COMMENTS:
PURGE AMOUNT	7.0	
DTW (FEET)	20.75	

SAMPLING DATA

SAMPLE DATE	11.27.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	20.75	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1235	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-32	1235	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY · PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-22		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial	1413	6.92	14.44	1.138	0.926	0.72	38.0	-97.4
GAUGE TIME	1405	1	1416	7.01	13.36	1.150	0.960	0.75	43.0	-103.0
DHC (FEET)	ND	2	1420	6.85	13.41	1.163	0.973	0.76	20.8	-100.0
DTW (FEET)	25.18	3	1425	6.84	12.86	1.168	0.988	0.77	21.3	-94.8
DTB (FEET)	35.60	4	BAILED DOWN @ 5.25 GALLONS							
DTB - DTW	10.42	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.70

PURGING DATA

3 WELL VOLUMES	5.1
PURGE DATE	11.27.17
END OF PURGE TIME	1425
PURGE AMOUNT	5.25
DTW (FEET)	33.30

WEATHER CONDITIONS: CLEAR, STRONG SW WIND WITH GUSTS, 70°

WATER APPEARANCE / ODOR: CLEAR, => V. TURBID., PINKISH BROWN, HC ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.28.17
DTW (FEET)	25.27
SAMPLE TIME	0910

WEATHER CONDITIONS: CLEAR, LIGHT NW WIND, 40°

WATER APPEARANCE / ODOR: CLEAR, HC ODOR

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-22	0910	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-33		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial	1451	6.93	13.91	1.056	0.870	0.67	35.3	717.6
GAUGE TIME	1444	1	1454	6.91	13.58	1.053	0.876	0.68	19.4	-6.4
DHC (FEET)	ND	2	1458	6.90	13.32	1.071	0.896	0.70	18.7	-2.1
DTW (FEET)	22.27	3	1502	6.89	13.30	1.071	0.899	0.70	15.4	1.5
DTB (FEET)	33.22	4								
DTB - DTW	10.95	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.78

PURGING DATA

3 WELL VOLUMES	5.34	WEATHER CONDITIONS: CLEAR, VERY STRONG SW WIND, 70°
PURGE DATE	11.29.17	WATER APPEARANCE / ODOR: CLEAR → TURBID, PINKISH BROWN
END OF PURGE TIME	1502	COMMENTS:
PURGE AMOUNT	5.5	
DTW (FEET)	25.46	

SAMPLING DATA

SAMPLE DATE	11.28.17	WEATHER CONDITIONS: CLEAR, NW WIND, 53°
DTW (FEET)	22.38	WATER APPEARANCE / ODOR:
SAMPLE TIME	0950	COMMENTS: COLLECTED DUP04 + 1 EXTRA 1 L AMBER

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-33	0950	40 ML VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-23		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial								
GAUGE TIME	15:18	1								
DHC (FEET)	13.93	2		DID NOT SAMPLE						
DTW (FEET)	13.94	3		0.01' SPH DETECTED						
DTB (FEET)	20.36	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-14		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial								
GAUGE TIME	1522	1								
DHC (FEET)	6.56	2		DID	NOT	SAMPLE				
DTW (FEET)	6.93	3		0.37' SPH		DETECTED				
DTB (FEET)	17.46	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-13		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial								
GAUGE TIME	1527	1								
DHC (FEET)	13.14	2		DID NOT SAMPLE						
DTW (FEET)	13.15	3		0.01' SPH DETECTED						
DTB (FEET)	21.25	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-12		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.27.17	Initial								
GAUGE TIME	1531	1								
DHC (FEET)	18.43	2		DID NOT SAMPLE						
DTW (FEET)	18.56	3		0.13' SPH DETECTED						
DTB (FEET)	25.60	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-20		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial	1158	6.77	18.51	1.746	1.298	1.02	550	-168.6
GAUGE TIME	1147	1	~~1159~~	6.66	19.04	1.810	1.328	1.05	28.2	-152.8
DHC (FEET)	ND	2	1200							
DTW (FEET)	6.53	3		BAILED DRY @ 4.25 GALS						
DTB (FEET)	9.58	4								
DTB - DTW	3.05	5								
CAPACITY PER FOOT	(0.74 - 4")	6								
	0.163 - 2"									

2.26

PURGING DATA

3 WELL VOLUMES	6.77	WEATHER CONDITIONS: CLEAR, NW WIND, 54°
PURGE DATE	11.28.17	WATER APPEARANCE / ODOR: DARK GRAY, SEPTIC ODOR, SHEEN
END OF PURGE TIME	1204	COMMENTS:
PURGE AMOUNT	4.25	
DTW (FEET)	9.27	

SAMPLING DATA

SAMPLE DATE	11.29.17	WEATHER CONDITIONS: CLEAR, SE WIND 49°
DTW (FEET)	6.55	WATER APPEARANCE / ODOR: CLEAR, HC ODOR, EMULSION ON BAILER
SAMPLE TIME	1050	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-20	1050	40 ML VOA	5	HCL
↓	↓	1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
↓	↓	125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-16		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial	1233	6.52	18.65	2.854	2.111	1.71	571.1	-84.2
GAUGE TIME	1222	1	1235	6.63	18.62	2.937	2.163	1.75	48.8	-92.2
DHC (FEET)	ND	2	1238	6.71	19.10	1.833	1.331	1.05	63.5	-89.1
DTW (FEET)	8.22	3	1241	6.73	19.15	1.840	1.480	1.20	25.2	-89.5
DTB (FEET)	14.10	4			BAILED DOWN					
DTB - DTW	5.88	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

0.96

PURGING DATA

3 WELL VOLUMES	2.88	WEATHER CONDITIONS: CLEAR, NW WIND, 55°
PURGE DATE	11.28.17	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
END OF PURGE TIME	1241	COMMENTS: BAILED DOWN
PURGE AMOUNT	3.0	
DTW (FEET)	13.82	

SAMPLING DATA

SAMPLE DATE	11.29.17	WEATHER CONDITIONS: CLEAR, SE WIND, 55°
DTW (FEET)	11.80	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
SAMPLE TIME	1125	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-16	1125	40 ML VOA	5	HCL
		1 LAMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-21		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial	1312	6.92	17.41	1.464	1.110	0.87	72.8	-115.9
GAUGE TIME	1304	1	1314	6.63	17.36	1.437	1.093	0.85	25.0	-124.3
DHC (FEET)	ND	2			BAILED DRY @ 2.25 GALS					
DTW (FEET)	6.25	3								
DTB (FEET)	8.81	4								
DTB - DTW	2.56	5								
CAPACITY PER FOOT	(0.74 - 4") / 0.163 - 2"	6								

1.89

PURGING DATA

3 WELL VOLUMES	5.67	WEATHER CONDITIONS: CLEAR, NORTH WIND, 60°
PURGE DATE	11.28.17	WATER APPEARANCE / ODOR: GREY → BLACK, SEPTIC ODOR
END OF PURGE TIME	1317	COMMENTS:
PURGE AMOUNT	2.25	
DTW (FEET)	8.68	

SAMPLING DATA

SAMPLE DATE	11.29.17	WEATHER CONDITIONS: CLEAR, SE WIND, ~~59~~ 62°
DTW (FEET)	6.78 ~~6.55~~	WATER APPEARANCE / ODOR: EMULSION PRESENT
SAMPLE TIME	1225	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-21	1225	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-39		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial	1346	6.53	18.05	4.802	3.598	3.01	173.4	-100.9
GAUGE TIME	1341	1	1348	6.59	17.93	4.807	3.642	3.05	27.3	-117.7
DHC (FEET)	ND	2	1350	6.63	18.02	4.932	3.699	3.10	25.7	-123.1
DTW (FEET)	7.55	3	1352	6.64	18.05	4.920	3.685	3.09	22.4	-127.1
DTB (FEET)	15.18	4								
DTB - DTW	7.63	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.24

PURGING DATA

3 WELL VOLUMES	3.72	WEATHER CONDITIONS: CLEAR, NORTH WIND, 65°
PURGE DATE	11.28.17	WATER APPEARANCE / ODOR: CLEAR → GRAYISH BROWN, HC ODOR
END OF PURGE TIME	1352	COMMENTS:
PURGE AMOUNT	3.75	
DTW (FEET)	8.58	

SAMPLING DATA

SAMPLE DATE	11.28.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	8.58	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1410	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-39	1410	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-08		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial								
GAUGE TIME	1452	1		DID NOT SAMPLE						
DHC (FEET)	12.68	2		0.52' OF SPH IN WELL						
DTW (FEET)	13.20	3								
DTB (FEET)	21.98	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-07		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial								
GAUGE TIME	1457	1								
DHC (FEET)	10.40	2		DID NOT SAMPLE						
DTW (FEET)	11.80	3		1.40' OF SPH IN WELL						
DTB (FEET)	17.62	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE ~~PROBE~~ METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-06		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial								
GAUGE TIME	1459	1								
DHC (FEET)	16.55	2			DID NOT SAMPLE					
DTW (FEET)	17.70	3			1.15' OF SPH IN WELL					
DTB (FEET)	23.77	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-05		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial								
GAUGE TIME	1506	1		DID NOT SAMPLE						
DHC (FEET)	13.98	2		0.77' OF SPH IN WELL						
DTW (FEET)	14.75	3								
DTB (FEET)	17.75	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-03		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.28.17	Initial								
GAUGE TIME	1516	1			DID NOT SAMPLE					
DHC (FEET)	7.00	2			0.95' OF SPH IN WELL					
DTW (FEET)	7.95	3								
DTB (FEET)	18.45	4								
DTB - DTW	NA	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-04		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.29.17	Initial	0749	7.33	13.54	1.371	1.140	0.89	291.6	-75.0
GAUGE TIME	0740	1			SHEEN ON WATER		DISCONTINUED			
DHC (FEET)	ND	2			WATER QUALITY READINGS					
DTW (FEET)	9.30	3								
DTB (FEET)	22.30	4								
DTB - DTW	13.00	5								
CAPACITY PER FOOT	(0.74 - 4") / 0.163 - 2"	6								

9.62

PURGING DATA

3 WELL VOLUMES	28.86	WEATHER CONDITIONS: CLOUDY, SE WIND 37°
PURGE DATE	11.29.17	WATER APPEARANCE / ODOR: CLEAR → GRAY, HC ODOR, SHEEN
END OF PURGE TIME	0805	COMMENTS: BAILED DRY @ 16.75 GALLONS
PURGE AMOUNT	16	
DTW (FEET)	21.90	

SAMPLING DATA

SAMPLE DATE	11.29.17	WEATHER CONDITIONS: CLOUDY, SW WND, 70°
DTW (FEET)	9.30	WATER APPEARANCE / ODOR: AMBER, HC ODOR, SHEEN
SAMPLE TIME	1500	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-04	1500	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-11		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.29.17	Initial	0828	7.29	14.17	2.488	2.039	1.65	102.4	-120.1
GAUGE TIME	0823	1	0835	7.35	15.11	2.670	2.142	1.74	33.5	-119.7
DHC (FEET)	ND	2	0840	7.33	15.95	2.967	2.332	1.90	18.8	-135.1
DTW (FEET)	8.00	3	0845	7.30	15.60	2.618	2.617	2.05	13.8	-180.8
DTB (FEET)	18.36	4								
DTB - DTW	10.36	5								
CAPACITY PER FOOT	(0.74 - 4") / 0.163 - 2"	6								

7.66

PURGING DATA

3 WELL VOLUMES	23
PURGE DATE	11.29.17
END OF PURGE TIME	0845
PURGE AMOUNT	23
DTW (FEET)	14.70

WEATHER CONDITIONS: CLOUDY, SE WIND, 40°
WATER APPEARANCE / ODOR: CLEAR => BLACK, HC ODOR
COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.29.17
DTW (FEET)	7.20
SAMPLE TIME	1420

WEATHER CONDITIONS: PARTLY CLOUDY, MOD-> STRONG SW WIND, 70°
WATER APPEARANCE / ODOR: CLEAR, HC ODOR
COMMENTS: COLLECTED DUP05 & 1 EXTRA 1 L AMBER

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-11	1420	40 ML VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-10		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.29.17	Initial	0917	7.33	13.84	1.456	1.203	0.95	19.8	-107.6
GAUGE TIME	0910	1		SHEEN ON WATER						
DHC (FEET)	ND	2		DISCONTINUED COLLECTING DATA						
DTW (FEET)	7.00	3								
DTB (FEET)	16.10	4								
DTB - DTW	9.10	5								
CAPACITY PER FOOT	(0.74 - 4") / 0.163 - 2"	6								

6.73

PURGING DATA

3 WELL VOLUMES	20.20	WEATHER CONDITIONS: CLOUDY, SE WIND 45°
PURGE DATE	11.29.17	WATER APPEARANCE / ODOR: CLEAR → BROWN, HC ODOR, SHEEN
END OF PURGE TIME	0925	COMMENTS: BAILED DRY @ 8.00 GALS
PURGE AMOUNT	8.00	
DTW (FEET)	15.85	

SAMPLING DATA

SAMPLE DATE	11.29.17	WEATHER CONDITIONS: CLOUDY, SW WIND, 60°
DTW (FEET)	6.63	WATER APPEARANCE / ODOR: CLEAR, HC ODOR, SHEEN
SAMPLE TIME	1530	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MRTF-10	1530	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-09		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.29.17	Initial	0952	7.34	12.79	1.240	1.051	0.82	18.4	-125.0
GAUGE TIME	0940	1	0956	7.37	13.75	1.288	1.067	0.83	13.3	-154.4
DHC (FEET)	ND	2	1000	7.32	13.93	1.285	1.060	0.83	12.9	-163.4
DTW (FEET)	13.15	3	1004	7.30	13.95	1.270	1.047	0.82	40.3	-154.8
DTB (FEET)	22.75	4								
DTB - DTW	9.60	5								
CAPACITY PER FOOT	(0.74 - 4") / 0.163 - 2"	6								

7.104

PURGING DATA

3 WELL VOLUMES	21.30	WEATHER CONDITIONS: PARTLY CLOUDY, SE WIND, 50°
PURGE DATE	11.29.17	WATER APPEARANCE / ODOR: CLEAR → BROWN, HC ODOR, SHEEN
END OF PURGE TIME	1004	COMMENTS:
PURGE AMOUNT	22	
DTW (FEET)	17.85	

SAMPLING DATA

SAMPLE DATE	11.29.17	WEATHER CONDITIONS: CLOUDY, SW WIND, 60°
DTW (FEET)	13.12	WATER APPEARANCE / ODOR: CLEAR, HC ODOR, SHEEN
SAMPLE TIME	1605	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-09	1605	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-15		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.29.17	Initial		HEAVY SHEEN ON WATER - DID						
GAUGE TIME	1304	1		NOT COLLECT WATER QUALITY READINGS						
DHC (FEET)	ND	2								
DTW (FEET)	12.13	3								
DTB (FEET)	19.50	4								
DTB - DTW	7.37	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

1.20

PURGING DATA

3 WELL VOLUMES	3.6
PURGE DATE	11.29.17
END OF PURGE TIME	1320
PURGE AMOUNT	3.75
DTW (FEET)	14.00

WEATHER CONDITIONS: CLEAR, ~~CALM~~, 65° SW WIND

WATER APPEARANCE / ODOR: CLEAR, HC ODOR, HEAVY SHEEN

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.29.17
DTW (FEET)	14.00
SAMPLE TIME	1330

WEATHER CONDITIONS: SAME AS ABOVE

WATER APPEARANCE / ODOR: SAME AS ABOVE

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-~~15~~15	1330	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML ~~PA~~ PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-38		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial	0921	7.31	15.04	1.300	1.044	0.82	44.7	69.5
GAUGE TIME	0910	1	0924	7.28	15.91	1.350	1.062	0.83	22.0	62.8
DHC (FEET)	ND	2	0928	7.26	16.07	1.358	1.064	0.83	20.2	57.2
DTW (FEET)	7.83	3	0932	7.26	16.09	1.356	1.062	0.83	22.0	55.4
DTB (FEET)	20.29	4								
DTB - DTW	12.46	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

2.03

PURGING DATA

3 WELL VOLUMES	6.09
PURGE DATE	11.30.17
END OF PURGE TIME	0932
PURGE AMOUNT	6.25
DTW (FEET)	8.98

WEATHER CONDITIONS: CLOUDY, CALM, 50°

WATER APPEARANCE / ODOR: CLEAR -> LT. BROWN, FAINT HC ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.30.17
DTW (FEET)	8.98
SAMPLE TIME	0950

WEATHER CONDITIONS: SAME AS ABOVE

WATER APPEARANCE / ODOR: SAME AS ABOVE

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-38	0950	40 ML VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		125 ML ~~AMBER~~ PLASTIC	1	HNO_3
		125 ML ~~AMBER~~	1	H_2SO_4
		125 ML ~~AMBER~~	1	NEAT
		250 ML PLASTIC	1	HNO_3

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-37		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11-30-17	Initial								
GAUGE TIME	1115	1								
DHC (FEET)	8.39	2		DID NOT SAMPLE						
DTW (FEET)	8.41	3		0.02' OF SPH IN WELL						
DTB (FEET)	24.60	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-18		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial								
GAUGE TIME	1130	1								
DHC (FEET)	6.29	2			DID NOT SAMPLE					
DTW (FEET)	6.30	3			0.01' OF SPH IN WELL					
DTB (FEET)	25.38	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-45		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial								
GAUGE TIME	1142	1			DID NOT SAMPLE					
DHC (FEET)	12.76	2			0.47' OF SPH IN WELL					
DTW (FEET)	13.23	3								
DTB (FEET)	30.24	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-36		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial			SHEEN ON WATER					
GAUGE TIME	1200	1			DID NOT COLLECT					
DHC (FEET)	ND	2			WATER QUALITY READINGS					
DTW (FEET)	6.45	3								
DTB (FEET)	15.45	4								
DTB - DTW	9.00	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

1.47

PURGING DATA

3 WELL VOLUMES	4.41
PURGE DATE	11.30.17
END OF PURGE TIME	1208
PURGE AMOUNT	4.5
DTW (FEET)	11.00

WEATHER CONDITIONS: CLOUDY, WEST WIND, 50°

WATER APPEARANCE / ODOR: CLEAR → GRAY, HC ODOR, SHEEN

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.30.17
DTW (FEET)	11.00
SAMPLE TIME	1230

WEATHER CONDITIONS: SAME AS ABOVE

WATER APPEARANCE / ODOR: SAME AS ABOVE

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-36	1230	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		1 L AMBER	1	NEAT
		250 ML ~~PLAST~~ AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-35		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial	1303	7.38	17.05	1.163	0.892	0.69	36.7	-79.7
GAUGE TIME	1255	1	1306	7.31	17.10	1.183	0.903	0.70	22.5	-108.5
DHC (FEET)	ND	2	1309	7.30	17.15	1.182	0.897	0.70	20.1	-115.0
DTW (FEET)	8.15	3	1312	7.29	17.18	1.179	0.882	0.69	35.5	-116.8
DTB (FEET)	16.45	4								
DTB - DTW	8.30	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

1.35

PURGING DATA

3 WELL VOLUMES	4.05
PURGE DATE	11.30.17
END OF PURGE TIME	1312
PURGE AMOUNT	4.25
DTW (FEET)	8.20

WEATHER CONDITIONS:
CLOUDY, WEST WIND, 50°

WATER APPEARANCE / ODOR:
CLEAR → SL. CLOUDY, FAINT ODOR, SHEEN ON PURGE WATER

COMMENTS:

SAMPLING DATA

SAMPLE DATE	11.30.17
DTW (FEET)	8.20
SAMPLE TIME	1345

WEATHER CONDITIONS:
SAME AS ABOVE

WATER APPEARANCE / ODOR:
SAME AS ABOVE

COMMENTS:
COLLECTED DUPOG

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-35	1345	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		250 ML AMBER	1	NEAT
		1 L AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
↓	↓	125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-34		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial	1442	7.54	15.18	1.372	1.097	0.86	86.5	31.2
GAUGE TIME	1430	1	1445	7.49	15.13	1.361	1.090	0.85	72.4	43.3
DHC (FEET)	ND	2	1448	7.45	15.09	1.375	1.094	0.86	63.8	50.0
DTW (FEET)	18.03	3	1451	7.41	15.01	1.359	1.100	0.86	53.1	53.0
DTB (FEET)	27.70	4								
DTB - DTW	9.67	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								
1.58		PURGING DATA								
3 WELL VOLUMES	4.74	WEATHER CONDITIONS: CLOUDY, SOUTH WIND, 60°								
PURGE DATE	11.30.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR								
END OF PURGE TIME	1451	COMMENTS:								
PURGE AMOUNT	4.75									
DTW (FEET)	24.92									
		SAMPLING DATA								
SAMPLE DATE	12-1-17	WEATHER CONDITIONS: PARTLY CLOUDY, WEST WIND								
DTW (FEET)	22.07	WATER APPEARANCE / ODOR: CLEAR, NO ODOR								
SAMPLE TIME	1215	COMMENTS: COLLECTED DUPOT & 1 XTRA 1L AMBER								

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-34	1215	40 mL VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-17		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial	1513	7.32	15.44	1.044	0.830	0.64	42.2	-149.8
GAUGE TIME	1306	1	1517	7.25	15.10	1.071	0.858	0.66	24.1	-173.6
DHC (FEET)	ND	2			BAILED DRY @ 2 GALS					
DTW (FEET)	13.68	3								
DTB (FEET)	24.65	4								
DTB - DTW	10.97	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.79

PURGING DATA

3 WELL VOLUMES	5.37	WEATHER CONDITIONS: CLOUDY, SOUTH WIND, 58°
PURGE DATE	11.30.17	WATER APPEARANCE / ODOR: CLEAR → LT. BROWN, HC ODOR
END OF PURGE TIME	1520 ~~1320~~	COMMENTS:
PURGE AMOUNT	2.0	
DTW (FEET)	24.75	

SAMPLING DATA

SAMPLE DATE	12.1.17	WEATHER CONDITIONS: CLOUDY, WEST WIND, 50°
DTW (FEET)	12.93	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
SAMPLE TIME	1310	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-17	1310	40 ML VOA	5	HCL
		1L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
MKTF-19		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	11.30.17	Initial	1349	7.22	15.31	1.264	1.009	0.79	23.7	-120.9
GAUGE TIME	15:41	1	1351	7.16	15.93	1.286	1.011	0.79	19.6	-133.1
DHC (FEET)	ND	2			SHEEN ON WATER					
DTW (FEET)	11.70	3			DISCONTINUED READINGS					
DTB (FEET)	18.20	4								
DTB - DTW	6.50	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								
1.06		PURGING DATA								
3 WELL VOLUMES	3.18	WEATHER CONDITIONS: CLOUDY, SOUTH WIND, 60°								
PURGE DATE	11.30.17	WATER APPEARANCE / ODOR: CLEAR → BROWN, MUDDY, HC ODOR, SHEEN								
END OF PURGE TIME	1555	COMMENTS:								
PURGE AMOUNT	3.5									
DTW (FEET)	15.54									
		SAMPLING DATA								
SAMPLE DATE	12.1.17	WEATHER CONDITIONS: CLOUDY, WEST WIND, 56°								
DTW (FEET)	11.60	WATER APPEARANCE / ODOR: CLEAR, HC ODOR								
SAMPLE TIME	13:50	COMMENTS:								

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
MKTF-19	1350	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
STP1-SW		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE		Initial								
GAUGE TIME		1			DID NOT GAUGE.					
DHC (FEET)		2			H_2S AREA					
DTW (FEET)		3								
DTB (FEET)		4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED _____

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
NAPIS-2		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial	0921	7.25	20.18	1.445	1.035	0.81	360.5	-101.8
GAUGE TIME	0915	1		SHEEN OBSERVED DID NOT						
DHC (FEET)	ND	2		COLLECT ADDITIONAL WATER						
DTW (FEET)	7.98	3		QUALITY DATA						
DTB (FEET)	14.60	4								
DTB - DTW	6.62	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

1.08

PURGING DATA

3 WELL VOLUMES	3.24	WEATHER CONDITIONS: PARTLY CLOUDY, NORTH WIND 36°
PURGE DATE	12.4.17	WATER APPEARANCE / ODOR: CLEAR, HC ODOR, SHEEN
END OF PURGE TIME	0928	COMMENTS:
PURGE AMOUNT	3.25	
DTW (FEET)	11.02	

SAMPLING DATA

SAMPLE DATE	12.4.17	WEATHER CONDITIONS: CLEAR, NW WIND, 56°
DTW (FEET)	7.95	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
SAMPLE TIME	1350	COMMENTS: COLLECTED DUP 08

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
NAPIS-2	1350	40 ML VOA	5	HCL
		250ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
KA-3		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-4-17	Initial	0944	7.23	21.08	1.331	0.935	0.72	23.6	-84.6
GAUGE TIME	0935	1	0949	7.41	24.86	1.562	1.018	0.79	18.6	-75.3
DHC (FEET)	ND	2	0953	7.07	24.11	1.507	0.997	0.77	17.6	-83.8
DTW (FEET)	8.00	3	0958	7.05	24.09	1.501	1.002	0.77	17.5	-75.3
DTB (FEET)	24.28	4								
DTB - DTW	16.28	5								
CAPACITY PER FOOT	0.74 - 4" (0.163 - 2")	6								

2.65

PURGING DATA

3 WELL VOLUMES	7.95
PURGE DATE	12-4-17
END OF PURGE TIME	0958
PURGE AMOUNT	8.00
DTW (FEET)	19.30

WEATHER CONDITIONS: PARTLY CLOUDY, NORTH WIND, 39°

WATER APPEARANCE / ODOR: CLEAR, HC ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	12-4-17
DTW (FEET)	7.95
SAMPLE TIME	1410

WEATHER CONDITIONS: CLEAR, NW WIND, 52°

WATER APPEARANCE / ODOR: CLEAR, HC ODOR

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
KA-3	1410	40 ML VOA	5	HCL
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
NAPIS-3		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-4-17	Initial	1016	7.54	21.37	1.612	1.126	0.88	62.3	-24.9
GAUGE TIME	1005	1	1022	7.49	21.00	1.689	1.282	1.01	17.0	-9.7
DHC (FEET)	ND	2			BAILED DOWN @ 5 GALS					
DTW (FEET)	9.00	3								
DTB (FEET)	31.58	4								
DTB - DTW	22.58	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								
3.68		PURGING DATA								
3 WELL VOLUMES	11.04	WEATHER CONDITIONS: PARTLY CLOUDY, CALM, 57°								
PURGE DATE	12-4-17	WATER APPEARANCE / ODOR: CLEAR, FAINT ODOR								
END OF PURGE TIME	1027	COMMENTS:								
PURGE AMOUNT	5 GALS									
DTW (FEET)	31.29									
		SAMPLING DATA								
SAMPLE DATE	12-4-17	WEATHER CONDITIONS: CLEAR, NW WIND, 44°								
DTW (FEET)	24.25	WATER APPEARANCE / ODOR: CLEAR, FAINT ODOR								
SAMPLE TIME	1425	COMMENTS:								

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
NAPIS-3	1425	40 ML VOA	5	HCL
		250 mL AMBER	1	NEAT
		250 mL PLASTIC	1	HNO_3
		125 mL PLASTIC	1	HNO_3
		125 mL PLASTIC	1	H_2SO_4
↓	↓	125 mL PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OAPIS-1		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial	1059	7.29	16.66	4.564	3.530	2.95	36.8	-70.8
GAUGE TIME	1054	1	1104	7.23	17.29	4.671	3.563	2.98	18.0	-137.7
DHC (FEET)	ND	2	1108	7.18	17.02	4.591	3.574	2.99	14.2	-114.3
DTW (FEET)	11.88	3	1112	7.15	16.92	4.541	3.576	2.99	16.2	-133.7
DTB (FEET)	27.78	4								
DTB - DTW	15.90	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

2.59

PURGING DATA

3 WELL VOLUMES	7.77
PURGE DATE	12.4.17
END OF PURGE TIME	1112
PURGE AMOUNT	8.0
DTW (FEET)	25.45

WEATHER CONDITIONS: PARTLY CLOUDY, CALM, 51°

WATER APPEARANCE / ODOR: AMBER, FAINT ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	12.4.17
DTW (FEET)	23.30
SAMPLE TIME	1500

WEATHER CONDITIONS: CLEAR, NW WIND, 50°

WATER APPEARANCE / ODOR: AMBER, ODOR → FAINT

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OAPIS-1	1500	40 ML VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT
		500 ML PLASTIC	1	NAOH

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
STP1-NW		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial	1139	7.44	12.85	4.127	3.494	2.92	74.1	-35.7
GAUGE TIME	1132	1	1147	7.39	12.48	4.650	3.981	3.35	40.3	-13.2
DHC (FEET)	ND	2	1156	7.38	12.55	4.558	3.890	3.27	33.6	-8.8
DTW (FEET)	20.55	3	1205	7.37	12.57	4.570	3.899	3.28	36.3	-5.7
DTB (FEET)	49.74	4								
DTB - DTW	29.19	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

4.76

PURGING DATA

3 WELL VOLUMES	14.28	WEATHER CONDITIONS: PARTLY CLOUDY, LIGHT, NE WIND, 45°
PURGE DATE	12.4.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	1205	COMMENTS:
PURGE AMOUNT	15.0	
DTW (FEET)	44.20	

SAMPLING DATA

SAMPLE DATE	12.4.17	WEATHER CONDITIONS: CLEAR, NW WIND, 49°
DTW (FEET)	41.10	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
SAMPLE TIME	1530	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
STP1-NW	1530	40 ML VOA	5	HCL
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
			1	H_2SO_4
			1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OIL SUMP LDU		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-4-17	Initial								
GAUGE TIME	1230	1			DID NOT GAUGE -					
DHC (FEET)		2			AREA BARRICADED WITH					
DTW (FEET)		3			RED DANGER TAPE					
DTB (FEET)		4			HIGH H_2S AREA					
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: _____

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
NAPIS-1		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial								
GAUGE TIME	1240	1								
DHC (FEET)	6.20	2			DID NOT SAMPLE					
DTW (FEET)	6.85	3			0.65' OF SPH IN WELL					
DTB (FEET)	13.75	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2" (circled)									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
EAST LDU		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial								
GAUGE TIME	1245	1								
DHC (FEET)	—	2								
DTW (FEET)	1.18	3								
DTB (FEET)		4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6								

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE	12.4.17	WEATHER CONDITIONS: CLEAR, NW WIND 43°
DTW (FEET)	1.18	WATER APPEARANCE / ODOR: GREY, ODOR
SAMPLE TIME	1300	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
EAST LDU	1300	40 ML VOA	5	HCL
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
WEST LDU		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial								
GAUGE TIME	1247	1								
DHC (FEET)	ND	2								
DTW (FEET)	12.10	3								
DTB (FEET)		4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE	12.4.17	WEATHER CONDITIONS: CLEAR, NW WIND, 43°
DTW (FEET)	12.10	WATER APPEARANCE / ODOR: OLIVE GRAY, ODOR
SAMPLE TIME	1320	COMMENTS: INSUFF WATER VOLUME

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
WEST LDU	1320	40ML VOA	5	HCL
↓	↓	250 ML AMBER	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
GWM-1		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial								
GAUGE TIME	1553	1		DID NOT SAMPLE						
DHC (FEET)	19.70	2		1.0' OF SPH IN WELL						
DTW (FEET)	20.70	3								
DTB (FEET)	26.20	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATERMARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
GWM-2		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial								
GAUGE TIME	1547	1								
DHC (FEET)	ND	2			DID NOT SAMPLE					
DTW (FEET)	ND	3			NO WATER IN WELL					
DTB (FEET)	19.05	4								
DTB - DTW	-	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	(0.163 - 2")									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
GWM-3		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.4.17	Initial								
GAUGE TIME	1542	1								
DHC (FEET)	ND	2			DID NOT SAMPLE					
DTW (FEET)	ND	3			NO WATER IN WELL					
DTB (FEET)	18.04	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: TP

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-60		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.5.17	Initial	0928	7.30	13.27	4.729	3.962	3.34	80.1	99.9
GAUGE TIME	0915	1	0935	7.29	12.38	4.623	3.971	3.34	22.7	66.8
DHC (FEET)	ND	2			BAILED DRY @		8.5	GALS		
DTW (FEET)	16.40	3								
DTB (FEET)	45.70	4								
DTB - DTW	29.30	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

4.78

PURGING DATA

3 WELL VOLUMES	14.34	WEATHER CONDITIONS: CLEAR, CALM, 32°
PURGE DATE	12.5.17	WATER APPEARANCE / ODOR: CLEAR, TURBID BROWN, NO ODOR
END OF PURGE TIME	0945	COMMENTS:
PURGE AMOUNT	8.5	
DTW (FEET)	45.60	

SAMPLING DATA

SAMPLE DATE	12.6.17	WEATHER CONDITIONS: CLEAR, CALM, 12°
DTW (FEET)	34.20	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
SAMPLE TIME	0800	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-60	0800	40 ML VOA	5	HCL
		1L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
↓	↓	125 ML PLASTIC	1	NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-59		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.5.17	Initial	1018	7.22	12.39	7.038	6.001	5.20	24.3	50.0
GAUGE TIME	1008	1	1022	7.20	12.54	7.185	6.132	5.32	16.9	36.9
DHC (FEET)	ND	2	1027	7.18	12.65	7.269	6.135	5.32	16.5	29.8
DTW (FEET)	24.30	3	1032	7.17	12.70	7.282	6.137	5.32	16.1	19.8
DTB (FEET)	38.50	4								
DTB - DTW	14.20	5								
CAPACITY PER FOOT	0.74 - 4" / (0.163 - 2")	6								

2.31

PURGING DATA

3 WELL VOLUMES	6.93
PURGE DATE	12.5.17
END OF PURGE TIME	1032
PURGE AMOUNT	7.0
DTW (FEET)	33.81

WEATHER CONDITIONS: CLEAR, CALM, 40°

WATER APPEARANCE / ODOR: CLEAR → TURBID - REDDISH BROWN, NO ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	12.6.17
DTW (FEET)	25.35
SAMPLE TIME	0840

WEATHER CONDITIONS: CLEAR, CALM, 20°

WATER APPEARANCE / ODOR: CLEAR, NO ODOR

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-59	0840	40 ML VOA	5	HCL
		1 L AMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-53		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-5-17	Initial								
GAUGE TIME	1105	1			DID NOT SAMPLE					
DHC (FEET)	ND	2			NO WATER IN WELL					
DTW (FEET)	ND	3								
DTB (FEET)	33.90	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-54		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.5.17	Initial	1124	7.16	12.89	1.398	1.182	0.93	41.0	-0.3
GAUGE TIME	1115	1	1128	7.12	12.66	1.374	1.169	0.92	19.7	-57.6
DHC (FEET)	ND	2	1132	7.09	12.58	1.390	1.188	0.93	16.7	-75.6
DTW (FEET)	18.27	3	1136	7.08	12.50	1.380	1.182	0.93	14.0	-81.6
DTB (FEET)	31.06	4								
DTB - DTW	12.79	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									
2.08		PURGING DATA								
3 WELL VOLUMES	6.24	WEATHER CONDITIONS: CLEAR, CALM, 46°								
PURGE DATE	12.5.17	WATER APPEARANCE / ODOR: CLEAR → BROWN, HC ODOR								
END OF PURGE TIME	1136	COMMENTS:								
PURGE AMOUNT	6.5									
DTW (FEET)	18.48									
		SAMPLING DATA								
SAMPLE DATE	12.6.17	WEATHER CONDITIONS: CLEAR, CALM, 30°								
DTW (FEET)	18.25	WATER APPEARANCE / ODOR: CLEAR, HC ODOR								
SAMPLE TIME	0930	COMMENTS:								

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-54	0930	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
↓	↓	125 ML PLASTIC	1	NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-55		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.5.17	Initial	1156	7.05	14.12	1.499	1.230	0.97	40.1	+141.0
GAUGE TIME	1151	1	1200	7.03	13.91	1.540	1.271	1.00	15.0	-164.6
DHC (FEET)	ND	2	1204	7.01	13.80	1.576	1.304	1.03	17.8	-164.3
DTW (FEET)	18.05	3	1208	6.98	13.75	1.579	1.318	1.04	14.2	-162.8
DTB (FEET)	30.90	4								
DTB - DTW	12.85	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

2.09

PURGING DATA

3 WELL VOLUMES	6.27
PURGE DATE	12.5.17
END OF PURGE TIME	1208
PURGE AMOUNT	6.5
DTW (FEET)	18.22

WEATHER CONDITIONS: CLEAR, SOUTH WIND, 52°

WATER APPEARANCE / ODOR: CLEAR → GREY, HC ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	12.6.17
DTW (FEET)	18.03
SAMPLE TIME	1010

WEATHER CONDITIONS: CLEAR, CALM, 28°

WATER APPEARANCE / ODOR: CLEAR, HC ODOR

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-55	1010	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-56		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.5.17	Initial	1232	7.12	12.70	1.549	1.316	1.04	82.9	-24.3
GAUGE TIME	1223	1	1234	7.12	13.32	1.600	1.339	1.06	45.4	-20.3
DHC (FEET)	ND	2	1236	7.09	13.33	1.717	1.437	1.14	35.3	-13.1
DTW (FEET)	13.43	3	1238	7.07	13.29	1.871	1.598	1.27	26.5	-16.8
DTB (FEET)	18.58	4								
DTB - DTW	5.15	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									
0.84										

PURGING DATA

3 WELL VOLUMES	2.52
PURGE DATE	12.5.17
END OF PURGE TIME	1238
PURGE AMOUNT	2.5
DTW (FEET)	17.98

WEATHER CONDITIONS: PARTLY CLOUDY, SOUTH WIND, 51°
WATER APPEARANCE / ODOR: CLEAR, HC ODOR
COMMENTS:

SAMPLING DATA

SAMPLE DATE	12.6.17
DTW (FEET)	16.78
SAMPLE TIME	1045

WEATHER CONDITIONS: CLEAR, CALM, 28°
WATER APPEARANCE / ODOR: CLEAR, HC ODOR
COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-56	1045	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
↓	↓	125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS									
OW-57		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-5-17	Initial	1402	7.17	14.21	1.195	0.978	0.76	25.5	-134.1
GAUGE TIME	1350	1	1404	7.11	14.15	1.176	0.969	0.75	20.7	-138.2
DHC (FEET)	ND	2			BAILED DRY @ 2 GALS					
DTW (FEET)	20.11	3								
DTB (FEET)	28.35	4								
DTB - DTW	8.24	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									
1.34										

PURGING DATA		
3 WELL VOLUMES	4.02	WEATHER CONDITIONS: CLEAR, SOUTH WIND
PURGE DATE	12-5-17	WATER APPEARANCE / ODOR: CLEAR TO BROWN, HC ODOR
END OF PURGE TIME	1405	COMMENTS:
PURGE AMOUNT	2.0	
DTW (FEET)	28.00	

SAMPLING DATA		
SAMPLE DATE	12.6.17	WEATHER CONDITIONS: CLEAR, NORTH WIND, 30°
DTW (FEET)	20.10	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
SAMPLE TIME	1240	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-57	1240	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		500 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS									
RW-2		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)	
GAUGE DATE	12.5.17	Initial	1450	7.11	13.62	0.812	0.675	0.52	23.6	-115.0	
GAUGE TIME	1424	1	1500	7.03	12.69	0.795	0.675	0.52	85.8	-124.6	
DHC (FEET)	ND	2			SHEEN ON WATER						
DTW (FEET)	20.34	3			DID NOT COLLECT ADDITIONAL						
DTB (FEET)	40.00	4			WATER QUALITY DATA						
DTB - DTW	19.66	5			BAILED DOWN @ 22.5 GALS						
CAPACITY PER FOOT	0.74 - 4" 0.163 - 2"	6									

14.75

PURGING DATA

3 WELL VOLUMES	44.25	WEATHER CONDITIONS: CLEAR, SOUTH WIND, 50°
PURGE DATE	12-5-17	WATER APPEARANCE / ODOR: CLEAR → GREY, HC ODOR, SHEER
END OF PURGE TIME	15:15	COMMENTS:
PURGE AMOUNT	22.5	
DTW (FEET)	39.45	

SAMPLING DATA

SAMPLE DATE	12.6.17	WEATHER CONDITIONS: CLEAR, NORTH WIND, 35°
DTW (FEET)	12.41	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
SAMPLE TIME	1330	COMMENTS: COLLECTED DUP09

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
≤RW-2	1330	40 ML VOA	5	HCL
↓	1330	~~1 L~~ 250 ML AMBER 1		NEAT

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-58		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.6.17	Initial	1400	6.93	14.09	1.093	0.897	0.70	26.1	-88.2
GAUGE TIME	1345	1	1409	6.85	13.45	1.168	0.975	0.76	18.6	-112.8
DHC (FEET)	ND	2	1417	6.81	13.37	1.150	0.961	0.75	17.6	-123.4
DTW (FEET)	24.67	3	1425	6.80	13.24	1.133	0.950	0.74	22.0	-120.0
DTB (FEET)	47.50	4								
DTB - DTW	22.83	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

3.72

PURGING DATA

3 WELL VOLUMES	11.16
PURGE DATE	12.6.17
END OF PURGE TIME	1425
PURGE AMOUNT	12.0
DTW (FEET)	24.75

WEATHER CONDITIONS: CLEAR, NORTH WIND, 40°

WATER APPEARANCE / ODOR: CLEAR ⇒ REDDISH BROWN, HC ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	12.6.17
DTW (FEET)	24.75
SAMPLE TIME	1500

WEATHER CONDITIONS: CLEAR, NORTH WIND, 40°

WATER APPEARANCE / ODOR: REDDISH BROWN, HC ODOR

COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-58	1500	40 ML VOA	5	HCL
		1 L AMBER	1	NEAT
		250ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		500 ML PLASTIC	1	NEAT

INSTRUMENTS USED: WATER MARK OIL WATER INTERFACE METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE

SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-10		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.7.17	Initial	1250	6.78	12.19	1.285	1.106	0.87	19.1	99.6
GAUGE TIME	1240	1	1333	6.76	12.31	2.156	1.850	1.49	20.1	46.9
DHC (FEET)	ND	2	1416	6.80	12.29	2.222	1.909	1.54	17.0	5.6
DTW (FEET)	2.25	3	1500	6.82	12.12	2.006	1.725	1.39	19.8	13.8
DTB (FEET)	60.33	4								
DTB - DTW	58.08	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

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PURGING DATA

3 WELL VOLUMES	129	WEATHER CONDITIONS: CLEAR, NORTH WIND 30°
PURGE DATE	12.7.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	1500	COMMENTS:
PURGE AMOUNT	130	
DTW (FEET)	2.80	

SAMPLING DATA

SAMPLE DATE	12.7.17	WEATHER CONDITIONS:
DTW (FEET)	2.80	WATER APPEARANCE / ODOR:
SAMPLE TIME	1505	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-10	1505	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED TESTWELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-1		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.8.17	Initial	0930	7.19	11.67	0.873	0.762	0.59	21.8	90.7
GAUGE TIME	0920	1	1015	7.20	12.40	0.881	0.754	0.58	28.4	89.8
DHC (FEET)	ND	2	1100	7.26	12.83	0.891	0.755	0.58	23.0	79.2
DTW (FEET)	1.71	3	1145	7.28	12.90	0.899	0.757	0.58	20.1	68.8
DTB (FEET)	94.55	4								
DTB - DTW	92.84	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

68.70

PURGING DATA

3 WELL VOLUMES	206	WEATHER CONDITIONS: CLEAR, CALM, 20°
PURGE DATE	12.8.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	1145	COMMENTS:
PURGE AMOUNT	210	
DTW (FEET)	91.00	

SAMPLING DATA

SAMPLE DATE	12.8.17	WEATHER CONDITIONS: CLEAR, CALM, 28°
DTW (FEET)	91.00	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
SAMPLE TIME	1155	COMMENTS: COLLECTED DUP11

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-1	1155	40 ML VOA-	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		125 ML PLASTIC	1	NEAT

INSTRUMENTS USED TESTWELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

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ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
BW-4A		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.8.17	Initial								
GAUGE TIME	1200	1								
DHC (FEET)	ND	2			WELL NOT SAMPLED					
DTW (FEET)	ND	3			NO WATER					
DTB (FEET)	38.80	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED TESTWELL WATER LEVEL METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
BW-4B		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.8.17	Initial	1215	7.31	12.72	1.071	0.909	0.71	41.5	-266.0
GAUGE TIME	1210	1	1218	7.27	13.52	1.092	0.909	0.71	16.5	-234.1
DHC (FEET)	ND	2			BAILED PUMPED DOWN					
DTW (FEET)	37.95	3				@ 4.25 GALS				
DTB (FEET)	63.50	4								
DTB - DTW	25.55	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									
4.16		PURGING DATA								
3 WELL VOLUMES	12.48	WEATHER CONDITIONS: CLEAR, NW WIND,								
PURGE DATE	12.8.17	WATER APPEARANCE / ODOR: BROWN, NO ODOR								
END OF PURGE TIME	1218	COMMENTS:								
PURGE AMOUNT	4.23									
DTW (FEET)	49.50	@ 1515 DTW → 49.10' BTOC WELL NOT SAMPLED INSUFFICIENT WATER								
		SAMPLING DATA								
SAMPLE DATE		WEATHER CONDITIONS:								
DTW (FEET)		WATER APPEARANCE / ODOR:								
SAMPLE TIME		COMMENTS:								

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED TESTWELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

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PUMP SET @ 54'

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
BW-5B		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.8.17	Initial	1255	7.27	12.30	0.824	0.707	0.54	17.6	-105.7
GAUGE TIME	1230	1	1315	7.29	13.05	0.805	0.709	0.50	10.9	-96.5
DHC (FEET)	ND	2			PUMPED DOWN @ 8.75 GALS					
DTW (FEET)	9.00	3								
DTB (FEET)	61.45	4								
DTB - DTW	52.45	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									
	8.51									

PURGING DATA

3 WELL VOLUMES	25.53	WEATHER CONDITIONS: CLEAR, NW WIND
PURGE DATE	12.8.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	1315	COMMENTS:
PURGE AMOUNT	8.75	
DTW (FEET)	53.25	

SAMPLING DATA

SAMPLE DATE	12.8.17	WEATHER CONDITIONS: CLEAR, NW WIND
DTW (FEET)	47.50	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
SAMPLE TIME	1445	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
BW-5B	1445	40 ML VOA	5	HCL
		1 LAMBER	2	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
		500 ML PLASTIC	1	NEAT

INSTRUMENTS USED TESTWELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

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ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
BW-5C		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.8.17	Initial	1325	~~7.15~~ 7.15	11.99	3.108	2.683	2.20	24.0	-190.3
GAUGE TIME	1322	1	1340	7.16	12.48	3.208	2.741	2.25	34.0	-157.4
DHC (FEET)	ND	2	1355	7.12	12.30	3.252	2.769	2.25	39.0	-129.8
DTW (FEET)	2.80	3	1415	7.10	12.31	3.260	2.770	2.25	41.2	-131.0
DTB (FEET)	76.35	4								
DTB - DTW	73.55	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

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PURGING DATA

3 WELL VOLUMES	36	WEATHER CONDITIONS: CLEAR, NW WIND
PURGE DATE	12.8.17	WATER APPEARANCE / ODOR: CLOUDY → CLEAR, NO ODOR
END OF PURGE TIME	1410	COMMENTS:
PURGE AMOUNT	36	
DTW (FEET)	7.20	

SAMPLING DATA

SAMPLE DATE	12.8.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	7.20	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
SAMPLE TIME	~~1415~~ 1420	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
BW-5C	1420	40 ML VOA-5	5	HCL
		1 L AMBER	1	NEAT
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	H_2SO_4
↓	↓	125 ML PLASTIC	1	NEAT

INSTRUMENTS USED: TESTWELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
BW-5A		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-8-17	Initial								
GAUGE TIME	1425	1			WELL NOT SAMPLED					
DHC (FEET)	ND	2			NO WATER					
DTW (FEET)	ND	3								
DTB (FEET)	23.02	4								
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

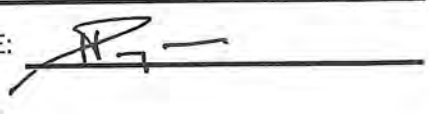
SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED TESTWELL WATER LEVEL METER

COMPLETED BY: TRACY PAYNE SIGNATURE: 

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-13		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.11.17	Initial	0900	7.77	10.77	0.779	0.693	0.53	20.5	-100.0
GAUGE TIME	0850	1	0945	7.67	11.97	0.779	0.674	0.52	20.9	-131.0
DHC (FEET)	ND	2	1030	7.60	12.16	0.780	0.672	0.52	18.9	-67.2
DTW (FEET)	21.00	3	1115	7.59	12.20	0.782	0673	0.52	13.8	-26.9
DTB (FEET)	99.15	4								
DTB - DTW	78.15	5								
CAPACITY PER FOOT	(0.74 - 4") 0.163 - 2"	6								

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PURGING DATA

3 WELL VOLUMES	174
PURGE DATE	12.11.17
END OF PURGE TIME	1115
PURGE AMOUNT	175.0
DTW (FEET)	23.50

WEATHER CONDITIONS: CLEAR, CALM, 23°

WATER APPEARANCE / ODOR: CLEAR, NO ODOR

COMMENTS:

SAMPLING DATA

SAMPLE DATE	12.11.17
DTW (FEET)	23.50
SAMPLE TIME	1120

WEATHER CONDITIONS: CLEAR, CALM, 34°

WATER APPEARANCE / ODOR: CLEAR, NO ODOR

COMMENTS: COLLECTED DUP 10

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-13	1120	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3

INSTRUMENTS USED: TEST WELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-14		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.11.17	Initial	1200	7.42	14.19	1.280	1.049	0.82	30.0	-149.9
GAUGE TIME	1150	1	1220	7.30	13.91	1.281	1.054	0.83	67.7	-142.9
DHC (FEET)	ND	2	1240	7.33	13.81	1.276	1.055	0.82	19.7	-142.1
DTW (FEET)	22.20	3	1300	7.30	13.86	1.279	1.056	0.83	18.7	-139.5
DTB (FEET)	46.52	4								
DTB - DTW	24.32	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

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PURGING DATA

3 WELL VOLUMES	54	WEATHER CONDITIONS: CLEAR, CALM, 40°
PURGE DATE	12.11.17	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
END OF PURGE TIME	1300	COMMENTS: NEED TWO POLY DRUMS AT THIS
PURGE AMOUNT	60	LOCATION
DTW (FEET)	22.50	

SAMPLING DATA

SAMPLE DATE	12-11-17	WEATHER CONDITIONS: CLEAR, CALM,
DTW (FEET)	22.50	WATER APPEARANCE / ODOR: CLEAR, HC ODOR
SAMPLE TIME	1310	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-14	1310	40 ML VOA	5	HCL
		40 ML VOA	3	$NA_2S_2O_3$
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3

INSTRUMENTS USED: TEST WELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-29		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.11.17	Initial	1330	7.51	13.64	1.245	1.034	0.81	18.1	-52.3
GAUGE TIME	1325	1	1355	7.32	13.24	1.239	1.038	0.81	20.4	-64.4
DHC (FEET)	ND	2	1420	7.20	13.14	1.242	1.044	0.82	25.7	-59.0
DTW (FEET)	17.50	3	1445	7.18	13.12	1.251	1.045	0.82	31.1	-48.0
DTB (FEET)	51.08	4								
DTB - DTW	33.58	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

25

PURGING DATA

3 WELL VOLUMES	75	WEATHER CONDITIONS: CLEAR, SW WIND, 50°
PURGE DATE	12.11.17	WATER APPEARANCE / ODOR: CLEAR, NO ODOR
END OF PURGE TIME	1445	COMMENTS:
PURGE AMOUNT	75	NEED TWO DRUMS AT THIS LOCATION
DTW (FEET)	22.50	

SAMPLING DATA

SAMPLE DATE	12.11.17	WEATHER CONDITIONS: CLEAR, SW WIND,
DTW (FEET)	22.50	WATER APPEARANCE / ODOR: CLEAR, [redacted] ODOR (HC)
SAMPLE TIME	1455	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-29	1455	40 ML VOA	5	HCL
		40 ML VOA	3	$Na_2S_2O_3$
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3

INSTRUMENTS USED TESTWELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
OW-30		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.12.17	Initial	0905	7.23	10.67	1.635	1.462	1.16	47.6	66.4
GAUGE TIME	0900	1	0926	7.18	11.51	1.634	1.429	1.14	146.7	47.3
DHC (FEET)	ND	2	0947	7.10	11.64	1.656	1.451	1.15	15.3	13.0
DTW (FEET)	21.75	3	1008	7.09	11.71	1.672	1.459	1.14	10.1	10.9
DTB (FEET)	49.90	4								
DTB - DTW	28.15	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

21

3 WELL VOLUMES	63	WEATHER CONDITIONS: CLEAR, NE WIND, 30°
PURGE DATE	12.12.17	WATER APPEARANCE / ODOR: CLEAR,
END OF PURGE TIME	1008	COMMENTS: PURGE WATER NEEDS TO BE EMPTIED
PURGE AMOUNT	65	
DTW (FEET)	25.5	

SAMPLING DATA

SAMPLE DATE	12.12.17	WEATHER CONDITIONS: SAME AS ABOVE
DTW (FEET)	25.5	WATER APPEARANCE / ODOR: SAME AS ABOVE
SAMPLE TIME	1015	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
OW-30	1015	40 ML VOA -	5	HCL
		40 ML VOA	3	$N_2S_2O_3$
		250 ML AMBER	1	NEAT
		250 ML PLASTIC	1	HNO_3
		125 ML PLASTIC	1	HNO_3

INSTRUMENTS USED: TEST WELL WATER LEVEL METER
YSI 556 MPS WATER QUALITY METER

COMPLETED BY: TRACY PAYNE SIGNATURE: [signature]

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
RW-5		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-12-17	Initial								
GAUGE TIME	1108	1								
DHC (FEET)	24.75	2			DID NOT SAMPLE					
DTW (FEET)	34.00	3			9.75' OF SPH IN WELL					
DTB (FEET)	39.59	4			BAILED 18 GALLONS OF SPH					
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA		
3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA		
SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
RW-6		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12.12.17	Initial								
GAUGE TIME	1113	1								
DHC (FEET)	24.83	2		DID NOT SAMPLE						
DTW (FEET)	33.85	3		9.02' OF SPH IN WELL						
DTB (FEET)	40.90	4		BAILED 13 GALLONS OF SPH						
DTB - DTW	—	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

WELL ID		TEST PARAMETERS								
RW-1		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
GAUGE DATE	12-12-17	Initial								
GAUGE TIME	1320	1								
DHC (FEET)	26.50	2		DID NOT SAMPLE						
DTW (FEET)	27.50	3		1.0' OF SPH IN WELL						
DTB (FEET)	43.04	4		BAILED 2 GALLONS OF SPH						
DTB - DTW	~~43.04~~	5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE		WEATHER CONDITIONS:
DTW (FEET)		WATER APPEARANCE / ODOR:
SAMPLE TIME		COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE

INSTRUMENTS USED WATER MARK OIL WATER INTERFACE METER

COMPLETED BY: TRACY PAYNE SIGNATURE:

ANDEAVOR - GALLUP REFINERY
FOURTH QUARTER 2017

OUTFALL

~~WELL~~ ID		TEST PARAMETERS								
STP-1 TO EP-2		Volumes	TIME	pH	Temperature Degrees C	Conductivity (mS)	TDS (g/L)	Salinity (ppt)	Dissolved Oxygen (%)	ORP (mv)
~~GAUGE~~ DATE		Initial								
~~GAUGE~~ TIME		1								
DHC (FEET)	NA	2								
DTW (FEET)		3								
DTB (FEET)		4								
DTB - DTW		5								
CAPACITY PER FOOT	0.74 - 4"	6								
	0.163 - 2"									

PURGING DATA — NA

3 WELL VOLUMES		WEATHER CONDITIONS:
PURGE DATE		WATER APPEARANCE / ODOR:
END OF PURGE TIME		COMMENTS:
PURGE AMOUNT		
DTW (FEET)		

SAMPLING DATA

SAMPLE DATE	12.12.17	WEATHER CONDITIONS: CLEAR, CALM, 52°
~~DTW (FEET)~~	NA	WATER APPEARANCE / ODOR: CLOUDY, ODOR
SAMPLE TIME	1500	COMMENTS:

SAMPLE LOG

SAMPLE ID	TIME	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE
STP-1 TO EP-2	1500	40 ML VOA	5	HCL
		250ML AMBER	1	NEAT
		~~1~~ L PLASTIC	1	NEAT
		~~500~~ 500 ML PLASTIC	1	NEAT
		500 ML PLASTIC	1	H_2SO_4

INSTRUMENTS USED —

COMPLETED BY: TRACY PAYNE SIGNATURE:

APPENDIX C
APPLICABLE STANDARDS

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 6 WATER QUALITY
PART 2 GROUND AND SURFACE WATER PROTECTION

20.6.2.1 ISSUING AGENCY: Water Quality Control Commission
[12-1-95; 20.6.2.1 NMAC - Rn, 20 NMAC 6.2.I.1000, 1-15-01]

20.6.2.2 SCOPE: All persons subject to the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq.
[12-1-95; 20.6.2.2 NMAC - Rn, 20 NMAC 6.2.I.1001, 1-15-01]

20.6.2.3 STATUTORY AUTHORITY: Standards and Regulations are adopted by the commission under the authority of the Water Quality Act, NMSA 1978, Sections 74-6-1 through 74-6-17.
[2-18-77, 9-20-82, 12-1-95; 20.6.2.3 NMAC - Rn, 20 NMAC 6.2.I.1002, 1-15-01]

20.6.2.4 DURATION: Permanent.
[12-1-95; 20.6.2.4 NMAC - Rn, 20 NMAC 6.2.I.1003, 1-15-01]

20.6.2.5 EFFECTIVE DATE: December 1, 1995 unless a later date is cited at the end of a section.
[12-1-95, 11-15-96; 20.6.2.5 NMAC - Rn, 20 NMAC 6.2.I.1004, 1-15-01; A, 1-15-01]

20.6.2.6 OBJECTIVE: The objective of this Part is to implement the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq.
[12-1-95; 20.6.2.6 NMAC - Rn, 20 NMAC 6.2.I.1005, 1-15-01]

20.6.2.7 DEFINITIONS: Terms defined in the Water Quality Act, but not defined in this part, will have the meaning given in the act. As used in this part:

A. "abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be rehabilitated for its intended purpose or other purposes including monitoring and observation;

B. "abate" or "abatement" means the investigation, containment, removal or other mitigation of **water pollution;**

C. "abatement plan" means a description of any operational, monitoring, contingency and closure requirements and conditions for the prevention, investigation and abatement of water pollution, and includes Stage 1, Stage 2, or Stage 1 and 2 of the abatement plan, as approved by the secretary;

D. "adjacent properties" means properties that are contiguous to the discharge site or property that would be contiguous to the discharge site but for being separated by a public or private right of way, including roads and highways.

E. "background" means, for purposes of ground-water abatement plans only and for no other purposes in this part or any other regulations including but not limited to surface-water standards, the amount of ground-water contaminants naturally occurring from undisturbed geologic sources or water contaminants which the responsible person establishes are occurring from a source other than the responsible person's facility; this definition shall not prevent the secretary from requiring abatement of commingled plumes of pollution, shall not prevent responsible persons from seeking contribution or other legal or equitable relief from other persons, and shall not preclude the secretary from exercising enforcement authority under any applicable statute, regulation or common law;

F. "casing" means pipe or tubing of appropriate material, diameter and weight used to support the sides of a well hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent fluid from entering or leaving the well other than to or from the injection zone;

G. "cementing" means the operation whereby a cementing slurry is pumped into a drilled hole and/or forced behind the casing;

H. "cesspool" means a **"drywell"** that receives untreated domestic liquid waste containing human excreta, and which sometimes has an open bottom and/or perforated sides. A large capacity cesspool means a cesspool that receives greater than 2,000 gallons per day of untreated domestic liquid waste;

I. "collapse" means the structural failure of overlying materials caused by removal of underlying materials;

J. **"commission"** means:

(1) the New Mexico water quality control commission or

(2) the department, when used in connection with any administrative and enforcement activity;

K. **"confining zone"** means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement from an injection zone;

L. **"conventional mining"** means the production of minerals from an open pit or underground excavation; underground excavations include mine shafts, workings and air vents, but does not include excavations primarily caused by in situ extraction activities;

M. **"daily composite sample"** means a sample collected over any twenty-four hour period at intervals not to exceed one hour and obtained by combining equal volumes of the effluent collected, or means a sample collected in accordance with federal permit conditions where a permit has been issued under the national pollutant discharge elimination system or for those facilities which include a waste stabilization pond in the treatment process where the retention time is greater than twenty (20) days, means a sample obtained by compositing equal volumes of at least two grab samples collected within a period of not more than twenty-four (24) hours;

N. **"department", "agency",** or **"division"** means the New Mexico environment department or a constituent agency designated by the commission;

O. **"discharge permit modification"** means a change in requirements of a discharge permit as requested by the discharger as a result of past, present or anticipated changes in the quality or quantity of effluent or the location of the discharge; or as required by the secretary;

P. **"discharge plan"** means a description of any operational, monitoring , contingency, and closure requirements and conditions for any discharge of effluent or leachate which may move directly or indirectly into ground water;

Q. **"discharge permit"** means a discharge plan approved by the department;

R. **"discharge site"** means the entire site where the discharge and associated activities will take place;

S. **"disposal"** means to abandon, deposit, inter or otherwise discard a fluid as a final action after its use has been achieved;

T. **"domestic liquid waste"** means human excreta and water-carried waste from typical residential plumbing fixtures and activities, including but not limited to waste from toilets, sinks, bath fixtures, clothes or dishwashing machines and floor drains;

U. **"domestic liquid waste treatment unit"** means a watertight unit designed, constructed and installed to stabilize only domestic liquid waste and to retain solids contained in such domestic liquid waste, including but not limited to aerobic treatment units and septic tanks;

V. **"drywell"** means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids;

W. **"experimental technology"** means a technology which has not been proven feasible under the conditions in which it is being tested;

X. **"fluid"** means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state;

Y. **"ground water"** means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply;

Z. **"hazard to public health"** exists when water which is used or is reasonably expected to be used in the future as a human drinking water supply exceeds at the time and place of such use, one or more of the numerical standards of Subsection A of 20.6.2.3103 NMAC, or the naturally occurring concentrations, whichever is higher, or if any toxic pollutant affecting human health is present in the water; in determining whether a discharge would cause a hazard to public health to exist, the secretary shall investigate and consider the purification and dilution reasonably expected to occur from the time and place of discharge to the time and place of withdrawal for use as human drinking water;

AA. **"improved sinkhole"** means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface;

BB. **"injection"** means the subsurface emplacement of fluids through a well;

CC. **"injection zone"** means a geological formation, group of formations, or part of a formation receiving fluids through a well;

DD. "motor vehicle waste disposal well" means a well which receives or has received fluids from vehicular repair or maintenance activities;

EE. "non-aqueous phase liquid" means an interstitial body of liquid oil, petroleum product, petrochemical, or organic solvent, including an emulsion containing such material;

FF. "operational area" means a geographic area defined in a project discharge permit where a group of wells or well fields in close proximity comprise a single class III well operation;

GG. "owner of record" means an owner of property according to the property records of the tax assessor in the county in which the discharge site is located;

HH. "packer" means a device lowered into a well to produce a fluid-tight seal within the casing;

II. "person" means an individual or any other entity including partnerships, corporation, associations, responsible business or association agents or officers, the state or a political subdivision of the state or any agency, department or instrumentality of the United States and any of its officers, agents or employees;

JJ. "petitioner" means a person seeking a variance from a regulation of the commission pursuant to Section 74-6-4(G) NMSA 1978;

KK. "plugging" means the act or process of stopping the flow of water, oil or gas into or out of a geological formation, group of formations or part of a formation through a borehole or well penetrating these geologic units;

LL. "project discharge permit" means a discharge permit which describes the operation of similar class III wells or well fields within one or more individual operational areas;

MM. "refuse" includes food, swill, carrion, slops and all substances from the preparation, cooking and consumption of food and from the handling, storage and sale of food products, the carcasses of animals, junked parts of automobiles and other machinery, paper, paper cartons, tree branches, yard trimmings, discarded furniture, cans, oil, ashes, bottles, and all unwholesome material;

NN. "responsible person" means a person who is required to submit an abatement plan or who submits an abatement plan pursuant to this part;

OO. "secretary" or **"director"** means the secretary of the New Mexico department of environment or the director of a constituent agency designated by the commission;

PP. "sewer system" means pipelines, conduits, pumping stations, force mains, or other structures, devices, appurtenances or facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal;

QQ. "sewerage system" means a system for disposing of wastes, either by surface or underground methods, and includes sewer systems, treatment works, disposal wells and other systems;

RR. "significant modification of Stage 2 of the abatement plan" means a change in the abatement technology used excluding design and operational parameters, or re-location of 25 percent or more of the compliance sampling stations, for any single medium, as designated pursuant to Paragraph (4) of Subsection E of 20.6.2.4106 NMAC;

SS. "subsurface fluid distribution system" means an assemblage of perforated pipes, drain tiles, or other mechanisms intended to distribute fluids below the surface of the ground;

TT. "subsurface water" means ground water and water in the vadose zone that may become ground water or surface water in the reasonably foreseeable future or may be utilized by vegetation;

UU. "TDS" means total dissolved solids as determined by the "calculation method" (sum of constituents), by the "residue on evaporation method at 180 degrees" of the "*U.S. geological survey techniques of water resource investigations*," or by conductivity, as the secretary may determine;

VV. "toxic pollutant" means a water contaminant or combination of water contaminants in concentration(s) which, upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains, will unreasonably threaten to injure human health, or the health of animals or plants which are commonly hatched, bred, cultivated or protected for use by man for food or economic benefit; as used in this definition injuries to health include death, histopathologic change, clinical symptoms of disease, behavioral abnormalities, genetic mutation, physiological malfunctions or physical deformations in such organisms or their offspring; in order to be considered a toxic pollutant a contaminant must be one or a combination of the potential toxic pollutants listed below and be at a concentration shown by scientific information currently available to the public to have potential for causing one or more of the effects listed above; any water contaminant or combination of the water contaminants in the list below creating a lifetime risk of more than one cancer per 100,000 exposed persons is a toxic pollutant:

(1) acrolein
(2) acrylonitrile

(3) aldrin
(4) benzene
(5) benzidine
(6) carbon tetrachloride
(7) chlordane
(8) chlorinated benzenes
    (a) monochlorobenzene
    (b) hexachlorobenzene
    (c) pentachlorobenzene
(9) 1,2,4,5-tetrachlorobenzene
(10) chlorinated ethanes
    (a) 1,2-dichloroethane
    (b) hexachloroethane
    (c) 1,1,2,2-tetrachloroethane
    (d) 1,1,1-trichloroethane
    (e) 1,1,2-trichloroethane
(11) chlorinated phenols
    (a) 2,4-dichlorophenol
    (b) 2,4,5-trichlorophenol
    (c) 2,4,6-trichlorophenol
(12) chloroalkyl ethers
    (a) bis (2-chloroethyl) ether
    (b) bis (2-chloroisopropyl) ether
    (c) bis (chloromethyl) ether
(13) chloroform
(14) DDT
(15) dichlorobenzene
(16) dichlorobenzidine
(17) 1,1-dichloroethylene
(18) dichloropropenes
(19) dieldrin
(20) diphenylhydrazine
(21) endosulfan
(22) endrin
(23) ethylbenzene
(24) halomethanes
    (a) bromodichloromethane
    (b) bromomethane
    (c) chloromethane
    (d) dichlorodifluoromethane
    (e) dichloromethane
    (f) tribromomethane
    (g) trichlorofluoromethane
(25) heptachlor
(26) hexachlorobutadiene
(27) hexachlorocyclohexane (HCH)
    (a) alpha-HCH
    (b) beta-HCH
    (c) gamma-HCH
    (d) technical HCH
(28) hexachlorocyclopentadiene
(29) high explosives (HE)
    (a) 2,4-dinitrotoluene (2,4,DNT)
    (b) 2,6-dinitrotoluene (2,6,DNT)
    (c) octrahydro-1,3,5,7-tetranitro-1,3,5,7 tetrazocine (HMX)
    (d) hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)

(e) 2,4,6-trinitrotoluene (TNT)
(30) isophorone
(31) methyl tertiary butyl ether
(32) nitrobenzene
(33) nitrophenols
(a) 2,4-dinitro-o-cresol
(b) dinitrophenols
(34) nitrosamines
(a) N-nitrosodiethylamine
(b) N-nitrosodimethylamine
(c) N-nitrosodibutylamine
(d) N-nitrosodiphenylamine
(e) N-nitrosopyrrolidine
(35) pentachlorophenol
(36) perchlorate
(37) phenol
(38) phthalate esters
(a) dibutyl phthalate
(b) di-2-ethylhexyl phthalate
(c) diethyl phthalate
(d) dimethyl phthalate
(39) polychlorinated biphenyls (PCB's)
(40) polynuclear aromatic hydrocarbons (PAH)
(a) anthracene
(b) 3,4-benzofluoranthene
(c) benzo (k) fluoranthene
(d) fluoranthene
(e) fluorene
(f) phenanthrene
(g) pyrene
(41) tetrachloroethylene
(42) toluene
(43) toxaphene
(44) trichloroethylene
(45) vinyl chloride
(46) xylenes
(a) o-xylene
(b) m-xylene
(c) p-xylene
(47) 1,1-dichloroethane
(48) ethylene dibromide (EDB)
(49) cis-1,2-dichloroethylene
(50) trans-1,2-dichloroethylene
(51) naphthalene
(52) 1-methylnaphthalene
(53) 2-methylnaphthalene
(54) benzo-a-pyrene

WW. **"vadose zone"** means earth material below the land surface and above ground water, or in between bodies of ground water;

XX. **"wastes"** means sewage, industrial wastes, or any other liquid, gaseous or solid substance which will pollute any waters of the state;

YY. **"water"** means all water including water situated wholly or partly within or bordering upon the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water;

ZZ. **"water contaminant"** means any substance that could alter if discharged or spilled the physical, chemical, biological or radiological qualities of water; "water contaminant" does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954;

AAA. **"watercourse"** means any river, creek, arroyo, canyon, draw, or wash, or any other channel having definite banks and beds with visible evidence of the occasional flow of water;

BBB. **"water pollution"** means introducing or permitting the introduction into water, either directly or indirectly, of one or more water contaminants in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere with the public welfare or the use of property;

CCC. **"well"** means: (1) A bored, drilled, or driven shaft; (2) A dug hole whose depth is greater than the largest surface dimension; (3) An improved sinkhole; or (4) A subsurface fluid distribution system;

DDD. **"well stimulation"** means a process used to clean the well, enlarge channels, and increase pore space in the interval to be injected, thus making it possible for fluids to move more readily into the injection zone; well stimulation includes, but is not limited to, (1) surging, (2) jetting, (3) blasting, (4) acidizing, (5) hydraulic fracturing.

[1-4-68, 4-20-68, 11-27-70, 9-3-72, 4-11-74, 8-13-76, 2-18-77, 6-26-80, 7-2-81, 1-29-82, 9-20-82, 11-17-84, 3-3-86, 8-17-91, 8-19-93, 12-1-95; 20.6.2.7 NMAC - Rn, 20 NMAC 6.2.I.1101, 1-15-01; A, 1-15-01; A, 12-1-01; A, 9-15-02; A, 9-26-04]

20.6.2.8 **SEVERABILITY:** If any Section, Subsection, individual standard or application of these standards or regulations is held invalid, the remainder shall not be affected.

[2-18-77, 12-1-95; 20.6.2.8 NMAC - Rn, 20 NMAC 6.2.I.1007, 1-15-01]

20.6.2.9 **DOCUMENTS:** Documents referenced in the Part may be viewed at the New Mexico Environment Department, Ground Water Quality Bureau, Harold Runnels Building, 1190 St. Francis Drive, Santa Fe, New Mexico 87503.

[12-1-95; 20.6.2.9 NMAC - Rn, 20 NMAC 6.2.I.1006, 1-15-01; A, 12-1-01]

20.6.2.10 - 20.6.2.1199: [RESERVED]

[12-1-95; 20.6.2.10 - 20.6.2.1199 NMAC - Rn, 20 NMAC 6.2.I.1008-1100, 1102-1199, 1-15-01]

20.6.2.1200 **PROCEDURES:**

[12-1-95; 20.6.2.1200 NMAC - Rn, 20 NMAC 6.2.I.1200, 1-15-01]

20.6.2.1201 **NOTICE OF INTENT TO DISCHARGE:**

A. Any person intending to make a new water contaminant discharge or to alter the character or location of an existing water contaminant discharge, unless the discharge is being made or will be made into a community sewer system or subject to the Liquid Waste Disposal Regulations adopted by the New Mexico Environmental Improvement Board, shall file a notice with the Ground Water Quality Bureau of the department for discharges that may affect ground water, and/ or the Surface Water Quality Bureau of the department for discharges that may affect surface water. However, notice regarding discharges from facilities for the production, refinement, pipeline transmission of oil and gas or products thereof, the oil field service industry, oil field brine production wells, geothermal installations and carbon dioxide facilities shall be filed instead with the Oil Conservation Division.

B. Any person intending to inject fluids into a well, including a subsurface distribution system, unless the injection is being made subject to the Liquid Waste Disposal Regulations adopted by the New Mexico Environmental Improvement Board, shall file a notice with the Ground Water Quality Bureau of the department. However notice regarding injection to wells associated with oil and gas facilities as described in Subsection A of Section 20.6.2.1201 NMAC shall be filed instead with the Oil Conservation Division.

C. Notices shall state:

(1) the name of the person making the discharge;
(2) the address of the person making the discharge;
(3) the location of the discharge;
(4) an estimate of the concentration of water contaminants in the discharge; and
(5) the quantity of the discharge.

D. Based on information provided in the notice of intent, the department will notify the person proposing the discharge as to which of the following apply:

(1) a discharge permit is required;

(2) a discharge permit is not required;

(3) the proposed injection well will be added to the department's underground injection well inventory;

(4) the proposed injection activity or injection well is prohibited pursuant to 20.6.2.5004 NMAC.

[1-4-68, 9-5-69, 9-3-72, 2-17-74, 2-20-81, 12-1-95; 20.6.2.1201 NMAC - Rn, 20 NMAC 6.2.I.1201, 1-15-01; A, 12-1-01]

20.6.2.1202 FILING OF PLANS AND SPECIFICATIONS--SEWERAGE SYSTEMS:

A. Any person proposing to construct a sewerage system or proposing to modify any sewerage system in a manner that will change substantially the quantity or quality of the discharge from the system shall file plans and specifications of the construction or modification with Ground Water Quality Bureau of the department for discharges that may affect ground water, and/or the Surface Water Quality Bureau of the department for discharges that may affect surface water. Modifications having a minor effect on the character of the discharge from sewerage systems shall be reported as of January 1 and June 30 of each year to the Ground Water Quality Bureau of the department for discharges that may affect ground water, or the Surface Water Quality Bureau of the department for discharges that may affect surface water.

B. Plans, specifications and reports required by this Section, if related to facilities for the production, refinement and pipeline transmission of oil and gas, or products thereof, shall be filed instead with the Oil Conservation Division.

C. Plans and specifications required to be filed under this Section must be filed prior to the commencement of construction.

[1-4-68, 9-3-72, 2-20-81, 12-1-95; 20.6.2.1202 NMAC - Rn, 20 NMAC 6.2.I.1202, 1-15-01; A, 12-1-01]

20.6.2.1203 NOTIFICATION OF DISCHARGE-REMOVAL:

A. With respect to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, the following notifications and corrective actions are required:

(1) As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, any person in charge of the facility shall orally notify the Chief of the Ground Water Quality Bureau of the department, or his counterpart in any constituent agency delegated responsibility for enforcement of these rules as to any facility subject to such delegation. To the best of that person's knowledge, the following items of information shall be provided:

(a) the name, address, and telephone number of the person or persons in charge of the facility, as well as of the owner and/or operator of the facility;

(b) the name and address of the facility;

(c) the date, time, location, and duration of the discharge

(d) the source and cause of discharge;

(e) a description of the discharge, including its chemical composition;

(f) the estimated volume of the discharge; and

(g) any actions taken to mitigate immediate damage from the discharge.

(2) When in doubt as to which agency to notify, the person in charge of the facility shall notify the Chief of the Ground Water Quality Bureau of the department. If that department does not have authority pursuant to commission delegation, the department shall notify the appropriate constituent agency.

(3) Within one week after the discharger has learned of the discharge, the facility owner and/or operator shall send written notification to the same department official, verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

(4) The oral and written notification and reporting requirements contained in this Subsection A are not intended to be duplicative of discharge notification and reporting requirements promulgated by the Oil Conservation Commission (OCC) or by the Oil Conservation Division (OCD); therefore, any facility which is subject to OCC or OCD discharge notification and reporting requirements need not additionally comply with the notification and reporting requirements herein.

(5) As soon as possible after learning of such a discharge, the owner/operator of the facility shall take such corrective actions as are necessary or appropriate to contain and remove or mitigate the damage caused by the discharge.

(6) If it is possible to do so without unduly delaying needed corrective actions, the facility owner/operator shall endeavor to contact and consult with the Chief of the Ground Water Quality Bureau of the department or appropriate counterpart in a delegated agency, in an effort to determine the department's views as to what further corrective actions may be necessary or appropriate to the discharge in question. In any event, no later than fifteen (15) days after the discharger learns of the discharge, the facility owner/operator shall send to said Bureau Chief a written report describing any corrective actions taken and/or to be taken relative to the discharge. Upon a written request and for good cause shown, the Bureau Chief may extend the time limit beyond fifteen (15) days.

(7) The Bureau Chief shall approve or disapprove in writing the foregoing corrective action report within thirty (30) days of its receipt by the department. In the event that the report is not satisfactory to the department, the Bureau Chief shall specify in writing to the facility owner/operator any shortcomings in the report or in the corrective actions already taken or proposed to be taken relative to the discharge, and shall give the facility owner/operator a reasonable and clearly specified time within which to submit a modified corrective action report. The Bureau Chief shall approve or disapprove in writing the modified corrective action report within fifteen (15) days of its receipt by the department.

(8) In the event that the modified corrective action report also is unsatisfactory to the department, the facility owner/operator has five (5) days from the notification by the Bureau Chief that it is unsatisfactory to appeal to the department secretary. The department secretary shall approve or disapprove the modified corrective action report within five (5) days of receipt of the appeal from the Bureau Chief's decision. In the absence of either corrective action consistent with the approved corrective action report or with the decision of the secretary concerning the shortcomings of the modified corrective action report, the department may take whatever enforcement or legal action it deems necessary or appropriate.

(9) If the secretary determines that the discharge causes or may with reasonable probability cause water pollution in excess of the standards and requirements of Section 20.6.2.4103 NMAC, and the water pollution will not be abated within one hundred and eighty (180) days after notice is required to be given pursuant to Paragraph (1) of Subsection A of Section 20.6.2.1203 NMAC, the secretary may notify the facility owner/operator that he is a responsible person and that an abatement plan may be required pursuant to Section 20.6.2.4104 and Subsection A of Section 20.6.2.4106 NMAC.

B. Exempt from the requirements of this Section are continuous or periodic discharges which are made:

(1) in conformance with regulations of the commission and rules, regulations or orders of other state or federal agencies; or

(2) in violation of regulations of the commission, but pursuant to an assurance of discontinuance or schedule of compliance approved by the commission or one of its duly authorized constituent agencies.

C. As used in this Section and in Sections 20.6.2.4100 through 20.6.2.4115 NMAC, but not in other Sections of this Part:

(1) "discharge" means spilling, leaking, pumping, pouring, emitting, emptying, or dumping into water or in a location and manner where there is a reasonable probability that the discharged substance will reach surface or subsurface water;

(2) "facility" means any structure, installation, operation, storage tank, transmission line, motor vehicle, rolling stock, or activity of any kind, whether stationary or mobile;

(3) "oil" means oil of any kind or in any form including petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes;

(4) "operator" means the person or persons responsible for the overall operations of a facility; and

(5) "owner" means the person or persons who own a facility, or part of a facility.

D. Notification of discharge received pursuant to this Part or information obtained by the exploitation of such notification shall not be used against any such person in any criminal case, except for perjury or for giving a false statement.

E. Any person who has any information relating to any discharge from any facility of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, is urged to notify the Chief of the Ground Water Quality Bureau of the department. Upon such notification, the secretary may

require an owner/operator or a responsible person to perform corrective actions pursuant to Paragraphs (5) and (9) of Subsection A of Section 20.6.2.1203 NMAC.
[2-17-74, 2-20-81, 12-24-87, 12-1-95; 20.6.2.1203 NMAC - Rn, 20 NMAC 6.2.I.1203, 1-15-01; A, 12-1-01]

20.6.2.1204 - 20.6.2.1209 [RESERVED]
[12-1-95; 20.6.2.1204 - 20.6.2.1209 NMAC - Rn, 20 NMAC 6.2.I.1204-1209, 1-15-01]

20.6.2.1210 VARIANCE PETITIONS:

A. Any person seeking a variance pursuant to Section 74-6-4 (G) NMSA 1978, shall do so by filing a written petition with the commission. The petitioner may submit with his petition any relevant documents or material which the petitioner believes would support his petition. Petitions shall:

(1) state the petitioner's name and address;
(2) state the date of the petition;
(3) describe the facility or activity for which the variance is sought;
(4) state the address or description of the property upon which the facility is located;
(5) describe the water body or watercourse affected by the discharge;
(6) identify the regulation of the commission from which the variance is sought;
(7) state in detail the extent to which the petitioner wishes to vary from the regulation;
(8) state why the petitioner believes that compliance with the regulation will impose an unreasonable burden upon his activity; and
(9) state the period of time for which the variance is desired.

B. The variance petition shall be reviewed in accordance with the adjudicatory procedures of 20 NMAC 1.3.

C. The commission may grant the requested variance, in whole or in part, may grant the variance subject to conditions, or may deny the variance. The commission shall not grant a variance for a period of time in excess of five years.

D. An order of the commission is final and bars the petitioner from petitioning for the same variance without special permission from the commission. The commission may consider, among other things, the development of new information and techniques to be sufficient justification for a second petition. If the petitioner, or his authorized representative, fails to appear at the public hearing on the variance petition, the commission shall proceed with the hearing on the basis of the petition. A variance may not be extended or renewed unless a new petition is filed and processed in accordance with the procedures established by this Section.
[7-19-68, 11-27-70, 9-3-72, 2-20-81, 11-15-96; 20.6.2.1210 NMAC - Rn, 20 NMAC 6.2.I.1210, 1-15-01]

20.6.2.1211 - 20.6.2.1219: [RESERVED]
[12-1-95; 20.6.2.1211 - 20.6.2.1219 NMAC - Rn, 20 NMAC 6.2.I.1211-1219, 1-15-01]

20.6.2.1220 PENALTIES ENFORCEMENT, COMPLIANCE ORDERS, PENALTIES, ASSURANCE OF DISCONTINUANCE.: Failure to comply with the Water Quality Act, or any regulation or standard promulgated pursuant to the Water Quality Act is a prohibited act. If the secretary determines that a person has violated or is violating a requirement of the Water Quality Act or any regulation promulgated thereunder or is exceeding any water quality standard or ground water standard contained in Commission regulations, or is not complying with a condition or provision of an approved or modified abatement plan, discharge plan, or permit issued pursuant to the Water Quality Act, the secretary may issue a compliance order, assess a penalty, commence a civil action in district court, or accept an assurance of discontinuance in accordance with NMSA 1978, Section 74-6-10 of the Water Quality Act.
[12-1-95; 20.6.2.1220 NMAC - Rn, 20 NMAC 6.2.I.1220, 1-15-01]

20.6.2.1221 - 20.6.2.1999: [RESERVED]
[12-1-95; 20.6.2.1221 - 20.6.2.1999 NMAC - Rn, 20 NMAC 6.2.I.1221-2099, 1-15-01]

20.6.2.2000 SURFACE WATER PROTECTION:
[12-1-95; 20.6.2.2000 NMAC - Rn, 20 NMAC 6.2.II, 1-15-01]

20.6.2.2001 - 20.6.2.2099: [RESERVED]
[12-1-95; 20.6.2.2001 - 20.6.2.2099 NMAC - Rn, 20 NMAC 6.2.I.1221-2099, 1-15-01]

20.6.2.2100 APPLICABILITY: The requirements of Section 20.6.2.2101 and 20.6.2.2102 NMAC shall not apply to any discharge which is subject to a permit under the National Pollutant Discharge Elimination System of P. L. 92-500; provided that any discharger who is given written notice of National Pollutant Discharge Elimination System permit violation from the Administrator of the Environmental Protection Agency and who has not corrected the violation within thirty days of receipt of said notice shall be subject to Section 20.6.2.2101 and 20.6.2.2102 NMAC until in compliance with the National Pollution Discharge Elimination System permit conditions; provided further that nothing in this Part shall be construed as a deterrent to action under Section 74-6-11 NMSA, 1978.
[8-13-76; 20.6.2.2100 NMAC - Rn, 20 NMAC 6.2.II.2100, 1-15-01]

20.6.2.2101 GENERAL REQUIREMENTS:

A. Except as otherwise provided in Sections 20.6.2.2000 through 20.6.2.2201 NMAC, no person shall cause or allow effluent to discharge to a watercourse if the effluent as indicated by:

(1) any two consecutive daily composite samples;

(2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);

(3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or

(4) a grab sample collected during flow from an intermittent or infrequent discharge

does not conform to the following:

(a)	Bio-chemical Oxygen Demand (BOD)	Less than 30 mg/l
(b)	Chemical Oxygen Demand (COD)	Less than 125 mg/l
(c)	Settleable Solids	Less than 0.5 mg/l
(d)	Fecal Coliform Bacteria	Less than 500 organisms per 100 ml
(e)	pH	Between 6.6 and 8.6

B. Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.

C. Subsection A of this Section does not apply to the weight of constituents in the water diverted.

D. Samples shall be examined in accordance with the most current edition of Standard Methods for the Examination of Water and Wastewater published by the American Public Health Association or the most current edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.
[4-20-68, 3-14-71, 10-8-71, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2101 NMAC - Rn, 20 NMAC 6.2.II.2101, 1-15-01]

20.6.2.2102 RIO GRANDE BASIN--COMMUNITY SEWERAGE SYSTEMS:

A. No person shall cause or allow effluent from a community sewerage system to discharge to a watercourse in the Rio Grande Basin between the headwaters of Elephant Butte Reservoir and Angostura Diversion Dam as described in Subsection E of this Section if the effluent, as indicated by:

(1) any two consecutive daily composite samples;

(2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);

(3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or

(4) a grab sample collected during flow from an intermittent or infrequent discharge

does not conform to the following:

(a)	Bio-chemical Oxygen Demand (BOD)	Less than 30 mg/l
(b)	Chemical Oxygen Demand (COD)	Less than 80 mg/l
(c)	Settleable Solids	Less than 0.1 mg/l
(d)	Fecal Coliform Bacteria	Less than 500 organisms per 100 ml
(e)	pH	Between 6.6 and 8.6

B. Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.

C. Subsection A of this Section does not apply to the weight of constituents in the water diverted.

D. Samples shall be examined in accordance with the most current edition of Standard Methods for the Analysis of Water and Wastewater published by the American Public Health Association or the most current

edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.

E. The following is a description of the Rio Grande Basin from the headwaters of Elephant Butte Reservoir to Angostura Diversion Dam as used in this Section. Begin at San Marcial USGS gauging station, which is the headwaters of Elephant Butte Reservoir Irrigation Project, thence northwest to U.S. Highway 60, nine miles ± west of Magdalena; thence west along the northeast edge of the San Agustin Plains closed basin; thence north along the east side of the north plains closed basin to the Continental Divide; thence northly along the Continental Divide to the community of Regina on State Highway 96; thence southeasterly along the crest of the San Pedro Mountains to Cerro Toledo Peak; thence southwesterly along the Sierra de Los Valles ridge and the Borrego Mesa to Bodega Butte; thence southerly to Angostura Diversion Dam which is the upper reach of the Rio Grande in this basin; thence southeast to the crest and the crest of the Manzano Mountains and the Los Pinos Mountains; thence southerly along the divide that contributes to the Rio Grande to San Marcial gauging station to the point and place of beginning; excluding all waters upstream of Jemez Pueblo which flow into the Jemez River drainage and the Bluewater Lake. Counties included in the basin are:

(1) north portion of Socorro County;
(2) northeast corner of Catron County;
(3) east portion of Valencia County;
(4) west portion of Bernalillo County;
(5) east portion of McKinley County; and
(6) most of Sandoval County.

[3-14-71, 9-3-72, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2102 NMAC - Rn, 20 NMAC 6.2.II.2102, 1-15-01]

20.6.2.2103 - 20.6.2.2199: [RESERVED]
[12-1-95; 20.6.2.2103 - 20.6.2.2199 NMAC - Rn, 20 NMAC 6.2.II.2103-2199, 1-15-01]

20.6.2.2200 WATERCOURSE PROTECTION:
[12-1-95; 20.6.2.2200 NMAC - Rn, 20 NMAC 6.2.II.2200, 1-15-01]

20.6.2.2201 DISPOSAL OF REFUSE: No person shall dispose of any refuse in a natural watercourse or in a location and manner where there is a reasonable probability that the refuse will be moved into a natural watercourse by leaching or otherwise. Solids diverted from the stream and returned thereto are not subject to abatement under this Section.
[4-20-68, 9-3-72; 20.6.2.2201 NMAC - Rn, 20 NMAC 6.2.II.2201, 1-15-01]

20.6.2.2202 - 20.6.2.2999: [RESERVED]
[12-1-95; 20.6.2.2202 - 20.6.2.2999 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

20.6.2.3000 PERMITTING AND GROUND WATER STANDARDS:
[12-1-95; 20.6.2.3000 NMAC - Rn, 20 NMAC 6.2.III, 1-15-01]

20.6.2.3001 - 20.6.2.3100: [RESERVED]
[12-1-95; 20.6.2.3001 - 20.6.2.3100 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

20.6.2.3101 PURPOSE:

A. The purpose of Sections 20.6.2.3000 through 20.6.2.3114 NMAC controlling discharges onto or below the surface of the ground is to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated in the New Mexico Water Quality Standards. Sections 20.6.2.3000 through 20.6.2.3114 NMAC are written so that in general:

(1) if the existing concentration of any water contaminant in ground water is in conformance with the standard of 20.6.2.3103 NMAC, degradation of the ground water up to the limit of the standard will be allowed; and

(2) if the existing concentration of any water contaminant in ground water exceeds the standard of Section 20.6.2.3103 NMAC, no degradation of the ground water beyond the existing concentration will be allowed.

B. Ground water standards are numbers that represent the pH range and maximum concentrations of water contaminants in the ground water which still allow for the present and future use of ground water resources.

C. The standards are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations.
[2-18-77; 20.6.2.3101 NMAC - Rn, 20 NMAC 6.2.III.3101, 1-15-01]

20.6.2.3102: [RESERVED]
[12-1-95; 20.6.2.3102 NMAC - Rn, 20 NMAC 6.2.III.3102, 1-15-01]

20.6.2.3103 STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR LESS: The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection D of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "*methods for chemical analysis of water and waste of the U.S. environmental protection agency*," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants.

A. Human Health Standards-Ground water shall meet the standards of Subsection A and B of this section unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 20.6.2.1101 NMAC for the combination of contaminants, or the Human Health Standard of Subsection A of Section 20.6.2.3103 NMAC for each contaminant shall apply, whichever is more stringent. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

(1) Arsenic (As)……0.1 mg/l
(2) Barium (Ba)……...……...1.0 mg/l
(3) Cadmium (Cd)……..……...0.01 mg/l
(4) Chromium (Cr)……..……0.05 mg/l
(5) Cyanide (CN)……..……...0.2 mg/l
(6) Fluoride (F)……...……1.6 mg/l
(7) Lead (Pb)……0.05 mg/l
(8) Total Mercury (Hg)……...0.002 mg/l
(9) Nitrate (NO_3 as N)……...10.0 mg/l
(10) Selenium (Se)……0.05 mg/l
(11) Silver (Ag)……0.05 mg/l
(12) Uranium (U)……....0.03 mg/l
(13) Radioactivity: Combined Radium-226 & Radium-228……30 pCi/l
(14) Benzene…..……...0.01 mg/l
(15) Polychlorinated biphenyls (PCB's)……..0.001 mg/l
(16) Toluene……...0.75 mg/l
(17) Carbon Tetrachloride……..0.01 mg/l
(18) 1,2-dichloroethane (EDC) ……..…0.01 mg/l
(19) 1,1-dichloroethylene (1,1-DCE) ……...0.005 mg/l
(20) 1,1,2,2-tetrachloroethylene (PCE) ……..0.02 mg/l
(21) 1,1,2-trichloroethylene (TCE) ……...0.1 mg/l
(22) ethylbenzene…….……0.75 mg/l
(23) total xylenes…….…….....0.62 mg/l
(24) methylene chloride…….……0.1 mg/l
(25) chloroform…….…….0.1 mg/l
(26) 1,1-dichloroethane…….……0.025 mg/l
(27) ethylene dibromide (EDB) ……..…0.0001 mg/l
(28) 1,1,1-trichloroethane……..……...…0.06 mg/l
(29) 1,1,2-trichloroethane……..……...0.01 mg/l
(30) 1,1,2,2-tetrachloroethane……..…….0.01 mg/l
(31) vinyl chloride…….…….0.001 mg/l

(32) PAHs: total naphthalene plus monomethylnaphthalenes…….0.03 mg/l
(33) benzo-a-pyrene……..……0.0007 mg/l

B. Other Standards for Domestic Water Supply

(1) Chloride (Cl) ……..……...250.0 mg/l
(2) Copper (Cu) ……..……....1.0 mg/l
(3) Iron (Fe) ……..……...…1.0 mg/l
(4) Manganese (Mn) ……..……..…0.2 mg/l
(6) Phenols……..……..…0.005 mg/l
(7) Sulfate (SO_4) ……..……..600.0 mg/l
(8) Total Dissolved Solids (TDS) ……..……1000.0 mg/l
(9) Zinc (Zn) ……..……....……10.0 mg/l
(10) pH……..……..…….between 6 and 9

C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of this section unless otherwise provided.

(1) Aluminum (Al)…….. ……..……..…5.0 mg/l
(2) Boron (B) ……..……...0.75 mg/l
(3) Cobalt (Co) ……..…….0.05 mg/l
(4) Molybdenum (Mo) ……..……...1.0 mg/l
(5) Nickel (Ni) ……..……....0.2 mg/l

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04]

[Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007. For any new water discharges, the uranium standard is effective 9-26-04.]

20.6.2.3104 DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly of indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers. [2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

20.6.2.3105 EXEMPTIONS FROM DISCHARGE PERMIT REQUIREMENT: Sections 20.6.2.3104 and 20.6.2.3106 NMAC do not apply to the following:

A. Effluent or leachate which conforms to all the listed numerical standards of Section 20.6.2.3103 NMAC and has a total nitrogen concentration of 10 mg/l or less, and does not contain any toxic pollutant. To determine conformance, samples may be taken by the agency before the effluent or leachate is discharged so that it may move directly or indirectly into ground water; provided that if the discharge is by seepage through non-natural or altered natural materials, the agency may take samples of the solution before or after seepage. If for any reason the agency does not have access to obtain the appropriate samples, this exemption shall not apply;

B. Effluent which is discharged from a sewerage system used only for disposal of household and other domestic waste which is designed to receive and which receives 2,000 gallons or less of liquid waste per day;

C. Water used for irrigated agriculture, for watering of lawns, trees, gardens or shrubs, or for irrigation for a period not to exceed five years for the revegetation of any disturbed land area, unless that water is received directly from any sewerage system;

D. Discharges resulting from the transport or storage of water diverted, provided that the water diverted has not had added to it after the point of diversion any effluent received from a sewerage system, that the source of the water diverted was not mine workings, and that the secretary has not determined that a hazard to public health may result;

E. Effluent which is discharged to a watercourse which is naturally perennial; discharges to dry arroyos and ephemeral streams are not exempt from the discharge permit requirement, except as otherwise provided in this section;

F. Those constituents which are subject to effective and enforceable effluent limitations in a National Pollutant Discharge Elimination System (NPDES) permit, where discharge onto or below the surface of the ground so that water contaminants may move directly or indirectly into ground water occurs downstream from the outfall

where NPDES effluent limitations are imposed, unless the secretary determines that a hazard to public health may result. For purposes of this subsection, monitoring requirements alone do not constitute effluent limitations;

G. Discharges resulting from flood control systems;

H. Leachate which results from the direct natural infiltration of precipitation through disturbed materials, unless the secretary determines that a hazard to public health may result;

I. Leachate which results entirely from the direct natural infiltration of precipitation through undisturbed materials;

J. Leachate from materials disposed of in accordance with the Solid Waste Management Regulations (20 NMAC 9.1) adopted by the New Mexico Environmental Improvement Board;

K. Natural ground water seeping or flowing into conventional mine workings which re-enters the ground by natural gravity flow prior to pumping or transporting out of the mine and without being used in any mining process; this exemption does not apply to solution mining;

L. Effluent or leachate discharges resulting from activities regulated by a mining plan approved and permit issued by the New Mexico Coal Surface Mining Commission, provided that this exemption shall not be construed as limiting the application of appropriate ground water protection requirements by the New Mexico Coal Surface Mining Commission;

M. Effluent or leachate discharges which are regulated by the Oil Conservation Commission and the regulation of which by the Water Quality Control Commission would interfere with the exclusive authority granted under Section 70-2-12 NMSA 1978, or under other laws, to the Oil Conservation Commission.

[2-18-77, 6-26-80, 7-2-81, 12-24-87, 12-1-95; 20.6.2.3105 NMAC - Rn, 20 NMAC 6.2.III.3105, 1-15-01; A, 12-1-01]

20.6.2.3106 APPLICATION FOR DISCHARGE PERMITS AND RENEWALS:

A. Any person who, before or on June 18, 1977, is discharging any of the water contaminants listed in Section 20.6.2.3103 NMAC or any toxic pollutant so that they may move directly or indirectly into ground water shall, within 120 days of receipt of written notice from the secretary that a discharge permit is required, or such longer time as the secretary shall for good cause allow, submit a discharge plan to the secretary for approval; such person may discharge without a discharge permit until 240 days after written notification by the secretary that a discharge permit is required or such longer time as the secretary shall for good cause allow.

B. Any person who intends to begin, after June 18, 1977, discharging any of the water contaminants listed in Section 20.6.2.3103 NMAC or any toxic pollutant so that they may move directly or indirectly into ground water shall notify the secretary giving the information enumerated in Subsection B of Section 20.6.2.1201NMAC; the secretary shall, within 60 days, notify such person if a discharge permit is required; upon submission, the secretary shall review the discharge plan pursuant to Sections 20.6.2.3108 and 20.6.2.3109 NMAC. For good cause shown the secretary may allow such person to discharge without a discharge permit for a period not to exceed 120 days.

C. A proposed discharge plan shall set forth in detail the methods or techniques the discharger proposes to use or processes expected to naturally occur which will ensure compliance with this Part. At least the following information shall be included in the plan:

(1) Quantity, quality and flow characteristics of the discharge;

(2) Location of the discharge and of any bodies of water, watercourses and ground water discharge sites within one mile of the outside perimeter of the discharge site, and existing or proposed wells to be used for monitoring;

(3) Depth to and TDS concentration of the ground water most likely to be affected by the discharge;

(4) Flooding potential of the site;

(5) Location and design of site(s) and method(s) to be available for sampling, and for measurement or calculation of flow;

(6) Depth to and lithological description of rock at base of alluvium below the discharge site if such information is available;

(7) Any additional information that may be necessary to demonstrate that the discharge permit will not result in concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use. Detailed information on site geologic and hydrologic conditions may be required for a technical evaluation of the applicant's proposed discharge plan; and

(8) Additional detailed information required for a technical evaluation of underground injection control wells as provided in Sections 20.6.2.5000 through 20.6.2. 5299 NMAC,

D. An applicant for a discharge permit shall pay fees as specified in Section 20.6.2.3114 NMAC.

E. An applicant for a permit to dispose of or use septage or sludge, or within a source category designated by the commission, may be required by the secretary to file a disclosure statement as specified in 74-6-5.1 of the Water Quality Act.

F. If the holder of a discharge permit submits an application for discharge permit renewal at least 120 days before the discharge permit expires, and the discharger is not in violation of the discharge permit on the date of its expiration, then the existing discharge permit for the same activity shall not expire until the application for renewal has been approved or disapproved. A discharge permit continued under this provision remains fully effective and enforceable. An application for discharge permit renewal must include and adequately address all of the information necessary for evaluation of a new discharge permit. Previously submitted materials may be included by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved. [2-18-77, 6-26-80, 7-2-81, 9-20-82, 8-17-91, 12-1-95; 20.6.2.3106 NMAC - Rn, 20 NMAC 6.2.III.3106, 1-15-01; A, 12-1-01; A, 9-15-02]

20.6.2.3107 MONITORING, REPORTING, AND OTHER REQUIREMENTS:

A. Each discharge plan shall provide for the following as the secretary may require:

(1) The installation, use, and maintenance of effluent monitoring devices;

(2) The installation, use, and maintenance of monitoring devices for the ground water most likely to be affected by the discharge;

(3) Monitoring in the vadose zone;

(4) Continuation of monitoring after cessation of operations;

(5) Periodic submission to the secretary of results obtained pursuant to any monitoring requirements in the discharge permit and the methods used to obtain these results;

(6) Periodic reporting to the secretary of any other information that may be required as set forth in the discharge permit;

(7) The discharger to retain for a period of at least five years any monitoring data required in the discharge permit;

(8) A system of monitoring and reporting to verify that the permit is achieving the expected results;

(9) Procedures for detecting failure of the discharge system;

(10) Contingency plans to cope with failure of the discharge permit or system;

(11) A closure plan to prevent the exceedance of standards of Section 20.6.2.3103 NMAC or the presence of a toxic pollutant in ground water after the cessation of operation which includes: a description of closure measures, maintenance and monitoring plans, post-closure maintenance and monitoring plans, financial assurance, and other measures necessary to prevent and/or abate such contamination. The obligation to implement the closure plan as well as the requirements of the closure plan, if any is required, survives the termination or expiration of the permit. A closure plan for any underground injection control well must also incorporate the applicable requirements of Sections 20.6.2.5005 and 20.6.2.5209 NMAC.

B. Sampling and analytical techniques shall conform with the following references unless otherwise specified by the secretary:

(1) Standard Methods for the Examination of Water and Wastewater, latest edition, American Public Health Association; or

(2) Methods for Chemical Analysis of Water and Waste, and other publications of the Analytical Quality Laboratory, EPA; or

(3) Techniques of Water Resource Investigations of the U.S. Geological Survey; or

(4) Annual Book of ASTM Standards. Part 31. Water, latest edition, American Society For Testing and Materials; or

(5) Federal Register, latest methods published for monitoring pursuant to Resource Conservation and Recovery Act regulations; or

(6) National Handbook of Recommended Methods for Water-Data Acquisition, latest edition, prepared cooperatively by agencies of the United States Government under the sponsorship of the U.S. Geological Survey.

C. The discharger shall notify the secretary of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants.

D. Any discharger of effluent or leachate shall allow any authorized representative of the secretary to:

(1) inspect and copy records required by a discharge permit;

(2) inspect any treatment works, monitoring and analytical equipment;

(3) sample any effluent before or after discharge;

(4) use monitoring systems and wells installed pursuant to a discharge permit requirement in order to collect samples from ground water or the vadose zone.

E. Each discharge permit for an underground injection control well shall incorporate the applicable requirements of Sections 20.6.2.5000 through 20.6.2.5299 NMAC.

[2-18-77, 9-20-82, 11-17-83, 12-1-95; 20.6.2.3107 NMAC - Rn, 20 NMAC 6.2.III.3107, 1-15-01; A, 12-1-01]

20.6.2.3108 PUBLIC NOTICE AND PARTICIPATION:

A. Within 30 days of submission of an application for discharge permit, modification or renewal:

(1) The applicant shall provide notice, in accordance with the requirements of Section E of this Section, to the general public in the locale of the proposed discharge in a form provided by the department by each of the three methods listed below:

(a) prominently posting a synopsis of the public notice, in English and in Spanish, at a conspicuous public location, approved by the department, at or near the existing or proposed facility for 30 days; and

(b) providing written notice of the discharge by certified mail, return receipt requested, to owners of record of all adjacent properties; and

(c) providing notice by certified mail, return receipt requested, to the owner of the discharge site if the applicant is not the owner;

(2) In lieu of the public notice requirements of Subparagraph (b) of Paragraph (1) of Subsection A above, the applicant may publish a synopsis of the notice in a display ad at least two inches by three inches in a newspaper of general circulation in the location of the proposed discharge.

(3) In lieu of the public notice requirements of Subparagraph (a) and (b) of Paragraph (1) of Subsection A above, the applicant may provide notice of the discharge by certified mail, return receipt requested, to property owners of record within 1/2 mile of the discharge site on a form provided by the department.

(4) If there are no adjacent properties other than properties owned by the discharger, the applicant shall, in lieu of the requirements in Subparagraph (b) of Paragraph (1) of Subsection A above, publish a synopsis of the notice in a display ad at least two inches by three inches in a newspaper of general circulation in the location of the facility.

B. Within fifteen days of completion of the public notice requirements in Subsection A of this Section, the applicant shall submit to the department proof of notice, including certified mail receipts and an affidavit of posting, as appropriate. If the department determines that the notice provided pursuant to Subsection A of this Section is inadequate, the department may require additional notice in accordance with Subsection A of this Section.

C. Within 30 days of receipt of an application for a discharge permit, modification or renewal, the department shall review the application for administrative completeness. To be deemed administratively complete, an application must provide all of the information required by Paragraphs (1) through (5) of Subsection E of this Section. The department shall notify the applicant in writing when the application is deemed administratively complete. If the department determines that the application is not administratively complete, the department shall notify the applicant of the deficiencies in writing within 30 days of receipt of the application and state what additional information is necessary.

D. Within 30 days of determining an application for a discharge permit, modification or renewal is administratively complete, the department shall post a notice on its web site and shall mail notice to any affected local, state, federal, tribal or pueblo governmental agency, political subdivisions, ditch associations and Land Grants, as identified by the department. The department shall also mail or e-mail notice to those persons on a list maintained by the department who have requested notice of discharge permit applications. The notice shall include the information listed in Subsection E of this Section.

E. The notice provided under Subsection A and D of this Section shall include:

(1) The name and address of the proposed discharger;

(2) The location of the discharge, including a street address, if available, and sufficient information to locate the facility with respect to surrounding landmarks;

(3) A brief description of the activities that produce the discharge described in the application;

(4) A brief description of the expected quality and volume of the discharge;

(5) The depth to and total dissolved solids concentration of the ground water beneath the discharge site;

(6) The address and phone number within the department by which interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices; and

(7) A statement that the department will accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices.

F. All persons who submit comments or statements of interest to the department and who provide a mail or e-mail address shall be placed on a facility-specific mailing list and the department shall send those persons the public notice issued pursuant to Subsection G of this Section, and notice of any public meeting or hearing scheduled on the application.

G. Within 60 days after the department makes its administrative completeness determination and all required technical information is available, the department shall make available a proposed approval or disapproval of the application for a discharge permit, modification or renewal, including conditions for approval proposed by the department or the reasons for disapproval. The department shall mail or deliver a copy of the proposed approval or disapproval to the applicant, and shall provide notice of the proposed approval or disapproval of the application for a discharge permit, modification or renewal by:

(1) Posting on the department's website;

(2) Publishing notice in a newspaper of general circulation in this state and a newspaper of general circulation in the location of the facility;

(3) Mailing or e-mailing to those persons on a facility-specific mailing list;

(4) Mailing to any affected local, state, or federal governmental agency, as identified by the department; and

(5) Mailing to the Governor, Chairperson, or President of each Indian Tribe, Pueblo or Nation within the state of New Mexico, as identified by the department.

H. The public notice issued under Subsection G shall include the information in Subsection E of this Section and the following information:

(1) A brief description of the procedures to be followed by the secretary in making a final determination;

(2) A statement of the comment period and description of the procedures for a person to request a hearing on the application; and

(3) The address and telephone number at which interested persons may obtain a copy of the proposed approval or disapproval of an application for a discharge permit, modification or renewal.

I. In the event that the proposed approval or disapproval of an application for a discharge permit, modification or renewal is available for review within 30 days of deeming the application administratively complete, the department may combine the public notice procedures of Subsections D and G of this Section.

J. Following the public notice of the application and proposed approval or disapproval of an application for a discharge permit, modification or renewal, and prior to a final decision by the secretary, there shall be a period of at least 30 days during which written comments may be submitted to the department and/or a public hearing may be requested in writing. All comments will be considered by the department. Requests for a hearing shall be in writing and shall set forth the reasons why a hearing should be held. A public hearing shall be held if the secretary determines there is significant public interest. The department shall notify the applicant and any person requesting a hearing of the decision whether to hold a hearing and the reasons therefore in writing.

K. If a hearing is held, pursuant to Subsection J of this Section, notice of the hearing shall be given by the department at least 30 days prior to the hearing in accordance with Subsection G of this section. The notice shall include the information identified in Subsection H of this section in addition to the time and place of the hearing and a brief description of the hearing procedures. The hearing shall be held pursuant to Section 20.6.2.3110 NMAC.
[2-18-77, 12-24-87, 12-1-95, 11-15-96; 20.6.2.3108 NMAC - Rn, 20 NMAC 6.2.III.3108, 1-15-01; A, 12-1-01; A, 9-15-02]

20.6.2.3109 SECRETARY APPROVAL, DISAPPROVAL, MODIFICATION OR TERMINATION OF DISCHARGE PERMITS, AND REQUIREMENT FOR ABATEMENT PLANS:

A. The department shall evaluate the application for a discharge permit, modification or renewal based on information contained in the department's administrative record. The department may request from the discharger, either before or after the issuance of any public notice, additional information necessary for the evaluation of the application. The administrative record shall consist of the application, any additional information required by the department, any information submitted by the discharger or the general public, other information considered by the department, the proposed approval or disapproval of an application for a discharge permit, modification or renewal prepared pursuant to Subsection G of Section 20.6.2.3108 NMAC, and, if a public hearing

is held, all of the documents filed with the hearing clerk, all exhibits offered into evidence at the hearing, the written transcript or tape recording of the hearing, any hearing officer report, and any post hearing submissions.

B. The secretary shall, within 30 days after the administrative record is complete and all required information is available, approve, approve with conditions or disapprove the proposed discharge permit, modification or renewal based on the administrative record. The secretary shall give written notice of the action taken to the applicant or permittee and any other person who participated in the permitting action who requests a copy in writing.

C. Provided that the other requirements of this Part are met and the proposed discharge plan, modification or renewal demonstrates that neither a hazard to public health nor undue risk to property will result, the secretary shall approve the proposed discharge plan, modification or renewal if the following requirements are met:

(1) ground water that has a TDS concentration of 10,000 mg/l or less will not be affected by the discharge, or

(2) the person proposing to discharge demonstrates that approval of the proposed discharge plan, modification or renewal will not result in either concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use, except for contaminants in the water diverted as provided in Subsection D of Section 3109 NMAC, or

(3) the proposed discharge plan conforms to either Subsection a or b below and Subsection c below.

(a) Municipal, Other Domestic Discharges, and Discharges from Sewerage Systems Handling Only Animal Wastes. The effluent is entirely domestic, is entirely from a sewerage system handling only animal wastes or is from a municipality and conforms to the following:

(i) the discharge is from an impoundment or a leach field existing on February 18, 1977 which receives less than 10,000 gallons per day and the secretary has not found that the discharge may cause a hazard to public health; or

(ii) the discharger has demonstrated that the total nitrogen in effluent that enters the subsurface from a leach field or surface impoundment will not exceed 200 pounds per acre per year and that the effluent will meet the standards of Section 20.6.2.3103 NMAC except for nitrates and except for contaminants in the water diverted as provided in Subsection D of Section 20.6.2.3109 NMAC.; or

(iii) the total nitrogen in effluent that is applied to a crop which is harvested shall not exceed by more than 25 percent the maximum amount of nitrogen reasonably expected to be taken up by the crop and the effluent shall meet the standards of Section 20.6.2.3103 NMAC except for nitrates and except for contaminants in the water diverted as provided in Subsection D of Section 20.6.2.3109 NMAC.

(b) Discharges from industrial, mining or manufacturing operations.

(i) the discharger has demonstrated that the amount of effluent that enters the subsurface from a surface impoundment will not exceed 0.5 acre-feet per acre per year; or

(ii) the discharger has demonstrated that the total nitrogen in effluent that enters the subsurface from a leach field or surface impoundment shall not exceed 200 pounds per acre per year and the effluent shall meet the standards of Section 20.6.2.3103 NMAC except for nitrate and contaminants in the water diverted as provided in Subsection D of Section 20.6.2.3109 NMAC; or

(iii) the total nitrogen in effluent that is applied to a crop that is harvested shall not exceed by more than 25 percent the maximum amount of nitrogen reasonably expected to be taken up by the crop and the effluent shall meet the standards of Section 20.6.2.3103 NMAC except for nitrate and contaminants in the water diverted as provided in Subsection D of Section 20.6.2.3109 NMAC.

(c) All Discharges.

(i) the monitoring system proposed in the discharge plan includes adequate provision for sampling of effluent and adequate flow monitoring so that the amount being discharged onto or below the surface of the ground can be determined.

(ii) the monitoring data is reported to the secretary at a frequency determined by the secretary.

D. The secretary shall allow the following unless he determines that a hazard to public health may result:

(1) the weight of water contaminants in water diverted from any source may be discharged provided that the discharge is to the aquifer from which the water was diverted or to an aquifer containing a greater concentration of the contaminants than contained in the water diverted; and provided further that contaminants added as a result of the means of diversion shall not be considered to be part of the weight of water contaminants in the water diverted;

(2) the water contaminants leached from undisturbed natural materials may be discharged provided that:

(a) the contaminants were not leached as a product or incidentally pursuant to a solution mining operation; and

(b) the contaminants were not leached as a result of direct discharge into the vadose zone from municipal or industrial facilities used for the storage, disposal, or treatment of effluent;

(3) the water contaminants leached from undisturbed natural materials as a result of discharge into ground water from lakes used as a source of cooling water.

E. If data submitted pursuant to any monitoring requirements specified in the discharge permit or other information available to the secretary indicates that this Part is being or may be violated or that the standards of Section 20.6.2.3103 NMAC are being or will be exceeded, or a toxic pollutant as defined in Section 20.6.2.7 NMAC is present, in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate Streams in New Mexico are being or may be violated in surface water, due to the discharge, except as provided in Subsection D of Section 20.6.2.3109 NMAC:

(1) the secretary may require a discharge permit modification within the shortest reasonable time so as to achieve compliance with this Part and to provide that any exceeding of standards in ground water at any place of withdrawal for present or reasonably foreseeable future use, or in surface water, due to the discharge except as provided in Subsection D of Section 20.6.2.3109 NMAC. will be abated or prevented. If the secretary requires a discharge permit modification to abate water pollution:

(a) the abatement shall be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, Subsection C and E of Section 20.6.2.4106, Section 20.6.2.4107 and Section 20.6.2.4112 NMAC; and

(b) the discharger may request of the secretary approval to carry out the abatement under Sections 20.6.2.4000 through 20.6.2.4115 NMAC, in lieu of modifying the discharge permit. The discharger shall make the request in writing and shall include the reasons for the request.

(2) the secretary may terminate a discharge permit when a discharger fails to modify the permit in accordance with Paragraph 1 of Subsection E of this section.

(3) the secretary may require modification, or may terminate a discharge permit for a Class I non-hazardous waste injection well, a Class III well or other type of well specified in Subsection A of Section 20.6.2.5101 NMAC, pursuant to the requirements of Subsection I of Section 20.6.2.5101 NMAC.

F. If a discharge permit expires or is terminated for any reason and the standards of Section 20.6.2.3103 NMAC are being or will be exceeded, or a toxic pollutant as defined in Section 20.6.2.7 NMAC is present in ground water, or that the Water Quality Standards for Interstate and Intrastate Streams in New Mexico are being or may be violated, the secretary may require the discharger to submit an abatement plan pursuant to Sections 20.6.2.4104 and Subsection A of Section 20.6.2.4106 NMAC.

G. At the request of the discharger, a discharge permit may be modified in accordance with Sections 20.6.2.3000 through 20.6.2.3114 NMAC.

H. The secretary shall not approve a proposed discharge plan, modification, or renewal for:

(1) any discharge for which the discharger has not provided a site and method for flow measurement and sampling;

(2) any discharge that will cause any stream standard to be violated;

(3) the discharge of any water contaminant which may result in a hazard to public health; or

(4) a period longer than five years, except that for new discharges, the term of the discharge permit approval shall commence on the date the discharge begins, but in no event shall the term of the approval exceed seven years from the date the permit was issued. For those permits expiring more than five years from the date of issuance, the discharger shall give prior written notification to the department of the date the discharge is to commence. The term of the permit shall not exceed five years from that date.

[2-18-77, 6-26-80, 9-20-82, 7-2-81, 3-3-86, 12-1-95, 11-15-96; 20.6.2.3109 NMAC - Rn, 20 NMAC 6.2.III.3109, 1-15-01; A, 12-1-01; A, 9-15-02]

[Subsection 3109.A was added and subsequent subsections renumbered 11-15-96]

20.6.2.3110 PUBLIC HEARING PARTICIPATION:

A. The secretary may appoint an impartial hearing officer to preside over the hearing. The hearing officer may be a department employee other than an employee of the bureau evaluating the application.

B. The hearing shall be at a place in the area affected by the facility for which the discharge permit proposal, modification or renewal is sought.

C. Any person who wishes to present technical evidence at the hearing shall, no later than ten (10) days prior to the hearing, file with the department, and if filed by a person who is not the applicant, serve on the applicant, a statement of intent to present evidence. A person who does not file a statement of intent to present evidence may present a general non-technical statement in support of or in opposition to the proposed discharge plan, modification or renewal. The statement of intent to present technical evidence shall include:

(1) the name of the person filing the statement;

(2) indication of whether the person filing the statement supports or opposes the proposed discharge plan proposal, modification or renewal;

(3) the name of each witness;

(4) an estimate of the length of the direct testimony of each witness;

(5) a list of exhibits, if any, to be offered into evidence at the hearing; and

(6) a summary or outline of the anticipated direct testimony of each witness.

D. At the hearing, the New Mexico Rules of Civil Procedure, SCRA 1986, 1-001 to 1-102 and the New Mexico Rules of Evidence, SCRA 1986, 11-101 to 11-1102 shall not apply. At the discretion of the hearing officer, the rules may be used as guidance. Any reference to the Rules of Civil Procedure and the Rules of Evidence shall not be construed to extend or otherwise modify the authority and jurisdiction of the department under the Act.

E. The hearing officer shall conduct a fair and impartial proceeding, assure that the facts are fully elicited, and avoid delay. The hearing officer shall have authority to take all measures necessary for the maintenance of order and for the efficient, fair and impartial adjudication of issues arising in the proceedings.

F. At the hearing, all persons shall be given a reasonable chance to submit data, views or arguments orally or in writing and to examine witnesses testifying at the hearing.

G. Unless otherwise allowed by the hearing officer, testimony shall be presented in the following order:

(1) testimony by and examination of the applicant or permittee proving the facts relied upon to justify the proposed discharge plan, renewal or modification and meeting the requirements of the regulations;

(2) testimony by and examination of technical witnesses supporting or opposing approval, approval subject to conditions, or disapproval of the proposed discharge plan, renewal or modification, in any reasonable order;

(3) testimony by the general public; and

(4) rebuttal testimony, if appropriate.

H. The secretary may provide translation service at a public hearing conducted in a locale where the Department can reasonably expect to receive testimony from non-English speaking people.

I. If determined useful by the hearing officer, within thirty (30) days after conclusion of the hearing, or within such time as may be fixed by the hearing officer, the hearing officer may allow proposed findings of fact and conclusions of law and closing argument. All such submissions, if allowed, shall be in writing, shall be served upon the applicant or permittee, the department and all persons who request copies in advance in writing, and shall contain adequate references to the record and authorities relied on. No new evidence shall be presented unless specifically allowed by the hearing officer.

J. The department shall make an audio recording of the hearing. If the applicant or permittee, or a participant requests a written transcript or certified copy of the audio recording, the requestor shall pay the cost of the transcription or audio copying.

K. The hearing officer shall issue a report within thirty (30) days after the close of the hearing record. The report may include findings of fact, conclusions regarding all material issues of law or discretion, as well as reasons therefore. The report shall be served on the applicant or permittee, the department, and all persons who request copies in advance in writing. The report will be available for public inspection at the department's office in Santa Fe and at the field office closest to the point of the proposed discharge.

L. The secretary shall issue a decision in the matter no later than thirty (30) days of receipt of the hearing report. The decision shall be served and made available for inspection pursuant to Subsection K of this section.

M. Any person who testifies at the hearing or submits a written statement for the record will be considered a participant for purposes of Subsection 20.6.2.3113 NMAC and NMSA 1978, Section 74-6-5.N.

[2-18-77, 12-1-95, 11-15-96; 20.6.2.3110 NMAC - Rn, 20 NMAC 6.2.III.3110, 1-15-01; A, 12-1-01]

20.6.2.3111 TRANSFER OF DISCHARGE PERMIT: No purported transfer of any discharge permit shall be effective to create, alter or extinguish any right or responsibility of any person subject to this Part, unless the following transfer requirements are met:

A. Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferror shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written notification, together with a certification or other proof that such notification has in fact been received by the transferee.

B. Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit.

C. Until both ownership and possession of the facility have been transferred to the transferee, the transferor shall continue to be responsible for any discharge from the facility.

D. Upon assuming either ownership or possession of the facility, the transferee shall have the same rights and responsibilities under the discharge permit as were applicable to the transferor.

E. Nothing in this section or in this part shall be construed to relieve any person of responsibility or liability for any act or omission which occurred while that person owned, controlled or was in possession of the facility.

[2-18-77, 12-24-87, 12-1-95, 11-15-96; 20.6.2.3111 NMAC - Rn, 20 NMAC 6.2.III.3111, 1-15-01; A, 12-1-01]

20.6.2.3112 APPEALS OF SECRETARY'S DECISIONS:

A. If the secretary approves, approves subject to conditions, or disapproves a proposed discharge plan, renewal or modification, or modifies or terminates a discharge permit, appeal therefrom shall be in accordance with the provisions of Sections 74-6-5(N), (O) and (P), NMSA 1978. The filing of an appeal does not act as a stay of any provision of the Act, the regulations, or any permit issued pursuant to the Act, unless otherwise ordered by the secretary or the commission.

B. If the secretary determines that a discharger is not exempt from obtaining a discharge permit, or that the material to be discharged contains any toxic pollutant as defined in Section 20.6.2.1101 NMAC, which is not included in the numerical standards of Section 20.6.2.3103 NMAC, then the discharger may appeal such determination by filing with the commission's secretary a notice of appeal to the commission within thirty days after receiving the secretary's written determination, and the appeal therefrom and any action of the commission thereon shall be in accordance with the provisions of Sections 74-6-5(N),(O) and (P), NMSA 1978.

C. Proceedings before the commission shall be conducted in accordance with the commission’s adjudicatory procedures, 20 NMAC 1.3.

[2-18-77, 7-2-81, 12-1-95, 11-15-96; 20.6.2.3112 NMAC - Rn, 20 NMAC 6.2.III.3112, 1-15-01; A, 12-1-01]

20.6.2.3113 APPEALS OF COMMISSION DECISIONS: An applicant, permittee or a person who participated in a permitting action and who is adversely affected by such action may appeal the decision of the commission in accordance with the provis-ions of Section 74-6-7(A), NMSA 1978.

[2-18-77, 12-1-95, 11-15-96; 20.6.2.3113 NMAC - Rn, 20 NMAC 6.2.III.3113, 1-15-01; A, 12-1-01]

20.6.2.3114 FEES:

A. FEE AMOUNT AND SCHEDULE OF PAYMENT - Every facility submitting a discharge permit application for approval or renewal shall pay the permit fees specified in Table 1 of this section and shall pay a filing fee as specified in Table 2 of this section to the Water Quality Management Fund. Every facility submitting a request for temporary permission to discharge pursuant to Subsection B of Section 20.6.2.3106 NMAC, or financial assurance pursuant to Paragraph 11 of Subsection A of Section 20.6.2.3107 NMAC shall pay the fees specified in Table 2 of this section to the Water Quality Management Fund.

B. Facilities applying for discharge permits which are subsequently withdrawn or denied shall pay one-half of the permit fee at the time of denial or withdrawal.

C. Every facility submitting an application for discharge permit modification will be assessed a filing fee plus one-half of the permit fee. Applications for both renewal and modification will pay the filing fee plus the permit fee.

D. If the secretary requires a discharge permit modification as a component of an enforcement action, the facility shall pay the applicable discharge permit modification fee. If the secretary requires a discharge permit modification outside the context of an enforcement action, the facility shall not be assessed a fee.

E. The secretary may waive or reduce fees for discharge permit modifications or renewals which require little or no cost for investigation or issuance.

F. Facilities shall pay the filing fee at the time of discharge permit application. The filing fee is nonrefundable. The required permit fees may be paid in a single payment at the time of discharge permit approval or in equal installments over the term of the discharge permit. Installment payments shall be remitted yearly, with the first installment due on the date of discharge permit approval. Subsequent installment payments shall be remitted yearly thereafter. The discharge permit or discharge permit application review of any facility shall be suspended or terminated if the facility fails to submit an installment payment by its due date.

G. Every three years beginning in 2004, the department shall review the fees specified in Table 1 and 2 of this section and shall provide a report to the commission. The department shall revise the fees as necessary in accordance with Section 74-6-5(J), NMSA 1978.

20.6.2.3114 TABLE 1 (gpd=gallons per day)	**Permit Fee**
Agriculture <10,000 gpd	$ 1,150
Agriculture 10,000 to 49,999 gpd	$ 2,300
Agriculture 50,000 to 99,999 gpd	$ 3,450
Agriculture 100,000 gpd or greater	$ 4,600
Domestic Waste <10,000 gpd	$ 1,150
Domestic Waste 10,000 to 49,999 gpd	$ 2,300
Domestic Waste 50,000 to 99,999 gpd	$ 3,450
Domestic Waste 100,000 to 999,999 gpd	$ 4,600
Domestic Waste 1,000,000 to 9,999,999 gpd	$ 7,000
Domestic Waste 10,000,000 gpd or greater	$ 9,200
Food Processing <10,000 gpd	$ 1,150
Food Processing 10,000 to 49,999 gpd	$ 2,300
Food Processing 50,000 to 99,999 gpd	$ 3,450
Food Processing 100,000 to 999,999 gpd	$ 4,600
Food Processing 1,000,000 or greater	$ 7,000
Grease/Septage surface disposal <10,000 gpd	$ 1,725
Grease/Septage surface disposal 10,000 gpd or greater	$ 3,450
Industrial <10,000 gpd; or <10,000 yd^3 of contaminated solids	$ 1,725
Industrial 10,000 to 99,999 gpd; or 10,000 to 99,999 yd^3 of contaminated solids	$ 3,450
Industrial 100,000 to 999,999 gpd; or 100,000 to 999,999 yd^3 of contaminated solids or greater	$ 6,900
Industrial 1,000,000 gpd or greater; or 1,000,000 yd^3 of contaminated solids or greater	$10,350
Discharge of remediation system effluent - remediation plan approved under separate regulatory authority	$ 1,600
Mining dewatering	$ 3,250
Mining leach dump	$13,000
Mining tailings	$13,000
Mining waste rock	$13,000
Mining in-situ leach (except salt) and old stope leaching	$13,000
Mining other (mines with minimal environmental impact, post closure operation and maintenance, evaporation lagoons and land application at uranium mines)	$ 4,750
Gas Compressor Stations 0 to 1000 Horsepower	$ 400
Gas Compressor Stations >1001 Horsepower	$ 1,700
Gas Processing Plants	$ 4,000
Injection Wells: Class I	$ 4,500
Injection Wells: Class III and Geothermal	$ 1,700
Oil and Gas Service Companies	$ 1,700
Refineries	$ 8,400
Crude Pump Station	$ 1,200
Underground Gas Storage	$ 1,700
Abatement of ground water and vadose zone contamination at oil and gas Sites	$ 2,600
General permit	$ 600

20.6.2.3114 Table 2

	Fee Amount
Filing fee	$ 100
Temporary permission	$ 150
Financial assurance: approval of instrument	greater of $250 or .01%
Financial assurance: annual review	greater of $100 or .001%

[8-17-91, 12-1-95; 20.6.2.3114, Rn & A, 20 NMAC 6.2.III.3114, 01-01-01]

20.6.2.3115 - 20.6.2.3999: [RESERVED]
[12-1-95; 20.6.2.3115 - 20.6.2.3999 NMAC - Rn, 20 NMAC 6.2.III.3115-4100, 1-15-01]

20.6.2.4000 PREVENTION AND ABATEMENT OF WATER POLLUTION:
[12-1-95; 20.6.2.4000 NMAC - Rn, 20 NMAC 6.2.IV, 1-15-01]

20.6.2.4001 - 20.6.2.4100: [RESERVED]
[12-1-95; 20.6.2.4001 - 20.6.2.4100 NMAC - Rn, 20 NMAC 6.2.III.3115-4100, 1-15-01]

20.6.2.4101 PURPOSE:

A. The purposes of Sections 20.6.2.4000 through 20.6.2.4115 NMAC are to:

(1) Abate pollution of subsurface water so that all ground water of the State of New Mexico which has a background concentration of 10,000 mg/L or less TDS, is either remediated or protected for use as domestic and agricultural water supply, and to remediate or protect those segments of surface waters which are gaining because of subsurface-water inflow, for uses designated in the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC); and

(2) Abate surface-water pollution so that all surface waters of the State of New Mexico are remediated or protected for designated or attainable uses as defined in the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC).

B. If the background concentration of any water contaminant exceeds the standard or requirement of Subsections A, B and C of Section 20.6.2.4103 NMAC, pollution shall be abated by the responsible person to the background concentration.

C. The standards and requirements set forth in Section 20.6.2.4103 NMAC are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations.
[12-1-95; 20.6.2.4101 NMAC - Rn, 20 NMAC 6.2.IV.4101, 1-15-01]

20.6.2.4102: [RESERVED]
[12-1-95; 20.6.2.4102 NMAC - Rn, 20 NMAC 6.2.IV.4102, 1-15-01]

20.6.2.4103 ABATEMENT STANDARDS AND REQUIREMENTS:

A. The vadose zone shall be abated so that water contaminants in the vadose zone shall not be capable of contaminating ground water or surface water, in excess of the standards in Subsections B and C below, through leaching, percolation or as the water table elevation fluctuates.

B. Ground-water pollution at any place of withdrawal for present or reasonably foreseeable future use, where the TDS concentration is 10,000 mg/L or less, shall be abated to conform to the following standards:

(1) toxic pollutant(s) as defined in Section 20.6.2.1101 NMAC shall not be present; and

(2) the standards of Section 20.6.2.3103 NMAC shall be met.

C. Surface-water pollution shall be abated to conform to the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC).

D. Subsurface-water and surface-water abatement shall not be considered complete until a minimum of eight (8) consecutive quarterly samples from all compliance sampling stations approved by the secretary meet the abatement standards of Subsections A, B and C of this section. Abatement of water contaminants measured in solid-

matrix samples of the vadose zone shall be considered complete after one-time sampling from compliance stations approved by the secretary.

E. Technical Infeasibility.

(1) If any responsible person is unable to fully meet the abatement standards set forth in Subsections A and B of this section using commercially accepted abatement technology pursuant to an approved abatement plan, he may propose that abatement standards compliance is technically infeasible. Technical infeasibility proposals involving the use of experimental abatement technology shall be considered at the discretion of the secretary. Technical infeasibility may be demonstrated by a statistically valid extrapolation of the decrease in concentration(s) of any water contaminant(s) over the remainder of a twenty (20) year period, such that projected future reductions during that time would be less than 20 percent of the concentration(s) at the time technical infeasibility is proposed. A statistically valid decrease cannot be demonstrated by fewer than eight (8) consecutive quarters. The technical infeasibility proposal shall include a substitute abatement standard(s) for those contaminants that is/are technically feasible. Abatement standards for all other water contaminants not demonstrated to be technically infeasible shall be met.

(2) In no event shall a proposed technical infeasibility demonstration be approved by the secretary for any water contaminant if its concentration is greater than 200 percent of the abatement standard for that contaminant.

(3) If the secretary cannot approve any or all portions of a proposed technical infeasibility demonstration because the water contaminant concentration(s) is/are greater than 200 percent of the abatement standard(s) for each contaminant, the responsible person may further pursue the issue of technical infeasibility by filing a petition with the commission seeking:

(a) approval of alternate abatement standard(s) pursuant to Subsection F of this section; or

(b) granting of a variance pursuant to Section 20.6.2.1210 NMAC.

F. Alternative Abatement Standards.

(1) At any time during or after the submission of a Stage 2 abatement plan, the responsible person may file a petition seeking approval of alternative abatement standard(s) for the standards set forth in Subsections A and B of this section. The commission may approve alternative abatement standard(s) if the petitioner demonstrates that:

(a) compliance with the abatement standard(s) is/are not feasible, by the maximum use of technology within the economic capability of the responsible person; OR there is no reasonable relationship between the economic and social costs and benefits (including attainment of the standard(s) set forth in Section 20.6.2.4103 NMAC) to be obtained;

(b) the proposed alternative abatement standard(s) is/are technically achievable and cost-benefit justifiable; and

(c) compliance with the proposed alternative abatement standard(s) will not create a present or future hazard to public health or undue damage to property.

(2) The petition shall be in writing, filed with the secretary. The petition shall specify, in addition to the information required by Subsection A of Section 20.6.2.1210 NMAC, the water contaminant(s) for which alternative standard(s) is/are proposed, the alternative standard(s) proposed, the three-dimensional body of water pollution for which approval is sought, and the extent to which the abatement standard(s) set forth in Section 20.6.2.4103 NMAC is/are now, and will in the future be, violated. The petition may include a transport, fate and risk assessment in accordance with accepted methods, and other information as the petitioner deems necessary to support the petition.

(3) The commission shall review a petition for alternative abatement standards in accordance with the procedures for review of a variance petition provided in the commission's adjudicatory procedures, 20.1.3 NMAC. [12-1-95, 11-15-96; 20.6.2.4103 NMAC - Rn, 20 NMAC 6.2.IV.4103, 1-15-01]

20.6.2.4104 ABATEMENT PLAN REQUIRED:

A. Unless otherwise provided by this Part, all responsible persons who are abating, or who are required to abate, water pollution in excess of the standards and requirements set forth in Section 20.6.2.4103 NMAC of this Part shall do so pursuant to an abatement plan approved by the secretary. When an abatement plan has been approved, all actions leading to and including abatement shall be consistent with the terms and conditions of the abatement plan.

B. In the event of a transfer of the ownership, control or possession of a facility for which an abatement plan is required or approved, where the transferor is a responsible person, the transferee also shall be considered a responsible person for the duration of the abatement plan, and may jointly share the responsibility to

conduct the actions required by this Part with other responsible persons. The transferor shall notify the transferee in writing, at least thirty (30) days prior to the transfer, that an abatement plan has been required or approved for the facility, and shall deliver or send by certified mail to the secretary a copy of such notification together with a certificate or other proof that such notification has in fact been received by the transferee. The transferor and transferee may agree to a designated responsible person who shall assume the responsibility to conduct the actions required by this Part. The responsible persons shall notify the secretary in writing if a designated responsible person is agreed upon. If the secretary determines that the designated responsible person has failed to conduct the actions required by this Part, the secretary shall notify all responsible persons of this failure in writing and allow them thirty (30) days, or longer for good cause shown, to conduct the required actions before issuing a compliance order pursuant to Section 20.6.2.1220 NMAC.

C. If the source of the water pollution to be abated is a facility that operated under a discharge plan, the secretary may require the responsible person(s) to submit a financial assurance plan which covers the estimated costs to conduct the actions required by the abatement plan. Such a financial assurance plan shall be consistent with any financial assurance requirements adopted by the commission.

[12-1-95; 20.6.2.4104 NMAC - Rn, 20 NMAC 6.2.IV.4104, 1-15-01]

20.6.2.4105 EXEMPTIONS FROM ABATEMENT PLAN REQUIREMENTS:

A. Except as provided in Subsection B of this Section, Sections 20.6.2.4104 and 20.6.2.4106 NMAC do not apply to a person who is abating water pollution:

(1) from a storage tank, under the authority of the Petroleum Storage Tank Regulations (20.5 NMAC) adopted by the New Mexico Environmental Improvement Board, or in accordance with the New Mexico Ground Water Protection Act;

(2) under the authority of the U.S. Environmental Protection Agency pursuant to either the federal Comprehensive Environmental Response, Compensation and Liability Act, and amendments, or the Resource Conservation and Recovery Act;

(3) under the authority of the secretary pursuant to the Hazardous Waste Management Regulations (20.4.1 NMAC) adopted by the New Mexico Environmental Improvement Board;

(4) under the authority of the U.S. Nuclear Regulatory Commission or the U.S. Department of Energy pursuant to the Atomic Energy Act;

(5) from a solid waste landfill, under the authority of the secretary pursuant to the Solid Waste Management Regulations (20.9.1 NMAC) adopted by the N.M. Environmental Improvement Board;

(6) under the authority of a ground-water discharge plan approved by the secretary, provided that such abatement is consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, Subsections C and E of Section 20.6.2.4106, Sections 20.6.2.4107 and 20.6.2.4112 NMAC;

(7) under the authority of a Letter of Understanding, Settlement Agreement or Administrative Order on Consent signed by the secretary prior to December 1, 1995, provided that abatement is being performed in full compliance with the terms of the Letter of Understanding, Settlement Agreement or Administrative Order on Consent; and

(8) on an emergency basis, or while abatement plan approval is pending, or in a manner that will result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC within one hundred and eighty (180) days after notice is required to be given pursuant to Paragraph (1) of Subsection A of Section 20.6.2.1203 NMAC, provided that the delegated agency does not object to the abatement action pursuant to Paragraphs (6) and (7) of Subsection A of Section 20.6.2.1203 NMAC.

B. If the secretary determines that abatement of water pollution subject to Subsection A of this section will not meet the standards of Subsections B and C of Section 20.6.2.4103 NMAC, or that additional action is necessary to protect health, welfare, environment or property, the secretary may notify a responsible person, by certified mail, to submit an abatement plan pursuant to Section 20.6.2.4104 and Subsection A of Section 20.6.2.4106 NMAC. The notification shall state the reasons for the secretary's determination. In any appeal of the secretary's determination under this Section, the secretary shall have the burden of proof.

C. Sections 20.6.2.4104 and 20.6.2.4106 NMAC do not apply to the following activities:

(1) Discharges subject to an effective and enforceable National Pollutant Discharge Elimination System (NPDES) permit;

(2) Land application of ground water contaminated with nitrogen originating from human or animal waste and not otherwise exceeding the standards of Subsection A of Section 20.6.2.3103 NMAC and not containing a toxic pollutant as defined in Section 20.6.2.1101 NMAC, provided that it is done in compliance with a discharge plan approved by the secretary;

(3) Abatement of water pollution resulting from the withdrawal and decontamination or blending of polluted water for use as a public or private drinking-water supply, by any person other than a responsible person, unless the secretary determines that a hazard to public health may result; and

(4) Reasonable operation and maintenance of irrigation and flood control facilities.

[12-1-95; 20.6.2.4105 NMAC - Rn, 20 NMAC 6.2.IV.4105, 1-15-01; A, 10/15/03]

20.6.2.4106 ABATEMENT PLAN PROPOSAL:

A. Except as provided for in Section 20.6.2.4105 NMAC, a responsible person shall, within sixty (60) days of receipt of written notice from the secretary that an abatement plan is required, submit an abatement plan proposal to the secretary for approval. For good cause shown, the secretary may allow for a total of one hundred and twenty (120) days to prepare and submit the abatement plan proposal.

B. Voluntary Abatement:

(1) Any person wishing to abate water pollution in excess of the standards and requirements set forth in Section 20.6.2.4103 NMAC may submit a Stage 1 abatement plan proposal to the secretary for approval. Following approval by the secretary of a final site investigation report prepared pursuant to Stage 1 of an abatement plan, any person may submit a Stage 2 abatement plan proposal to the secretary for approval.

(2) Following approval of a Stage 1 or Stage 2 abatement plan proposal under Paragraph (1) of Subsection B of this Section, the person submitting the approved plan shall be a responsible person under Sections 20.6.2.4000 through 20.6.2.4115 NMAC for the purpose of performing the approved Stage 1 or Stage 2 abatement plan. Nothing in this Section shall preclude the secretary from applying Paragraph (9) of Subsection A of Section 20.6.2.1203 NMAC to a responsible person if applicable.

C. Stage 1 Abatement Plan: The purpose of Stage 1 of the abatement plan shall be to design and conduct a site investigation that will adequately define site conditions, and provide the data necessary to select and design an effective abatement option. Stage 1 of the abatement plan may include, but not necessarily be limited to, the following information depending on the media affected, and as needed to select and implement an expeditious abatement option:

(1) Descriptions of the site, including a site map, and of site history including the nature of the discharge that caused the water pollution, and a summary of previous investigations;

(2) Site investigation workplan to define:

(a) site geology and hydrogeology, the vertical and horizontal extent and magnitude of vadose-zone and ground-water contamination, subsurface hydraulic parameters including hydraulic conductivity, transmissivity, storativity, and rate and direction of contaminant migration, inventory of water wells inside and within one (1) mile from the perimeter of the three-dimensional body where the standards set forth in Subsection B of Section 20.6.2.4103 NMAC are exceeded, and location and number of such wells actually or potentially affected by the pollution; and

(b) surface-water hydrology, seasonal stream flow characteristics, ground-water/surface-water relationships, the vertical and horizontal extent and magnitude of contamination and impacts to surface water and stream sediments. The magnitude of contamination and impacts on surface water may be, in part, defined by conducting a biological assessment of fish, benthic macroinvertebrates and other wildlife populations. Seasonal variations should be accounted for when conducting these assessments.

(3) Monitoring program, including sampling stations and frequencies, for the duration of the abatement plan that may be modified, after approval by the secretary, as additional sampling stations are created;

(4) Quality assurance plan, consistent with the sampling and analytical techniques listed in Subsection B of Section 20.6.2.3107 NMAC and with Section 20.6.4.10 NMAC of the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC), for all work to be conducted pursuant to the abatement plan;

(5) Site health and safety plan for all work to be performed pursuant to the abatement plan;

(6) A schedule for all Stage 1 abatement plan activities, including the submission of summary quarterly progress reports, and the submission, for approval by the secretary, of a detailed final site investigation report; and

(7) Any additional information that may be required to design and perform an adequate site investigation.

D. Stage 2 Abatement Plan: Any responsible person shall submit a Stage 2 abatement plan proposal to the secretary for approval within sixty (60) days, or up to one hundred and twenty (120) days for good cause shown, after approval by the secretary of the final site investigation report prepared pursuant to Stage 1 of the abatement plan.

E. The purpose of Stage 2 of the abatement plan shall be to select and design, if necessary, an abatement option that, when implemented, will result in attainment of the abatement standards and requirements set forth in Section 20.6.2.4103 NMAC, including post-closure maintenance activities. Stage 2 of the abatement plan should include, at a minimum, the following information:

(1) Brief description of the current situation at the site;

(2) Development and assessment of abatement options;

(3) Description, justification and design, if necessary, of preferred abatement option;

(4) Modification, if necessary, of the monitoring program approved pursuant to Stage 1 of the abatement plan, including the designation of pre and post abatement-completion sampling stations and sampling frequencies to be used to demonstrate compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC;

(5) Site maintenance activities, if needed, proposed to be performed after termination of abatement activities;

(6) A schedule for the duration of abatement activities, including the submission of summary quarterly progress reports;

(7) A public notification proposal designed to satisfy the requirements of Subsections B and C of Sections 20.6.2.4108 and 20.6.2.4108 NMAC; and

(8) Any additional information that may be reasonably required to select, describe, justify and design an effective abatement option.

[12-1-95; 20.6.2.4106 NMAC - Rn, 20 NMAC 6.2.IV.4106, 1-15-01]

20.6.2.4107 OTHER REQUIREMENTS:

A. Any responsible person shall allow any authorized representative of the secretary to:

(1) upon presentation of proper credentials, enter the facility at reasonable times;

(2) inspect and copy records required by an abatement plan;

(3) inspect any treatment works, monitoring and analytical equipment;

(4) sample any wastes, ground water, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapor;

(5) use monitoring systems and wells under such responsible person's control in order to collect samples of any media listed in Paragraph (4) of Subsection A of this section; and

(6) gain access to off-site property not owned or controlled by such responsible person, but accessible to such responsible person through a third-party access agreement, provided that it is allowed by the agreement.

B. Any responsible person shall provide the secretary, or a representative of the secretary, with at least four (4) working days advance notice of any sampling to be performed pursuant to an abatement plan, or any well plugging, abandonment or destruction at any facility where an abatement plan has been required.

C. Any responsible person wishing to plug, abandon or destroy a monitoring or water supply well within the perimeter of the 3-dimensional body where the standards set forth in Subsection B of Section 20.6.2.4103 NMAC are exceeded, at any facility where an abatement plan has been required, shall propose such action by certified mail to the secretary for approval, unless such approval is required from the State Engineer. The proposed action shall be designed to prevent water pollution that could result from water contaminants migrating through the well or borehole. The proposed action shall not take place without written approval from the secretary, unless written approval or disapproval is not received by the responsible person within thirty (30) days of the date of receipt of the proposal.

[12-1-95; 20.6.2.4107 NMAC - Rn, 20 NMAC 6.2.IV.4107, 1-15-01]

20.6.2.4108 PUBLIC NOTICE AND PARTICIPATION:

A. Within thirty (30) days of filing of a Stage 1 abatement plan proposal, the secretary shall issue a news release summarizing:

(1) the source, extent, magnitude and significance of water pollution, as known at that time;

(2) the proposed Stage 1 abatement plan investigation; and

(3) the name and telephone number of an agency contact who can provide additional information.

B. Within thirty (30) days of filing of a Stage 2 abatement plan proposal, or proposed significant modification of Stage 2 of the abatement plan, any responsible person shall provide to the secretary proof of public notice of the abatement plan to the following persons:

(1) the public, who shall be notified through publication of a notice in newspapers of general circulation in this state and in the county where the abatement will occur and, in areas with large percentages of non-

English speaking people, through the mailing of the public notice in English to a bilingual radio station serving the area where the abatement will occur with a request that it be aired as a public service announcement in the predominant non-English language of the area;

(2) those persons, as identified by the secretary, who have requested notification, who shall be notified by mail;

(3) the New Mexico Trustee for Natural Resources, and any other local, state or federal governmental agency affected, as identified by the secretary, which shall be notified by certified mail;

(4) owners and residents of surface property located inside, and within one (1) mile from, the perimeter of the geographic area where the standards and requirements set forth in Section 20.6.2.4103 NMAC are exceeded who shall be notified by a means approved by the secretary; and

(5) the Governor or President of each Indian Tribe, Pueblo or Nation within the state of New Mexico, as identified by the secretary, who shall be notified by mail.

C. The public notice shall include, as approved in advance by the secretary:

(1) name and address of the responsible person;

(2) location of the proposed abatement;

(3) brief description of the nature of the water pollution and of the proposed abatement action;

. (4) brief description of the procedures followed by the secretary in making a final determination;

(5) statement on the comment period;

(6) statement that a copy of the abatement plan can be viewed by the public at the department's main office or at the department field office for the area in which the discharge occurred;

(7) statement that written comments on the abatement plan, and requests for a public meeting or hearing that include the reasons why a meeting or hearing should be held, will be accepted for consideration if sent to the secretary within sixty (60) days after the determination of administrative completeness; and

(8) address and phone number at which interested persons may obtain further information.

D. A public meeting or hearing may be held if the secretary determines there is significant public interest. Notice of the time and place of the meeting or hearing shall be given at least thirty (30) days prior to the meeting or hearing pursuant to Subsections A and B above. The secretary may appoint a meeting facilitator or hearing officer. The secretary may require the responsible person to prepare for approval by the secretary a fact sheet, to be distributed at the public meeting or hearing and afterwards upon request, written in English and Spanish, describing site history, the nature and extent of water pollution, and the proposed abatement. The record of the meeting or hearing, requested under this Section, consists of a tape recorded or transcribed session, provided that the cost of a court recorder shall be paid by the person requesting the transcript. If requested by the secretary, the responsible person will provide a translator approved by the secretary at a public meeting or hearing conducted in a locale where testimony from non-English speaking people can reasonably be expected. At the meeting or hearing, all interested persons shall be given a reasonable chance to submit data, views or arguments orally or in writing, and to ask questions of the secretary or the secretary's designee and of the responsible person, or their authorized representatives.

[12-1-95; 20.6.2.4108 NMAC - Rn, 20 NMAC 6.2.IV.4108, 1-15-01]

20.6.2.4109 SECRETARY APPROVAL OR NOTICE OF DEFICIENCY OF SUBMITTALS:

A. The secretary shall, within sixty (60) days of receiving a Stage 1 abatement plan proposal, a site investigation report, a technical infeasibility demonstration, or an abatement completion report, approve the document, or notify the responsible person of the document's deficiency, based upon the information available.

B. The secretary shall, within thirty (30) days of receiving a fact sheet, approve or notify the responsible person of the document's deficiency, based upon the information available.

C. If no public meeting or hearing is held pursuant to Subsection D of Section 20.6.2.4108 NMAC, then the secretary shall, within ninety (90) days of receiving a Stage 2 abatement plan proposal, approve the plan, or notify the responsible person of the plan's deficiency, based upon the information available.

D. If a public meeting or hearing is held pursuant to Subsection D of Section 20.6.2.4108, then the secretary shall, within sixty (60) days of receipt of all required information, approve Stage 2 of the abatement plan proposal, or notify the responsible person of the plan's deficiency, based upon the information contained in the plan and information submitted at the meeting or hearing.

E. If the secretary notifies a responsible person of any deficiencies in a site investigation report, or in a Stage 1 or Stage 2 abatement plan proposal, the responsible person shall submit a modified document to cure the deficiencies specified by the secretary within thirty (30) days of receipt of the notice of deficiency. The responsible person shall be in violation of Sections 20.6.2.4000 through 20.6.2.4115 NMAC if he fails to submit a modified

document within the required time, or if the modified document does not make a good faith effort to cure the deficiencies specified by the secretary.

F. Provided that the other requirements of this Part are met and provided further that Stage 2 of the abatement plan, if implemented, will result in the standards and requirements set forth in Section 20.6.2.4103 NMAC being met within a schedule that is reasonable given the particular circumstances of the site, the secretary shall approve the plan.

[12-1-95; 20.6.2.4109 NMAC - Rn, 20 NMAC 6.2.IV.4109, 1-15-01]

20.6.2.4110 INVESTIGATION AND ABATEMENT: Any responsible person who receives approval for Stage 1 and/or Stage 2 of an abatement plan shall conduct all investigation, abatement, monitoring and reporting activity in full compliance with Sections 20.6.2.4000 through 20.6.2.4115 NMAC and according to the terms and schedules contained in the approved abatement plans.

[12-1-95; 20.6.2.4110 NMAC - Rn, 20 NMAC 6.2.IV.4110, 1-15-01]

20.6.2.4111 ABATEMENT PLAN MODIFICATION:

A. Any approved abatement plan may be modified, at the written request of the responsible person, in accordance with Sections 20.6.2.4000 through 20.6.2.4115 NMAC, and with written approval of the secretary.

B. If data submitted pursuant to any monitoring requirements specified in the approved abatement plan or other information available to the secretary indicates that the abatement action is ineffective, or is creating unreasonable injury to or interference with health, welfare, environment or property, the secretary may require a responsible person to modify an abatement plan within the shortest reasonable time so as to effectively abate water pollution which exceeds the standards and requirements set forth in Section 20.6.2.4103 NMAC, and to abate and prevent unreasonable injury to or interference with health, welfare, environment or property.

[12-1-95; 20.6.2.4111 NMAC - Rn, 20 NMAC 6.2.IV.4111, 1-15-01]

20.6.2.4112 COMPLETION AND TERMINATION:

A. Abatement shall be considered complete when the standards and requirements set forth in Section 20.6.2.4103 NMAC are met. At that time, the responsible person shall submit an abatement completion report, documenting compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC, to the secretary for approval. The abatement completion report also shall propose any changes to long term monitoring and site maintenance activities, if needed, to be performed after termination of the abatement plan.

B. Provided that the other requirements of this Part are met and provided further that the standards and requirements set forth in Section 20.6.2.4103 NMAC have been met, the secretary shall approve the abatement completion report. When the secretary approves the abatement completion report, he shall also notify the responsible person in writing that the abatement plan is terminated.

[12-1-95; 20.6.2.4112 NMAC - Rn, 20 NMAC 6.2.IV.4112, 1-15-01]

20.6.2.4113 DISPUTE RESOLUTION: In the event of any technical dispute regarding the requirements of Paragraph (9) of Subsection A and Subsection E of Section 20.6.2.1203, Sections 20.6.2.4103, 20.6.2.4105, 20.6.2.4106, 20.6.2.4111 or 20.6.2.4112 NMAC, including notices of deficiency, the responsible person may notify the secretary by certified mail that a dispute has arisen, and desires to invoke the dispute resolution provisions of this Section, provided that such notification must be made within thirty (30) days after receipt by the responsible person of the decision of the secretary that causes the dispute. Upon such notification, all deadlines affected by the technical dispute shall be extended for a thirty (30) day negotiation period, or for a maximum of sixty (60) days if approved by the secretary for good cause shown. During this negotiation period, the secretary or his/her designee and the responsible person shall meet at least once. Such meeting(s) may be facilitated by a mutually agreed upon third party, but the third party shall assume no power or authority granted or delegated to the secretary by the Water Quality Act or by the commission. If the dispute remains unresolved after the negotiation period, the decision of secretary shall be final.

[12-1-95; 20.6.2.4113 NMAC - Rn, 20 NMAC 6.2.IV.4113, 1-15-01]

20.6.2.4114 APPEALS FROM SECRETARY'S DECISIONS:

A. If the secretary determines that an abatement plan is required pursuant to Paragraph (9) of Subsection A of Section 20.6.2.1203, Paragraph (4) of Subsection E of Section 20.6.2.3109, or Subsection B of Section 20.6.2.4105 NMAC, approves or provides notice of deficiency of a proposed abatement plan, technical infeasibility demonstration or abatement completion report, or modifies or terminates an approved abatement plan,

he shall provide written notice of such action by certified mail to the responsible person and any person who participated in the action.

B. Any person who participated in the action before the secretary and who is adversely affected by the action listed in Subsection A of this section may file a petition requesting a hearing before the commission.

C. The petition shall be made in writing to the commission and shall be filed with the commission's secretary within thirty (30) days after receiving notice of the secretary's action. The petition shall specify the portions of the action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered to the secretary, and to the applicant or permittee if the petitioner is not the applicant or permittee, and attach a copy of the action for which review is sought. Unless a timely petition for hearing is made, the secretary's action is final.

D. The proceedings before the commission shall be conducted as provided in the commission's adjudicatory procedures, 20 NMAC 1.3.

E. The cost of the court reporter for the hearing shall be paid by the petitioner.

F. The appeal provisions do not relieve the owner, operator or responsible person of their obligations to comply with any federal or state laws or regulations.

[12-1-95, 11-15-96; 20.6.2.4114 NMAC - Rn, 20 NMAC 6.2.IV.4114, 1-15-01]

20.6.2.4115 COURT REVIEW OF COMMISSION DECISIONS: Court review of commission decisions shall be as provided by law.

[12-1-95; 20.6.2.4115 NMAC - Rn, 20 NMAC 6.2.IV.4115, 1-15-01]

20.6.2.4116 - 20.6.2.4999: [RESERVED]

[12-1-95; 20.6.2.4116 - 20.6.2.4999 NMAC - Rn, 20 NMAC 6.2.IV.4116-5100, 1-15-01]

20.6.2.5000 UNDERGROUND INJECTION CONTROL:

[12-1-95; 20.6.2.5000 NMAC - Rn, 20 NMAC 6.2.V, 1-15-01]

20.6.2.5001 PURPOSE: The purpose of Sections 20.6.2.5000 through 20.6.2.5299 NMAC controlling discharges from underground injection control wells is to protect all ground water of the State of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow for uses designated in the New Mexico Water Quality Standards. Sections 20.6.2.5000 through 20.6.2.5299 NMAC include notification requirements, and requirements for discharges directly into the subsurface through underground injection control wells.

[20.6.2.5001 NMAC - N, 12-1-01]

20.6.2.5002 UNDERGROUND INJECTION CONTROL WELL CLASSIFICATIONS:

A. Underground injection control wells include the following.

(1) Any dug hole or well that is deeper than its largest surface dimension, where the principal function of the hole is emplacement of fluids.

(2) Any septic tank or cesspool used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, to dispose of fluids containing hazardous waste.

(3) Any subsurface distribution system, cesspool or other well which is used for the injection of wastes.

B. Underground injection control wells are classified as follows:

(1) Class I wells inject fluids beneath the lowermost formation that contains 10,000 milligrams per liter or less TDS. Class I hazardous or radioactive waste injection wells inject fluids containing any hazardous or radioactive waste as defined in 74-4-3 and 74-4A-4 NMSA 1978, including any combination of these wastes. Class I non-hazardous waste injection wells inject non-hazardous and non-radioactive fluids, and they inject naturally-occurring radioactive material (NORM) as provided by Section 20.3.1.1407 NMAC.

(2) Class II wells inject fluids associated with oil and gas recovery.

(3) Class III wells inject fluids for extraction of minerals or other natural resources, including sulfur, uranium, metals, salts or potash by in situ extraction. This classification includes only in situ production from ore bodies that have not been conventionally mined. Solution mining of conventional mines such as stopes leaching is included in Class V.

(4) Class IV wells inject fluids containing any radioactive or hazardous waste as defined in 74-4-3 and 74-4A-4 NMSA 1978, including any combination of these wastes, above or into a formation that contains 10,000 mg/l or less TDS.

(5) Class V wells inject a variety of fluids and are those wells not included in Class I, II, III or IV. Types of Class V wells include, but are not limited to, the following:

(a) Domestic liquid waste injection wells

(i) domestic liquid waste disposal wells used to inject greater than 2,000 gallons per day of treated domestic liquid waste through subsurface fluid distribution systems or vertical wells;

(ii) septic system wells used to emplace greater than 2,000 gallons per day of domestic liquid waste into the subsurface, which are comprised of a septic tank and subsurface fluid distribution system;

(iii) large capacity cesspools used to inject greater than 2,000 gallons per day of domestic liquid waste, including drywells that sometimes have an open bottom and/or perforated sides.

(b) Industrial waste injection wells

(i) air conditioning return flow wells used to return to the supply aquifer the water used for heating or cooling;

(ii) dry wells used for the injection of wastes into a subsurface formation;

(iii) geothermal energy injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electrical power;

(iv) stormwater drainage wells used to inject storm runoff from the surface into the subsurface;

(v) motor vehicle waste disposal wells that receive or have received fluids from vehicular repair or maintenance activities;

(vi) car wash waste disposal wells used to inject fluids from motor vehicle washing activities.

(c) Mining injection wells

(i) stopes leaching wells used for solution mining of conventional mines;

(ii) brine injection wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts;

(iii) backfill wells used to inject a mixture of water and sand, mill tailings or other solids into mined out portions of subsurface mines whether water injected is a radioactive waste or not;

(iv) injection wells used for in situ recovery of lignite, coal, tar sands, and oil shale.

(d) Ground water management injection wells

(i) ground water remediation injection wells used to inject contaminated ground water that has been treated to ground water quality standards;

(ii) in situ ground water remediation wells used to inject a fluid that facilitates vadose zone or ground water remediation.

(iii) recharge wells used to replenish the water in an aquifer, including use to reclaim or improve the quality of existing ground water;

(iv) barrier wells used to inject fluids into ground water to prevent the intrusion of saline or contaminated water into ground water of better quality;

(v) subsidence control wells (not used for purposes of oil or natural gas production) used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water;

(vi) wells used in experimental technologies.

(e) Agricultural injection wells - drainage wells used to inject fluids into ground water to prevent the intrusion of saline or contaminated water into ground water of better quality.

[20.6.2.5002 NMAC - N, 12-1-01]

20.6.2.5003 NOTIFICATION AND GENERAL OPERATION REQUIREMENTS FOR ALL UNDERGROUND INJECTION CONTROL WELLS: All operators of underground injection control wells, except those wells regulated under the Oil and Gas Act, the Geothermal Resources Conservation Act, and the Surface Mining Act, shall:

A. For existing underground injection control wells, submit to the secretary the information enumerated in Subsection C of Section 20.6.2.1201 NMAC of this Part; provided, however, that if the information in Subsection C of Section 20.6.2.1201 NMAC has been previously submitted to the secretary and acknowledged by him, the information need not be resubmitted; and

B. Operate and continue to operate in conformance with Sections 20.6.2.1 through 20.6.2.5299 NMAC.

C. For new underground injection control wells, submit to the secretary the information enumerated in Subsection C of Section 20.6.2.1201 NMAC of this Part at least 120 days prior to well construction.
[9-20-82, 12-1-95; 20.6.2.5300 NMAC - Rn, 20 NMAC 6.2.V.5300, 1-15-01; 20.6.2.5003 NMAC - Rn, 20.6.2.5300 NMAC, 12-1-01; A, 12-1-01; A, 9-15-02]

20.6.2.5004 PROHIBITED UNDERGROUND INJECTION CONTROL ACTIVITIES AND WELLS:

A. No person shall perform the following underground injection activities nor operate the following underground injection control wells:

(1) The injection of fluids into a motor vehicle waste disposal well is prohibited. Motor vehicle waste disposal wells are prohibited. Any person operating a new motor vehicle waste disposal well (for which construction began after April 5, 2000) must close the well immediately. Any person operating an existing motor vehicle waste disposal well must cease injection immediately and must close the well by December 31, 2002, except as provided in this Subsection.

(2) The injection of fluids into a large capacity cesspool is prohibited. Large capacity cesspools are prohibited. Any person operating a new large capacity cesspool (for which construction began after April 5, 2000) must close the cesspool immediately. Any person operating an existing large capacity cesspool must cease injection immediately and must close the cesspool by December 31, 2002.

(3) The injection of any hazardous or radioactive waste into a well is prohibited, except as provided in this Subsection.

(a) Class I hazardous or radioactive waste injection wells are prohibited, except naturally-occurring radioactive material (NORM) regulated under Section 20.3.1.1407 NMAC is allowed as a Class I non-hazardous waste injection well pursuant to Subsection B (1) of Section 20.6.2.5002 NMAC;

(b) Class IV wells are prohibited, except for wells re-injecting treated ground water into the same formation from which it was drawn as part of a removal or remedial action if the injection has prior approval from the Environmental Protection Agency (EPA) or the department under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Resource Conservation and Recovery Act (RCRA).

(4) Barrier wells, drainage wells, recharge wells, return flow wells, and motor vehicle waste disposal wells are prohibited, except when the discharger can demonstrate that the discharge will not adversely affect the health of persons, and

(a) the injection fluid does not contain a contaminant which may cause an exceedance at any place of present or reasonable foreseeable future use of any primary state drinking water maximum contaminant level as specified in the water supply regulations, "Drinking Water" (20 NMAC 7.1) [20.7.10 NMAC], adopted by the Environmental Improvement Board under the Environmental Improvement Act or the standard of Section 20.6.2.3103 NMAC, whichever is more stringent;

(b) the discharger can demonstrate that the injection will result in an overall or net improvement in water quality as determined by the secretary.

B. Closure of prohibited underground injection control wells shall be in accordance with Section 20.6.2.5005 NMAC and Section 20.6.2.5209 NMAC.
[20.6.2.5004 NMAC - N, 12-1-01]

20.6.2.5005 PRE-CLOSURE NOTIFICATION AND CLOSURE REQUIREMENTS:

A. Any person proposing to close a Class I, III, IV or V underground injection control well must submit pre-closure notification to the department at least 30 days prior to closure. Pre-closure notification must include the following information:

(1) Name of facility
(2) Address of facility
(3) Name of Owner/Operator
(4) Address of Owner/Operator
(5) Contact Person
(6) Phone Number
(7) Type of Well(s)
(8) Number of Well(s)
(9) Well Construction (e.g. drywell, improved sinkhole, septic tank, leachfield, cesspool, other…)
(10) Type of Discharge

(11) Average Flow (gallons per day)

(12) Year of Well Construction

(13) Proposed Well Closure Activities (e.g. sample fluids/sediment, appropriate disposal of remaining fluids/sediments, remove well and any contaminated soil, clean out well, install permanent plug, conversion to other type well, ground water and vadose zone investigation, other)

(14) Proposed Date of Well Closure

(15) Name of Preparer

(16) Date

B. Proposed well closure activities must be approved by the department prior to implementation.
[20.6.2.5005 NMAC - N, 12-1-01]

20.6.2.5006 DISCHARGE PERMIT REQUIREMENTS FOR CLASS V INJECTION WELLS
Class V injection wells must meet the requirements of Sections 20.6.2.3000 through 20.6.2.3999 NMAC and Sections 20.6.2.5000 through 20.6.2.5006 NMAC.
[20.6.2.5006 NMAC - N, 12-1-01]

20.6.2.5007 - 20.6.2.5100: [RESERVED]
[12-1-95; 20.6.2.5001 - 20.6.2.5100 NMAC - Rn, 20 NMAC 6.2.IV.4116-5100, 1-15-01; 20.6.2.5007 -20.6.2.5100 NMAC - Rn 20.6.2.5001 - 20.6.2.5100 NMAC, 12-1-01]

20.6.2.5101 DISCHARGE PERMIT AND OTHER REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. Class I non-hazardous waste injection wells and Class III wells must meet the requirements of Sections 20.6.2.5000 through 20.6.2.5299 NMAC in addition to other applicable requirements of the commission regulations. The secretary may also require that some Class IV and Class V wells comply with the requirements for Class I non-hazardous waste injection wells in Sections 20.6.2.5000 through 20.6.2.5299 NMAC if the secretary determines that the additional requirements are necessary to prevent the movement of water contaminants from a specified injection zone into ground water having 10,000 mg/l or less TDS. No Class I non-hazardous waste injection well or Class III well may be approved which allows for movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC, or pursuant to a temporary designation as provided in Paragraph (2) of Subsection C of Section 20.6.2.5101 NMAC.

B. Operation of a Class I non-hazardous waste injection well or Class III well must be pursuant to a discharge permit meeting the requirements of Sections 20.6.2.3000 through 20.6.2.3999 NMAC and Sections 20.6.2.5000 through 20.6.2.5299 NMAC.

C. Discharge permits for Class I non-hazardous waste injection wells, or Class III wells affecting ground water of 10,000 mg/l or less TDS submitted for secretary approval shall:

(1) Receive an aquifer designation if required in Section 20.6.2.5103 NMAC prior to discharge permit issuance; or

(2) For Class III wells only, address the methods or techniques to be used to restore ground water so that upon final termination of operations including restoration efforts, ground water at any place of withdrawal for present or reasonably foreseeable future use will not contain either concentrations in excess of the standards of Section 20.6.2.3103 NMAC or any toxic pollutant. Issuance of a discharge permit or project discharge permit for Class III wells that provides for restoration of ground water in accordance with the requirements of this Subsection shall substitute for the aquifer designation provisions of Section 20.6.2.5103 NMAC. The approval shall constitute a temporary aquifer designation for a mineral bearing or producing aquifer, or portion thereof, to allow injection as provided for in the discharge permit. Such temporary designation shall expire upon final termination of operations including restoration efforts.

D. The exemptions from the discharge permit requirement listed in Section 20.6.2.3105 NMAC do not apply to underground injection control wells except as provided below:

(1) Wells regulated by the Oil Conservation Division under the exclusive authority granted under Section 70-2-12 NMSA 1978 or under other Sections of the "Oil and Gas Act";

(2) Wells regulated by the Oil Conservation Division under the "Geothermal Resources Act";

(3) Wells regulated by the New Mexico Coal Surface Mining Bureau under the "Surface Mining Act";

(4) Wells for the disposal of effluent from systems which receive less than 2,000 gallons per day of domestic sewage effluent and are regulated under the "Liquid Waste Disposal Regulations" (20 NMAC 7.3) [20.7.3 NMAC] adopted by the Environmental Improvement Board under the "Environmental Improvement Act".

E. Project permits for Class III wells.

(1) The secretary may consider a project discharge permit for Class III wells, if the wells are:

(a) Within the same well field, facility site or similar unit,

(b) Within the same aquifer and ore deposit,

(c) Of similar construction,

(d) Of the same purpose, and

(e) Operated by a single owner or operator.

(2) A project discharge permit does not allow the discharger to commence injection in any individual operational area until the secretary approves an application for injection in that operational area (operational area approval).

(3) A project discharge permit shall:

(a) Specify the approximate locations and number of wells for which operational area approvals are or will be sought with approximate time frames for operation and restoration (if restoration is required) of each area; and

(b) Provide the information required under the following Sections of this Part, except for such additional site-specific information as needed to evaluate applications for individual operational area approvals: Subsection C of Section 20.6.2.3106, Sections 20.6.2.3107, 20.6.2.5204 through 20.6.2.5209, and Subsection B of Section 20.6.2.5210 NMAC.

(4) Applications for individual operational area approval shall include the following:

(a) Site-specific information demonstrating that the requirements of this Part are met, and

(b) Information required under Sections 20.6.2.5202 through 20.6.2.5210 NMAC and not previously provided pursuant to Subparagraph (b) of Paragraph (3) of Subsection E of this Section.

(5) Applications for project discharge permits and for operational area approval shall be processed in accordance with the same procedures provided for discharge permits under Sections 20.6.2.3000 through 20.6.2.3114 NMAC, allowing for public notice on the project discharge permit and on each application for operational area approval pursuant to Section 20.6.2.3108 NMAC with opportunity for public hearing prior to approval or disapproval.

(6) The discharger shall comply with additional requirements that may be imposed by the secretary pursuant to this Part on wells in each new operational area.

F. If the holder of a discharge permit for a Class I non-hazardous waste injection well, or Class III well submits an application for discharge permit renewal at least 120 days before discharge permit expiration, and the discharger is in compliance with his discharge permit on the date of its expiration, then the existing discharge permit for the same activity shall not expire until the application for renewal has been approved or disapproved. An application for discharge permit renewal must include and adequately address all of the information necessary for evaluation of a new discharge permit. Previously submitted materials may be included by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved.

G. Discharge Permit Signatory Requirements: No discharge permit for a Class I non-hazardous waste injection well or Class III well may be issued unless:

(1) The application for a discharge permit has been signed as follows:

(a) For a corporation: by a principal executive officer of at least the level of vice-president, or a representative who performs similar policy-making functions for the corporation who has authority to sign for the corporation; or

(b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(c) For a municipality, state, federal, or other public agency: by either a principal executive officer who has authority to sign for the agency, or a ranking elected official; and

(2) The signature is directly preceded by the following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment."

H. Transfer of Class I non-hazardous waste injection well and Class III well Discharge Permits.

(1) The transfer provisions of Section 20.6.2.3111 NMAC do not apply to a discharge permit for a Class I non-hazardous waste injection well or Class III well.

(2) A Class I non-hazardous waste injection well or Class III well discharge permit may be transferred if:

(a) The secretary receives written notice 30 days prior to the transfer date; and

(b) The secretary does not object prior to the proposed transfer date. The secretary may require modification of the discharge permit as a condition of transfer, and may require demonstration of adequate financial responsibility.

(3) The written notice required by Subparagraph (b) of Paragraph (2) of Subsection I above shall:

(a) Have been signed by the discharger and the succeeding discharger, including an acknowledgement that the succeeding discharger shall be responsible for compliance with the discharge permit upon taking possession of the facility; and

(b) Set a specific date for transfer of discharge permit responsibility, coverage and liability; and

(c) Include information relating to the succeeding discharger's financial responsibility required by Paragraph (17) of Subsection B of Section 20.6.2.5210 NMAC.

I. Modification or Termination of a Discharge Permit for a Class I non-hazardous waste injection well or Class III well: If data submitted pursuant to any monitoring requirements specified in the discharge permit or other information available to the secretary indicate that this Part are being or may be violated, the secretary may require modification or, if it is determined by the secretary that the modification may not be adequate, may terminate a discharge permit for a Class I non-hazardous waste injection Well, or Class III well or well field, that was approved pursuant to the requirements of this under Sections 20.6.2.5000 through 20.6.2.5299 NMAC for the following causes:

(1) Noncompliance by the discharger with any condition of the discharge permit; or

(2) The discharger's failure in the discharge permit application or during the discharge permit review process to disclose fully all relevant facts, or the discharger's misrepresentation of any relevant facts at any time; or

(3) A determination that the permitted activity may cause a hazard to public health or undue risk to property and can only be regulated to acceptable levels by discharge permit modification or termination.

[9-20-82, 12-1-95, 11-15-96; 20.6.2.5101 NMAC - Rn, 20 NMAC 6.2.V.5101, 1-15-01; A, 12-1-01; A, 9-15-02]

20.6.2.5102 PRE-CONSTRUCTION REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. Discharge Permit Requirement for Class I non-hazardous waste injection wells.

(1) Prior to construction of a Class I non-hazardous waste injection well or conversion of an existing well to a Class I non-hazardous waste injection well, an approved discharge permit is required that incorporates the requirements of Sections 20.6.2.5000 through 20.6.2.5299 NMAC, except Subsection C of Section 20.6.2.5210 NMAC. As a condition of discharge permit issuance, the operation of the Class I non-hazardous waste injection well under the discharge permit will not be authorized until the secretary has:

(a) Reviewed the information submitted for his consideration pursuant to Subsection C of Section 20.6.2.5210 NMAC, and

(b) Determined that the information submitted demonstrates that the operation will be in compliance with this Part and the discharge permit.

(2) If conditions encountered during construction represent a substantial change which could adversely impact ground water quality from those anticipated in the discharge permit, the secretary shall require a discharge permit modification or may terminate the discharge permit pursuant to Subsection I of Section 20.6.2.5101 NMAC, and the secretary shall publish public notice and allow for comments and hearing in accordance with Section 20.6.2.3108 NMAC.

B. Notification Requirement for Class III wells.

(1) The discharger shall notify the secretary in writing prior to the commencement of drilling or construction of wells which are expected to be used for in situ extraction, unless the discharger has previously received a discharge permit or project discharge permit for the Class III well operation.

(a) Any person, proposing to drill or construct a new Class III well or well field, or convert an existing well to a Class III well, shall file plans, specifications and pertinent documents regarding such construction or conversion, with the Ground Water Quality Bureau of the Environment Department.

(b) Plans, specifications, and pertinent documents required by this Section, if pertaining to geothermal installations, carbon dioxide facilities, or facilities for the exploration, production, refinement or pipeline transmission of oil and natural gas, shall be filed instead with the Oil Conservation Division.

(c) Plans, specifications and pertinent documents required to be filed under this Section must be filed 90 days prior to the planned commencement of construction or conversion.

(d) The following plans, specifications and pertinent documents shall be provided with the notification:

(i) Information required in Subsection C of Section 20.6.2.3106 NMAC;

(ii) A map showing the Class III wells which are to be constructed. The map must also show, in so far as is known or is reasonably available from the public records, the number, name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads, that are within the expected area of review (Section 20.6.2.5202 NMAC) of the Class III well or well field perimeter;

(iii) Maps and cross-sections indicating the general vertical and lateral limits of all ground water having 10,000 mg/l or less TDS within one mile of the site, the position of such ground water within this area relative to the injection formation, and the direction of water movement, where known, in each zone of ground water which may be affected by the proposed injection operation;

(iv) Maps and cross-sections detailing the geology and geologic structure of the local area, including faults, if known or suspected;

(v) The proposed formation testing program to obtain an analysis or description, whichever the secretary requires, of the chemical, physical, and radiological characteristics of, and other information on, the receiving formation;

(vi) The proposed stimulation program;

(vii) The proposed injection procedure;

(viii) Schematic or other appropriate drawings of the surface and subsurface construction details of the well;

(ix) Proposed construction procedures, including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program;

(x) Information, as described in Paragraph (17) of Subsection B of Section 20.6.2.5210 NMAC, showing the ability of the discharger to undertake measures necessary to prevent groundwater contamination; and

(xi) A plugging and abandonment plan showing that the requirements of Subsections B, C and D of Section 20.6.2.5209 NMAC will be met.

(2) Prior to construction, the discharger shall have received written notice from the secretary that the information submitted under item 10 of Subparagraph (d) of Paragraph (1) of Subsection B of Section 20.6.2.5102 NMAC is acceptable. Within 30 days of submission of the above information the secretary shall notify the discharger that the information submitted is acceptable or unacceptable.

(3) Prior to construction, the secretary shall review said plans, specifications and pertinent documents and shall comment upon their adequacy of design for the intended purpose and their compliance with pertinent Sections of this Part. Review of plans, specifications and pertinent documents shall be based on the criteria contained in Section 20.6.2.5205, Subsection E of Section 20.6.2.5209, and Subparagraph (d) of Paragraph (1) of Subsection B of Section 20.6.2.5102 NMAC.

(4) Within thirty (30) days of receipt, the secretary shall issue public notice, consistent with Subsection B of Section 20.6.2.3108 NMAC, that notification was submitted pursuant to Subsection B of Section 20.6.2.5102 NMAC. The secretary shall allow a period of at least thirty (30) days during which comments may be submitted. The public notice shall include:

(a) Name and address of the proposed discharger;

(b) Location of the discharge;

(c) Brief description of the proposed activities;

(d) Statement of the public comment period; and

(e) Address and telephone number at which interested persons may obtain further information.

(5) The secretary shall comment in writing upon the plans and specifications within sixty (60) days of their receipt by the secretary.

(6) Within thirty (30) days after completion, the discharger shall submit written notice to the secretary that the construction or conversion was completed in accordance with submitted plans and specifications, or shall submit as-built plans detailing changes from the originally submitted plans and specifications.

(7) In the event a discharge permit application is not submitted or approved, all wells which may cause groundwater contamination shall be plugged and abandoned by the applicant pursuant to the plugging and abandonment plan submitted in the notification; these measures shall be consistent with any comments made by the

secretary in his review. If the wells are not to be permanently abandoned and the discharger demonstrates that plugging at this time is unnecessary to prevent groundwater contamination, plugging pursuant to the notification is not required. Financial responsibility established pursuant to Sections 20.6.2.5000 through 20.6.2.5299 NMAC will remain in effect until the discharger permanently abandons and plugs the wells in accordance with the plugging and abandonment plan.
[9-20-82, 12-24-87, 12-1-95; 20.6.2.5102 NMAC - Rn, 20 NMAC 6.2.V.5102, 1-15-01; A, 12-1-01]

20.6.2.5103 DESIGNATED AQUIFERS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. Any person may file a written petition with the secretary seeking commission consideration of certain aquifers or portions of aquifers as "designated aquifers". The purpose of aquifer designation is:

(1) For Class I non-hazardous waste injection wells, to allow as a result of injection, the addition of water contaminants into ground water, which before initiation of injection has a concentration between 5,000 and 10,000 mg/l TDS; or

(2) For Class III wells, to allow as a result of injection, the addition of water contaminants into ground water, which before initiation of injection has a concentration between 5,000 and 10,000 mg/l TDS, and not provide for restoration or complete restoration of that ground water pursuant to Paragraph (2) of Subsection C of Section 20.6.2.5101 NMAC.

B. The applicant shall identify (by narrative description, illustrations, maps or other means) and describe such aquifers, in geologic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite.

C. An aquifer or portion of an aquifer may be considered for aquifer designation under Subsection A. of this Section, if the applicant demonstrates that the following criteria are met:

(1) It is not currently used as a domestic or agricultural water supply; and

(2) There is no reasonable relationship between the economic and social costs of failure to designate and benefits to be obtained from its use as a domestic or agricultural water supply because:

(a) It is situated at a depth or location which makes recovery of water for drinking or agricultural purposes economically or technologically impractical at present and in the reasonably foreseeable future; or

(b) It is already so contaminated that it would be economically or technologically impractical to render that water fit for human consumption or agricultural use at present and in the reasonably foreseeable future.

D. The petition shall state the extent to which injection would add water contaminants to ground water and why the proposed aquifer designation should be approved. For Class III wells, the applicant shall state whether and to what extent restoration will be carried out.

E. The secretary shall either transmit the petition to the commission within sixty (60) days recommending that a public hearing be held, or refuse to transmit the petition and notify the applicant in writing citing reasons for such refusal.

F. If the secretary transmits the petition to the commission, the commission shall review the petition and determine to either grant or deny a public hearing on the petition. If the commission grants a public hearing, it shall issue a public notice, including the following information:

(1) Name and address of the applicant;

(2) Location, depth, TDS, areal extent, general description and common name or other identification of the aquifer for which designation is sought;

(3) Nature of injection and extent to which the injection will add water contaminants to ground water; and

(4) Address and telephone number at which interested persons may obtain further information.

G. If the secretary refuses to transmit the petition to the commission, then the applicant may appeal the secretary's disapproval of the proposed aquifer designation to the commission within thirty (30) days, and address the issue of whether the proposed aquifer designation meets the criteria of Subsections A, B, C, and D of this Section.

H. If the commission grants a public hearing, the hearing shall be held in accordance with the provisions of Section 74-6-6, NMSA 1978.

I. If the commission does not grant a public hearing on the petition, the aquifer designation shall not be approved.

J. After public hearing and consideration of all facts and circumstances included in Section 74-6-4(D), NMSA 1978, the commission may authorize the secretary to approve a proposed designated aquifer if the commission determines that the criteria of Subsection A, B, C, and D of this section are met.

K. Approval of a designated aquifer petition does not alleviate the applicant from complying with other Sections of Sections 20.6.2.5000 through 20.6.2.5299 NMAC, or of the responsibility for protection, pursuant to this part, of other nondesignated aquifers containing ground water having 10,000 mg/l or less TDS.

L. Persons other than the petitioner may add water contaminants as a result of injection into an aquifer designated for injection, provided the person receives a discharge permit pursuant to the requirements of Sections 20.6.2.5000 through 20.6.2.5299 NMAC. Persons, other than the original petitioner or his designee, requesting addition of water contaminants as a result of injection into aquifers previously designated only for injection with partial restoration shall file a petition with the commission pursuant to the requirements of Subsections A, B, C, and D of this Section.

[9-20-82, 12-1-95; 20.6.2.5103 NMAC - Rn, 20 NMAC 6.2.V.5103, 1-15-01; A, 12-1-01]

20.6.2.5104 WAIVER OF REQUIREMENT BY SECRETARY FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. Where a Class I non-hazardous waste injection well or a Class III well or well field, does not penetrate, or inject into or above, and which will not affect, ground water having 10,000 mg/l of less TDS, the secretary may:

(1) Issue a discharge permit for a well or well field with less stringent requirements for area of review, construction, mechanical integrity, operation, monitoring, and reporting than required by Sections 20.6.2.5000 through 20.6.2.5299 NMAC; or

(2) For Class III wells only, issue a discharge permit pursuant to the requirements of Sections 20.6.2.3000 through 20.6.2.3114 NMAC.

B. Authorization of a reduction in requirements under Subsection A of this Section shall be granted only if injection will not result in an increased risk of movement of fluids into ground water having 10,000 mg/l or less TDS, except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.

[9-20-82, 12-1-95; 20.6.2.5104 NMAC - Rn & A, 20 NMAC 6.2.V.5104, 1-15-01; A, 12-1-01]

20.6.2.5105 - 20.6.2.5199: [RESERVED]

[12-1-95; 20.6.2.5105 - 20.6.2.5199 NMAC - Rn, 20 NMAC 6.2.V.5105-5199, 1-15-01]

20.6.2.5200 TECHNICAL CRITERIA AND PERFORMANCE STANDARDS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

[12-1-95; 20.6.2.5200 NMAC - Rn, 20 NMAC 6.2.V.5200, 1-15-01; A, 12-1-01]

20.6.2.5201 PURPOSE: Sections 20.6.2.5200 through 20.6.2.5210 NMAC provide the technical criteria and performance standards for Class I non-hazardous waste injection wells and Class III wells.

[9-20-82; 20.6.2.5201 NMAC - Rn, 20 NMAC 6.2.V.5201, 1-15-01; A, 12-1-01]

20.6.2.5202 AREA OF REVIEW:

A. The area of review is the area surrounding a Class I non-hazardous waste injection well or Class III well or the area within and surrounding a well field that is to be examined to identify possible fluid conduits, including the location of all known wells and fractures which may penetrate the injection zone.

B. The area of review for each Class I non-hazardous waste injection well, or each Class III well or well field shall be an area which extends:

(1) Two and one half (2 1/2) miles from the well, or well field; or

(2) One-quarter (1/4) mile from a well or well field where the area of review is calculated to be zero pursuant to Paragraph (3) of Subsection B below, or where the well field production at all times exceeds injection to produce a net withdrawal; or

(3) A suitable distance, not less than one-quarter (1/4) mile, proposed by the discharger and approved by the secretary, based upon a mathematical calculation to determine the area of review. Computations to determine the area of review may be based upon the parameters listed below and should be calculated for an injection time period equal to the expected life of the Class I non-hazardous waste injection well, or Class III well or well field. The following modified Theis equation illustrates one form which the mathematical model may take to compute the

area of review; the discharger must demonstrate that any equation or simulation used to compute the area of review applies to the hydrogeologic conditions in the area of review.

$$r = \left(\frac{2.25 K H t}{S 10^{x}} \right)^{1/2}$$

Where:

$$x = \frac{4BKH (H_w - H_{bo}) x \, S_p G_b}{2.3 Q}$$

r = Radius of the area of review for a Class I non-hazardous waste injection well or Class III well (length)

K = Hydraulic conductivity of the injection zone (length/time)

H = Thickness of the injection zone (length)

t = Time of injection (time)

S = Storage coefficient (dimensionless)

Q = Injection rate (volume/time)

H_{bo} = Observed original hydrostatic head of injection zone (length) measured from the base of the lowest aquifer containing ground water of 10,000 mg/l or less TDS

H_w = Hydrostatic head of underground source of drinking water (length) measured from the base of the lowest aquifer containing ground water of 10,000 mg/l or less TDS

S_pG_b = Specific gravity of fluid in the injection zone (dimensionless)

B = 3.142 (dimensionless)

(4) The above equation is based on the following assumptions:

(a) The injection zone is homogenous and isotropic;

(b) The injection zone has infinite areal extent;

(c) The Class I non-hazardous waste injection well or Class III well penetrates the entire thickness of the injection zone;

(d) The well diameter is infinitesimal compared to "r" when injection time is longer than a few minutes; and

(e) The emplacement of fluid into the injection zone creates an instantaneous increase in pressure.

C. The secretary shall require submittal by the discharger of information regarding the area of review including the information to be considered by the secretary in Subsection B of Section 20.6.2.5210 NMAC.
[9-20-82, 12-1-95; 20.6.2.5202 NMAC - Rn, 20 NMAC 6.2.V.5202, 1-15-01; A, 12-1-01]

20.6.2.5203 CORRECTIVE ACTION FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. Persons applying for approval of a Class I non-hazardous waste injection well, or a Class III well or well field shall identify the location of all known wells, drill holes, shafts, stopes and other conduits within the area of review which may penetrate the injection zone, in so far as is known or is reasonably available from the public records. For such wells or other conduits which are improperly sealed, completed, or abandoned, or otherwise provide a pathway for the migration of contaminants, the discharger shall address in the proposed discharge plan such steps or modifications (corrective action) as are necessary to prevent movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.

B. Prior to operation, or continued operation of a well for which corrective action is required pursuant to Subsections A or D of Section 20.6.2.5203 NMAC, the discharger must demonstrate that:

(1) All required corrective action has been taken; or

(2) Injection pressure is to be limited so that pressure in the injection zone does not cause fluid movement through any well or other conduit within the area of review into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC. This pressure limitation may be removed after all required corrective action has been taken.

C. In determining the adequacy of corrective action proposed in the discharge permit application, the following factors will be considered by the secretary:

(1) Chemical nature and volume of the injected fluid;

(2) Chemical nature of native fluids and by-products of injection;

(3) Geology and hydrology;

(4) History of the injection and production operation;

(5) Completion and plugging records;

(6) Abandonment procedures in effect at the time a well, drill hole, or shaft was abandoned; and

(7) Hydraulic connections with waters having 10,000 mg/l or less TDS

D. In the event that, after approval for a Class I non-hazardous waste injection well or Class III well has been granted, additional information is submitted or it is discovered that a well or other conduit within the applicable area of review might allow movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC, the secretary may require action in accordance with Subsection I of Section 20.6.2.5101 and Subsection B Section 20.6.2.5203 NMAC.
[9-20-82, 12-1-95; 20.6.2.5203 NMAC - Rn, 20 NMAC 6.2.V.5203, 1-15-01; A, 12-1-01]

20.6.2.5204 MECHANICAL INTEGRITY FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. A Class I non-hazardous waste injection well or Class III well has mechanical integrity if there is no detectable leak in the casing, tubing or packer which the secretary considers to be significant at maximum operating temperature and pressure; and no detectable conduit for fluid movement out of the injection zone through the well bore or vertical channels adjacent to the well bore which the secretary considers to be significant.

B. Prior to well injection and at least once every five years or more frequently as the secretary may require for good cause during the life of the well, the discharger must demonstrate that a Class I non-hazardous waste injection well or Class III well has mechanical integrity. The demonstration shall be made through use of the following tests:

(1) For evaluation of leaks,

(a) Monitoring of annulus pressure (after an initial pressure test with liquid or gas before operation commences), or

(b) Pressure test with liquid or gas;

(2) For determination of conduits for fluid movement,

(a) The results of a temperature or noise log, or

(b) Where the nature of the casing used for Class III wells precludes use of these logs, cementing records and an appropriate monitoring program as the secretary may require which will demonstrate the presence of adequate cement to prevent such movement;

(3) Other appropriate tests as the secretary may require.

C. The secretary may consider the use by the discharger of equivalent alternative test methods to determine mechanical integrity. The discharger shall submit information on the proposed test and all technical data supporting its use. The secretary may approve the request if it will reliably demonstrate the mechanical integrity of wells for which its use is proposed. For Class III wells this demonstration may be made by submission of adequate monitoring data after the initial mechanical integrity tests.

D. In conducting and evaluating the tests enumerated in this Section or others to be allowed by the secretary, the discharger and the secretary shall apply methods and standards generally accepted in the affected industry. When the discharger reports the results of mechanical integrity tests to the secretary, he shall include a description of the test(s), the method(s) used, and the test results. In making an evaluation, the secretary's review shall include monitoring and other test data submitted since the previous evaluation.

[9-20-82, 12-1-95; 20.6.2.5204 NMAC - Rn, 20 NMAC 6.2.V.5204, 1-15-01; A, 12-1-01]

20.6.2.5205 CONSTRUCTION REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. General Construction Requirements Applicable to Class I non-hazardous waste injection wells and Class III wells.

(1) Construction of all Class I non-hazardous waste injection wells and all new Class III wells shall include casing and cementing. Prior to well injection, the discharger shall demonstrate that the construction and operation of:

(a) Class I non-hazardous waste injection wells will not cause or allow movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC;

(b) Class III wells will not cause or allow movement of fluids out of the injection zone into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.

(2) The construction of each newly drilled well shall be designed for the proposed life expectancy of the well.

(3) In determining if the discharger has met the construction requirements of this Section and has demonstrated adequate construction, the secretary shall consider the following factors:

(a) Depth to the injection zone;

(b) Injection pressure, external pressure, annular pressure, axial loading, and other stresses that may cause well failure;

(c) Hole size;

(d) Size and grade of all casing strings, including wall thickness, diameter, nominal weight, length, joint specification, and construction material;

(e) Type and grade of cement;

(f) Rate, temperature, and volume of injected fluid;

(g) Chemical and physical characteristics of the injected fluid, including corrosiveness, density, and temperature;

(h) Chemical and physical characteristics of the formation fluids including pressure and temperature;

(i) Chemical and physical characteristics of the receiving formation and confining zones including lithology and stratigraphy, and fracture pressure; and

(j) Depth, thickness and chemical characteristics of penetrated formations which may contain ground water.

(4) To demonstrate adequate construction, appropriate logs and other tests shall be conducted during the drilling and construction of new Class I non-hazardous waste injection wells or Class III wells or during work-over of existing wells in preparation for reactivation or for change to injection use. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the secretary for review prior to well injection. The logs and tests appropriate to each type of injection well shall be based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses.

(a) The discharger shall demonstrate through use of sufficiently frequent deviation checks, or another equivalent method, that a Class I non-hazardous waste injection well or Class III well drilled using a pilot hole then enlarged by reaming or another method, does not allow a vertical avenue for fluid migration in the form of diverging holes created during drilling.

(b) The secretary may require use by the discharger of the following logs to assist in characterizing the formations penetrated and to demonstrate the integrity of the confining zones and the lack of vertical avenues for fluid migration:

(i) For casing intended to protect ground water having 10,000 mg/l or less TDS: Resistivity, spontaneous potential, and caliper logs before the casing is installed; and a cement bond, or temperature log after the casing is set and cemented.

(ii) For intermediate and long strings of casing intended to facilitate injection: Resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed; and fracture finder or spectral logs; and a cement bond or temperature log after the casing is set and cemented.

(5) In addition to the requirements of Section 20.6.2.5102 NMAC, the discharger shall provide notice prior to commencement of drilling, cementing and casing, well logging, mechanical integrity tests, and any well work-over to allow opportunity for on-site inspection by the secretary or his representative.

B. Additional Construction Requirements for Class I non-hazardous waste injection wells.

(1) All Class I non-hazardous waste injection wells shall be sited in such a manner that they inject into a formation which is beneath the lowermost formation containing, within one quarter mile of the well bore, ground water having 10,000 mg/l TDS or less except as approved pursuant to Section 20.6.2.5103 NMAC.

(2) All Class I non-hazardous waste injection wells shall be cased and cemented by circulating cement to the surface.

(3) All Class I non-hazardous waste injection wells, except those municipal wells injecting noncorrosive wastes, shall inject fluids through tubing with a packer set in the annulus immediately above the injection zone, or tubing with an approved fluid seal as an alternative. The tubing, packer, and fluid seal shall be designed for the expected length of service.

(a) The use of other alternatives to a packer may be allowed with the written approval of the secretary. To obtain approval, the operator shall submit a written request to the secretary which shall set forth the proposed alternative and all technical data supporting its use. The secretary may approve the request if the alternative method will reliably provide a comparable level of protection to ground water. The secretary may approve an alternative method solely for an individual well or for general use.

(b) In determining the adequacy of the specifications proposed by the discharger for tubing and packer, or a packer alternative, the secretary shall consider the following factors:

(i) Depth of setting;

(ii) Characteristics of injection fluid (chemical nature or characteristics, corrosiveness, and density);

(iii) Injection pressure;

(iv) Annular pressure;

(v) Rate, temperature and volume of injected fluid; and

(vi) Size of casing.

C. Additional Construction Requirements for Class III wells.

(1) Where injection is into a formation containing ground water having 10,000 mg/l or less TDS, monitoring wells shall be completed into the injection zone and into the first formation above the injection zone containing ground water having 10,000 mg/l or less TDS which could be affected by the extraction operation. If ground water having 10,000 mg/l or less TDS below the injection zone could be affected by the extraction operation, monitoring of such ground water may be required. These wells shall be of sufficient number, located and constructed so as to detect any excursion of injection fluids, process byproducts, or formation fluids outside the extraction area or injection zone. The requirement for monitoring wells in aquifers designated pursuant to Section

20.6.2.5103 NMAC may be waived by the secretary, provided that the absence of monitoring wells does not result in an increased risk of movement of fluids into protected ground waters having 10,000 mg/l or less TDS.

(2) Where injection is into a formation which does not contain ground water having 10,000 mg/l or less TDS, no monitoring wells are necessary in the injection zone. However, monitoring wells may be necessary in adjoining zones with ground water having 10,000 mg/l or less TDS that could be affected by the extraction operation.

(3) In an area that the secretary determines is subject to subsidence or collapse, the required monitoring wells may be required to be located outside the physical influence of that area.

(4) In determining the adequacy of monitoring well location, number, construction and frequency of monitoring proposed by the discharger, the secretary shall consider the following factors:

(a) The local geology and hydrology;

(b) The operating pressures and whether a negative pressure gradient to the monitor well is being maintained;

(c) The nature and volume of injected fluid, formation water, and process by-products; and

(d) The number and spacing of Class III wells in the well field.

[9-20-82, 12-1-95; 20.6.2.5205 NMAC - Rn, 20 NMAC 6.2.V.5205, 1-15-01; A, 12-1-01]

20.6.2.5206 OPERATING REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. General Operating Requirements Applicable to Class I non-hazardous waste injection wells and Class III wells.

(1) The maximum injection pressure at the wellhead shall not initiate new fractures or propagate existing fractures in the confining zone, or cause the movement of injection or formation fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.

(2) Injection between the outermost casing and the well bore is prohibited in a zone other than the authorized injection zone.

B. Additional Operating Requirements for Class I non-hazardous waste injection wells.

(1) Except during well stimulation, the maximum injection pressure shall not initiate new fractures or propagate existing fractures in the injection zone.

(2) Unless an alternative to a packer has been approved under Subparagraph (c) of Paragraph (3) of Subsection B of Section 20.6.2.5205 NMAC, the annulus between the tubing and the long string of casing shall be filled with a fluid approved by the secretary and a pressure, also approved by the secretary shall be maintained on the annulus.

C. Additional Operating Requirements for Class III wells: Initiation of new fractures or propagation of existing fractures in the injection zone will not be approved by the secretary as part of a discharge permit unless it is done during well stimulation and the discharger demonstrates:

(1) That such fracturing will not cause movement of fluids out of the injection zone into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC, and

(2) That the provisions of Subsection C of Section 20.6.2.3109 and Subsection C of Section 20.6.2.5101 NMAC for protection of ground water are met.

[9-20-82, 12-1-95; 20.6.2.5206 NMAC - Rn, 20 NMAC 6.2.V.5206, 1-15-01; A, 12-1-01]

20.6.2.5207 MONITORING REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. The discharger shall demonstrate mechanical integrity for each Class I non-hazardous waste injection well or Class III well at least once every five years during the life of the well pursuant to Section 20.6.2.5204 NMAC.

B. Additional Monitoring Requirements for Class I non-hazardous waste injection wells.

(1) The discharger shall provide analysis of the injected fluids at least quarterly or, if necessary, more frequently to yield data representative of their characteristics.

(2) Continuous monitoring devices shall be used to provide a record of injection pressure, flow rate, flow volume, and pressure on the annulus between the tubing and the long string of casing.

(3) The discharger shall provide wells within the area of review as required by the discharge permit to be used by the discharger to monitor pressure in, and possible fluid movement into, ground water having 10,000 mg/l or less TDS except for such ground waters designated pursuant to Section 20.6.2.5103 NMAC. This Section

does not require monitoring wells for Class I non-hazardous waste injection wells unless monitoring wells are necessary due to possible flow paths within the area of review.

C. Additional Monitoring Requirements for Class III wells.

(1) The discharger shall provide an analysis or description, whichever the secretary requires, of the injected fluids at least quarterly or, if necessary, more frequently to yield representative data.

(2) The discharger shall perform:

(a) Appropriate monitoring of injected and produced fluid volumes by whichever of the following methods the secretary requires:

(i) Recording injection pressure and either flow rate or volume every two weeks; or

(ii) Metering and daily recording of fluid volumes;

(b) Monitoring every two weeks, or more frequently as the secretary determines, of the monitor wells, required in Subsection C of Section 20.6.2.5205 NMAC for:

(i) Water chemistry parameters used to detect any migration from the injection zone;

(ii) Fluid levels adjacent to the injection zone; and

(c) Other necessary monitoring as the secretary for good cause may require to detect movement of fluids from the injection zone into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC.

(3) With the approval of the secretary, all Class III wells may be monitored on a well field basis by manifold monitoring rather than on an individual well basis. Manifold monitoring to determine the quality, pressure, and flow rate of the injected fluid may be approved in cases of facilities consisting of more than one Class III well, operating with a common manifold, provided that the discharger demonstrates that manifold monitoring is comparable to individual well monitoring.

[9-20-82, 12-1-95; 20.6.2.5207 NMAC - Rn, 20 NMAC 6.2.V.5207, 1-15-01; A, 12-1-01]

20.6.2.5208 REPORTING REQUIREMENTS FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. Reporting Requirements for Class I non-hazardous waste injection wells.

(1) If a Class I non-hazardous waste injection well is found to be discharging or is suspected of discharging fluids into a zone or zones other than the permitted or authorized injection zone, the discharger shall within 24 hours notify the secretary of the circumstances and action taken. The discharger shall provide subsequent written reports as required by the secretary.

(2) The discharger shall provide reports quarterly to the secretary on:

(a) The physical, chemical and other relevant characteristics of injection fluids;

(b) Monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure; and

(c) The results of monitoring prescribed under Subsection B of Section 20.6.2.5207 NMAC.

(3) The discharger shall report, no later than the first quarterly report after completion, the results of:

(a) Periodic tests of mechanical integrity as required in Sections 20.6.2.5204 and 20.6.2.5207 NMAC;

(b) Any other test of the Class I non-hazardous waste injection well conducted by the discharger if required by the secretary;

(c) Any well work-over; and

(d) Any changes within the area of review which might impact subsurface conditions.

B. Reporting Requirements for Class III wells.

(1) The discharger shall notify the secretary within 48 hours of the detection or suspected detection of a leachate excursion, and provide subsequent reports as required by the secretary.

(2) The discharger shall provide to the secretary:

(a) Reports on required monitoring quarterly, or more frequently as required by the secretary; and

(b) Results of mechanical integrity testing as required in Sections 20.6.2.5204 and 20.6.2.5207 NMAC and any other periodic tests required by the secretary. These results are to be reported no later than the first regular report after the completion of the test.

(3) Where manifold monitoring is permitted, monitoring results may be reported on a well field basis, rather than individual well basis.

C. Report Signatory Requirements.

(1) All reports submitted pursuant to this Section shall be signed and certified as provided in Subsection G of Section 20.6.2.5101 NMAC, or by a duly authorized representative.

(2) For a person to be a duly authorized representative, authorization must:

(a) Be made in writing by a signatory described in Paragraph (1) of Subsection G of Section 20.6.2.5101 NMAC.;

(b) Specify either an individual or a position having responsibility for the overall operation of that regulated facility or activity, such as the position of plant manager, operator of a well or well field, superintendent, or position of equivalent responsibility; and

(c) Have been submitted to the secretary.

[9-20-82, 12-1-95; 20.6.2.5208 NMAC - Rn, 20 NMAC 6.2.V.5208, 1-15-01; A, 12-1-01]

20.6.2.5209 PLUGGING AND ABANDONMENT FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. The discharger shall submit as part of the discharge permit application, a plan for plugging and abandonment of a Class I non-hazardous waste injection well or a Class III well that meets the requirements of Subsection C of Section 20.6.2.3109 and Subsection C of Section 20.6.2.5101 NMAC and 20.6.2.5005 NMAC for protection of ground water. If requested, a revised or updated abandonment plan shall be submitted for approval prior to closure. The obligation to implement the plugging and abandonment plan as well as the requirements of the plan survives the termination or expiration of the permit.

B. Prior to abandonment of a well used in a Class I non-hazardous waste injection well or Class III well operation, the well shall be plugged in a manner which will not allow the movement of fluids through the well bore out of the injection zone or between other zones of ground water. Cement plugs shall be used unless a comparable method has been approved by the secretary for the plugging of Class III wells at that site.

C. Prior to placement of the plugs, the well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method approved by the secretary.

D. Placement of the plugs shall be accomplished by one of the following:

(1) The Balance Method; or

(2) The Dump Bailer Method; or

(3) The Two-Plug Method; or

(4) An equivalent method with the approval of the secretary.

E. The following shall be considered by the secretary in determining the adequacy of a plugging and abandonment plan.

(1) The type and number of plugs to be used;

(2) The placement of each plug, including the elevation of the top and bottom;

(3) The type, grade and quantity of cementing slurry to be used;

(4) The method of placement of the plugs;

(5) The procedure to be used to plug and abandon the well; and

(6) Such other factors that may affect the adequacy of the plan.

F. The discharger shall retain all records concerning the nature and composition of injected fluids until five years after completion of any plugging and abandonment procedures.

[9-20-82, 12-1-95; 20.6.2.5209 NMAC - Rn, 20 NMAC 6.2.V.5209, 1-15-01; A, 12-1-01]

20.6.2.5210 INFORMATION TO BE CONSIDERED BY THE SECRETARY FOR CLASS I NON-HAZARDOUS WASTE INJECTION WELLS AND CLASS III WELLS:

A. This Section sets forth the information to be considered by the secretary in authorizing construction and use of a Class I non-hazardous waste injection well or Class III well or well field. Certain maps, cross-sections, tabulations of all wells within the area of review, and other data may be included in the discharge permit application submittal by reference provided they are current, readily available to the secretary and sufficiently identified to be retrieved.

B. Prior to the issuance of a discharge permit or project discharge permit allowing construction of a new Class I non-hazardous waste injection well, operation of an existing Class I non-hazardous waste injection well, or operation of a new or existing Class III well or well field, or conversion of any well to injection use, the secretary shall consider the following:

(1) Information required in Subsection C of Section 20.6.2.3106 NMAC;

(2) A map showing the Class I non-hazardous waste injection well, or Class III well or well fields, for which approval is sought and the applicable area of review. Within the area of review, the map must show, in so far as is known or is reasonably available from the public records, the number, name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads;

(3) A tabulation of data on all wells within the area of review which may penetrate into the proposed injection zone. Such data shall include, as available, a description of each well's type, the distance and direction to the injection well or well field, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the secretary may require;

(4) For wells within the area of review which penetrate the injection zone, but are not properly completed or plugged, the corrective action proposed to be taken under Section 20.6.2.5203 NMAC;

(5) Maps and cross-sections indicating the general vertical and lateral limits of all ground water having 10,000 mg/l or less TDS within the area of review, the position of such ground water within the area of review relative to the injection formation, and the direction of water movement, where known, in each zone of ground water which may be affected by the proposed injection operation;

(6) Maps and cross-sections detailing the geology and geologic structure of the local area, including faults, if known or suspected;

(7) Generalized maps and cross-sections illustrating the regional geologic setting;

(8) Proposed operating data, including:

(a) Average and maximum daily flow rate and volume of the fluid to be injected;

(b) Average and maximum injection pressure;

(c) Source of injection fluids and an analysis or description, whichever the secretary requires, of their chemical, physical, radiological and biological characteristics;

(9) Results of the formation testing program to obtain an analysis or description, whichever the secretary requires, of the chemical, physical, and radiological characteristics of, and other information on, the receiving formation, provided that the secretary may issue a conditional approval of a discharge permit if he finds that further formation testing is necessary for final approval;

(10) Expected pressure changes, native fluid displacement, and direction of movement of the injected fluid;

(11) Proposed stimulation program;

(12) Proposed or actual injection procedure;

(13) Schematic or other appropriate drawings of the surface and subsurface construction details of the well;

(14) Construction procedures, including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program;

(15) Contingency plans to cope with all shut-ins or well failures so as to prevent movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 20.6.2.5103 NMAC;

(16) Plans, including maps, for meeting the monitoring requirements of Section 20.6.2.5207 NMAC; and

(17) The ability of the discharger to undertake measures necessary to prevent contamination of ground water having 10,000 mg/l or less TDS after the cessation of operation, including the proper closing, plugging and abandonment of a well, ground water restoration if applicable, and any post-operational monitoring as may be needed. Methods by which the discharger shall demonstrate the ability to undertake these measures shall include submission of a surety bond or other adequate assurances, such as financial statements or other materials acceptable to the secretary, such as: (1) a surety bond; (2) a trust fund with a New Mexico bank in the name of the State of New Mexico, with the State as Beneficiary; (3) a non-renewable letter of credit made out to the State of New Mexico; (4) liability insurance specifically covering the contingencies listed in this paragraph; or (5) a performance bond, generally in conjunction with another type of financial assurance. Such bond or materials shall be approved and executed prior to discharge permit issuance and shall become effective upon commencement of construction. If an adequate bond is posted by the discharger to a federal or another state agency, and this bond covers all of the measures referred to above, the secretary shall consider this bond as satisfying the bonding requirements of Sections 20.6.2.5000 through 20.6.2.5299 NMAC wholly or in part, depending upon the extent to which such bond is adequate to ensure that the discharger will fully perform the measures required hereinabove.

C. Prior to the secretary's approval that allows the operation of a new or existing Class I non-hazardous waste injection well or Class III well or well field, the secretary shall consider the following:

(1) Update of pertinent information required under Subsection B of Section 20.6.2.5210 NMAC;
(2) All available logging and testing program data on the well;
(3) The demonstration of mechanical integrity pursuant to Section 20.6.2.5204 NMAC;
(4) The anticipated maximum pressure and flow rate at which the permittee will operate;
(5) The results of the formation testing program;
(6) The physical, chemical, and biological interactions between the injected fluids and fluids in the injection zone, and minerals in both the injection zone and the confining zone; and
(7) The status of corrective action on defective wells in the area of review.

[9-20-82, 12-24-87, 12-1-95; 20.6.2.5210 NMAC - Rn, 20 NMAC 6.2.V.5210, 1-15-01; A, 12-1-01]

20.6.2.5211 - 20.6.2.5299: [RESERVED]

[12-1-95; 20.6.2.5211 - 20.6.2.5299 NMAC - Rn, 20 NMAC 6.2.V.5211-5299, 1-15-01]

HISTORY of 20.6.2. NMAC:

Pre-NMAC History:

Material in this Part was derived from that previously filed with the commission of public records - state records center and archives:

WQC 67-2, Regulations Governing Water Pollution Control in New Mexico, filed 12-5-67, effective 1-4-68
WQC 72-1, Water Quality Control Commission Regulations, filed 8-4-72, effective 9-3-72
WQC 77-1, Amended Water Quality Control Commission Regulations, filed 1-18-77, effective 2-18-77
WQC 81-2, Water Quality Control Commission Regulations, filed 6-2-81, effective 7-2-81
WQC 82-1, Water Quality Control Commission Regulations, filed 8-19-82, effective 9-20-82

History of Repealed Material: [Reserved]

Other History:

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 10-27-95, effective 12-1-95
20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 10-15-96, effective 11-15-96
20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 11-30-00, effective 1-15-01
20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 9-16-01, effective 12-1-01
20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 8-1-02, effective 9-15-02

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(b) The effective dates for § 141.62 are as follows:

(1) The effective date of paragraph (b)(1) of § 141.62 is October 2, 1987.

(2) The effective date for paragraphs (b)(2) and (b)(4) through (b)(10) of § 141.62 is July 30, 1992.

(3) The effective date for paragraphs (b)(11) through (b)(15) of § 141.62 is January 17, 1994.

(4) The effective date for § 141.62(b)(16) is January 23, 2006.

[56 FR 3593, Jan. 30, 1991, as amended at 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994; 66FR 7063, Jan. 22, 2001]

§ 141.61 Maximum contaminant levels for organic contaminants.

(a) The following maximum contaminant levels for organic contaminants apply to community and non-transient, non-community water systems.

CAS No.	Contaminant	MCL (mg/l)
(1) 75–01–4	Vinyl chloride	0.002
(2) 71–43–2	Benzene	0.005
(3) 56–23–5	Carbon tetrachloride	0.005
(4) 107–06–2	1,2-Dichloroethane	0.005
(5) 79–01–6	Trichloroethylene	0.005
(6) 106–46–7	para-Dichlorobenzene	0.075
(7) 75–35–4	1,1-Dichloroethylene	0.007
(8) 71–55–6	1,1,1-Trichloroethane	0.2
(9) 156–59–2	cis-1,2-Dichloroethylene	0.07
(10) 78–87–5	1,2-Dichloropropane	0.005
(11) 100–41–4	Ethylbenzene	0.7
(12) 108–90–7	Monochlorobenzene	0.1
(13) 95–50–1	o-Dichlorobenzene	0.6
(14) 100–42–5	Styrene	0.1
(15) 127–18–4	Tetrachloroethylene	0.005
(16) 108–88–3	Toluene	1
(17) 156–60–5	trans-1,2-Dichloroethylene	0.1
(18) 1330–20–7	Xylenes (total)	10
(19) 75–09–2	Dichloromethane	0.005
(20) 120–82–1	1,2,4-Trichloro- benzene	.07
(21) 79–00–5	1,1,2-Trichloro- ethane	.005

(b) The Administrator, pursuant to section 1412 of the Act, hereby identifies as indicated in the Table below granular activated carbon (GAC), packed tower aeration (PTA), or oxidation (OX) as the best technology treatment technique, or other means available for achieving compliance with the maximum contaminant level for organic contaminants identified in paragraphs (a) and (c) of this section:

BAT FOR ORGANIC CONTAMINANTS LISTED IN § 141.61 (a) AND (c)

CAS No.	Contaminant	GAC	PTA	OX
15972–60–8	Alachlor	X		
116–06–3	Aldicarb	X		
1646–88–4	Aldicarb sulfone	X		
1646–87–3	Aldicarb sulfoxide	X		
1912–24–9	Atrazine	X		
71–43–2	Benzene	X	X	
50–32–8	Benzo[a]pyrene	X		
1563–66–2	Carbofuran	X		
56–23–5	Carbon tetrachloride	X	X	
57–74–9	Chlordane	X		
75–99–0	Dalapon	X		
94–75–7	2,4-D	X		
103–23–1	Di (2-ethylhexyl) adipate	X	X	
117–81–7	Di (2-ethylhexyl) phthalate	X		
96–12–8	Dibromochloropropane (DBCP)	X	X	
95–50–1	o-Dichlorobenzene	X	X	
106–46–7	para-Dichlorobenzene	X	X	
107–06–2	1,2-Dichloroethane	X	X	
75–35–4	1,1-Dichloroethylene	X	X	
156–59–2	cis-1,2-Dichloroethylene	X	X	
156–60–5	trans-1,2-Dichloroethylene	X	X	

BAT FOR ORGANIC CONTAMINANTS LISTED IN § 141.61 (a) AND (c)—Continued

CAS No.	Contaminant	GAC	PTA	OX
75–09–2	Dichloromethane		X	
78–87–5	1,2-Dichloropropane	X	X	
88–85–7	Dinoseb	X		
85–00–7	Diquat	X		
145–73–3	Endothall	X		
72–20–8	Endrin	X		
100–41–4	Ethylbenzene	X	X	
106–93–4	Ethylene Dibromide (EDB)	X	X	
1071–83–6	Gylphosate			X
76–44–8	Heptachlor	X		
1024–57–3	Heptachlor epoxide	X		
118–74–1	Hexachlorobenzene	X		
77–47–3	Hexachlorocyclopentadiene	X	X	
58–89–9	Lindane	X		
72–43–5	Methoxychlor	X		
108–90–7	Monochlorobenzene	X	X	
23135–22–0	Oxamyl (Vydate)	X		
87–86–5	Pentachlorophenol	X		
1918–02–1	Picloram	X		
1336–36–3	Polychlorinated biphenyls (PCB)	X		
122–34–9	Simazine	X		
100–42–5	Styrene	X	X	
1746–01–6	2,3,7,8-TCDD (Dioxin)	X		
127–18–4	Tetrachloroethylene	X	X	
108–88–3	Toluene	X	X	
8001–35–2	Toxaphene	X		
93–72–1	2,4,5-TP (Silvex)	X		
120–82–1	1,2,4-Trichlorobenzene	X	X	
71–55–6	1,1,1-Trichloroethane	X	X	
79–00–5	1,1,2-Trichloroethane	X	X	
79–01–6	Trichloroethylene	X	X	
75–01–4	Vinyl chloride		X	
1330–20–7	Xylene	X	X	

(c) The following maximum contaminant levels for synthetic organic contaminants apply to community water systems and non-transient, non-community water systems:

CAS No.	Contaminant	MCL (mg/l)
(1) 15972–60–8	Alachlor	0.002
(2) 116–06–3	Aldicarb	0.003
(3) 1646–87–3	Aldicarb sulfoxide	0.004
(4) 1646–87–4	Aldicarb sulfone	0.002
(5) 1912–24–9	Atrazine	0.003
(6) 1563–66–2	Carbofuran	0.04
(7) 57–74–9	Chlordane	0.002
(8) 96–12–8	Dibromochloropropane	0.0002
(9) 94–75–7	2,4-D	0.07
(10) 106–93–4	Ethylene dibromide	0.00005
(11) 76–44–8	Heptachlor	0.0004
(12) 1024–57–3	Heptachlor epoxide	0.0002
(13) 58–89–9	Lindane	0.0002
(14) 72–43–5	Methoxychlor	0.04
(15) 1336–36–3	Polychlorinated biphenyls	0.0005
(16) 87–86–5	Pentachlorophenol	0.001
(17) 8001–35–2	Toxaphene	0.003
(18) 93–72–1	2,4,5-TP	0.05
(19) 50–32–8	Benzo[a]pyrene	0.0002
(20) 75–99–0	Dalapon	0.2
(21) 103–23–1	Di(2-ethylhexyl) adipate	0.4
(22) 117–81–7	Di(2-ethylhexyl) phthalate	0.006
(23) 88–85–7	Dinoseb	0.007
(24) 85–00–7	Diquat	0.02
(25) 145–73–3	Endothall	0.1
(26) 72–20–8	Endrin	0.002
(27) 1071–53–6	Glyphosate	0.7
(28) 118–74–1	Hexacholorbenzene	0.001
(29) 77–47–4	Hexachlorocyclopentadiene	0.05

CAS No.	Contaminant	MCL (mg/l)
(30) 23135–22–0	Oxamyl (Vydate)	0.2
(31) 1918–02–1	Picloram	0.5
(32) 122–34–9	Simazine	0.004
(33) 1746–01–6	2,3,7,8-TCDD (Dioxin)	3×10^{-8}

[56 FR 3593, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994]

§ 141.62 Maximum contaminant levels for inorganic contaminants.

(a) [Reserved]

(b) The maximum contaminant levels for inorganic contaminants specified in paragraphs (b) (2)–(6), (b)(10), and (b)(11)–(16) of this section apply to community water systems and non-transient, non-community water systems. The maximum contaminant level specified in paragraph (b)(1) of this section only applies to community water systems. The maximum contaminant levels specified in (b)(7), (b)(8), and (b)(9) of this section apply to community water systems; non-transient, non-community water systems; and transient non-community water systems.

Contaminant	MCL (mg/l)
(1) Fluoride	4.0
(2) Asbestos	7 Million Fibers/liter (longer than 10 μm).
(3) Barium	2
(4) Cadmium	0.005
(5) Chromium	0.1
(6) Mercury	0.002
(7) Nitrate	10 (as Nitrogen)
(8) Nitrite	1 (as Nitrogen)
(9) Total Nitrate and Nitrite	10 (as Nitrogen)
(10) Selenium	0.05
(11) Antimony	0.006
(12) Beryllium	0.004
(13) Cyanide (as free Cyanide).	0.2
(14) [Reserved].	
(15) Thallium	0.002
(16) Arsenic	0.010

(c) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for inorganic contaminants identified in paragraph (b) of this section, except fluoride:

BAT FOR INORGANIC COMPOUNDS LISTED IN SECTION 141.62(b)

Chemical Name	BAT(s)
Antimony	2,7
Arsenic[4]	1, 2, 5, 6, 7, 9, 12[5]
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,6[2],7
Cyanide	5,7,13
Mercury	2[1],4,6[1],7[1]
Nickel	5,6,7
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,2[3],6,7,9
Thallium	1,5

[1] BAT only if influent Hg concentrations ≤10μg/1.
[2] BAT for Chromium III only.
[3] BAT for Selenium IV only.
[4] BATs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.
[5] To obtain high removals, iron to arsenic ratio must be at least 20:1.

Key to BATS in Table

1 = Activated Alumina
2 = Coagulation/Filtration (not BAT for systems <500 service connections)
3 = Direct and Diatomite Filtration
4 = Granular Activated Carbon
5 = Ion Exchange
6 = Lime Softening (not BAT for systems <500 service connections)
7 = Reverse Osmosis
8 = Corrosion Control
9 = Electrodialysis
10 = Chlorine
11 = Ultraviolet
12 = Oxidation/Filtration
13 = Alkaline Chlorination (pH ≥8.5)

(d) The Administrator, pursuant to section 1412 of the Act, hereby identifies in the following table the affordable technology, treatment technique, or other means available to systems serving 10,000 persons or fewer for achieving compliance with the maximum contaminant level for arsenic:

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CAS No.	Contaminant	MCL (mg/l)
(30) 23135–22–0	Oxamyl (Vydate)	0.2
(31) 1918–02–1	Picloram	0.5
(32) 122–34–9	Simazine	0.004
(33) 1746–01–6	2,3,7,8-TCDD (Dioxin)	3×10^{-8}

[56 FR 3593, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994]

§ 141.62 Maximum contaminant levels for inorganic contaminants.

(a) [Reserved]

(b) The maximum contaminant levels for inorganic contaminants specified in paragraphs (b) (2)–(6), (b)(10), and (b) (11)–(16) of this section apply to community water systems and non-transient, non-community water systems. The maximum contaminant level specified in paragraph (b)(1) of this section only applies to community water systems. The maximum contaminant levels specified in (b)(7), (b)(8), and (b)(9) of this section apply to community water systems; non-transient, non-community water systems; and transient non-community water systems.

Contaminant	MCL (mg/l)
(1) Fluoride	4.0
(2) Asbestos	7 Million Fibers/liter (longer than 10 μm).
(3) Barium	2
(4) Cadmium	0.005
(5) Chromium	0.1
(6) Mercury	0.002
(7) Nitrate	10 (as Nitrogen)
(8) Nitrite	1 (as Nitrogen)
(9) Total Nitrate and Nitrite	10 (as Nitrogen)
(10) Selenium	0.05
(11) Antimony	0.006
(12) Beryllium	0.004
(13) Cyanide (as free Cyanide).	0.2
(14) [Reserved].	
(15) Thallium	0.002
(16) Arsenic	0.010

(c) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for inorganic contaminants identified in paragraph (b) of this section, except fluoride:

BAT FOR INORGANIC COMPOUNDS LISTED IN SECTION 141.62(b)

Chemical Name	BAT(s)
Antimony	2,7
Arsenic[4]	1, 2, 5, 6, 7, 9, 12[5]
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,6[2],7
Cyanide	5,7,13
Mercury	2[1],4,6[1],7[1]
Nickel	5,6,7
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,2[3],6,7,9
Thallium	1,5

[1] BAT only if influent Hg concentrations ≤10μg/1.
[2] BAT for Chromium III only.
[3] BAT for Selenium IV only.
[4] BATs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.
[5] To obtain high removals, iron to arsenic ratio must be at least 20:1.

Key to BATS in Table

1 = Activated Alumina
2 = Coagulation/Filtration (not BAT for systems <500 service connections)
3 = Direct and Diatomite Filtration
4 = Granular Activated Carbon
5 = Ion Exchange
6 = Lime Softening (not BAT for systems <500 service connections)
7 = Reverse Osmosis
8 = Corrosion Control
9 = Electrodialysis
10 = Chlorine
11 = Ultraviolet
12 = Oxidation/Filtration
13 = Alkaline Chlorination (pH ≥8.5)

(d) The Administrator, pursuant to section 1412 of the Act, hereby identifies in the following table the affordable technology, treatment technique, or other means available to systems serving 10,000 persons or fewer for achieving compliance with the maximum contaminant level for arsenic:

SMALL SYSTEM COMPLIANCE TECHNOLOGIES (SSCTs) [1] FOR ARSENIC [2]

Small system compliance technology	Affordable for listed small system categories [3]
Activated Alumina (centralized).	All size categories.
Activated Alumina (Point-of-Use) [4].	All size categories.
Coagulation/Filtration [5]	501–3,300, 3,301–10,000.
Coagulation-assisted Microfiltration.	501–3,300, 3,301–10,000.
Electrodialysis reversal [6]	501–3,300, 3,301–10,000.
Enhanced coagulation/filtration.	All size categories
Enhanced lime softening (pH>10.5).	All size categories.
Ion Exchange	All size categories.
Lime Softening [5]	501–3,300, 3,301–10,000.
Oxidation/Filtration [7]	All size categories.
Reverse Osmosis (centralized) [6].	501–3,300, 3,301–10,000.
Reverse Osmosis (Point-of-Use) [4].	All size categories.

[1] Section 1412(b)(4)(E)(ii) of SDWA specifies that SSCTs must be affordable and technically feasible for small systems.
[2] SSCTs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.
[3] The Act (ibid.) specifies three categories of small systems: (i) those serving 25 or more, but fewer than 501, (ii) those serving more than 500, but fewer than 3,301, and (iii) those serving more than 3,300, but fewer than 10,001.
[4] When POU or POE devices are used for compliance, programs to ensure proper long-term operation, maintenance, and monitoring must be provided by the water system to ensure adequate performance.
[5] Unlikely to be installed solely for arsenic removal. May require pH adjustment to optimal range if high removals are needed.
[6] Technologies reject a large volume of water—may not be appropriate for areas where water quantity may be an issue.
[7] To obtain high removals, iron to arsenic ratio must be at least 20:1.

[56 FR 3594, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31847, July 17, 1992; 59 FR 34325, July 1, 1994; 60 FR 33932, June 29, 1995; 66 FR 7063, Jan. 22, 2001; 68 FR 14506, Mar. 25, 2003; 69 FR 38855, June 29, 2004]

§ 141.63 Maximum contaminant levels (MCLs) for microbiological contaminants.

(a) Until March 31, 2016, the total coliform MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

(1) For a system that collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

(2) For a system that collects fewer than 40 samples per month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Until March 31, 2016, any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample, constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in subpart Q of this part, this is a violation that may pose an acute risk to health.

(c) Beginning April 1, 2016, a system is in compliance with the MCL for *E. coli* for samples taken under the provisions of subpart Y of this part unless any of the conditions identified in paragraphs (c)(1) through (c)(4) of this section occur. For purposes of the public notification requirements in subpart Q of this part, violation of the MCL may pose an acute risk to health.

(1) The system has an *E. coli*-positive repeat sample following a total coliform-positive routine sample.

(2) The system has a total coliform-positive repeat sample following an *E. coli*-positive routine sample.

(3) The system fails to take all required repeat samples following an *E. coli*-positive routine sample.

(4) The system fails to test for *E. coli* when any repeat sample tests positive for total coliform.

(d) Until March 31, 2016, a public water system must determine compliance with the MCL for total coliforms in paragraphs (a) and (b) of this section for each month in which it is required to monitor for total coliforms. Beginning April 1, 2016, a public water system must determine compliance with the MCL for *E. coli* in paragraph (c) of this section for each month in which it is required to monitor for total coliforms.

(e) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (a) and (b) of this section and for achieving compliance with the maximum contaminant level for *E. coli* in paragraph (c) of this section:

Chemical	Residential Soil, Cancer (mg/kg)	Residential Soil, Noncancer (mg/kg)	Industrial/ Occupational Soil, Cancer (mg/kg)	Industrial/ Occupational Soil, Noncancer (mg/kg)	Construction Worker Soil, Cancer (mg/kg)	Construction Worker Soil, Noncancer (mg/kg)	Tap Water, Cancer (µg/L)	Tap Water, Noncancer (µg/L)	Risk-based SSL, DAF 1 (mg/kg)	Risk-based SSL, DAF 20 (mg/kg)	NMGW/MCL-based SSL, DAF 1 (mg/kg)	NMGW/MCL-based SSL, DAF 20 (mg/kg)
Acenaphthene		3.48E+03		5.05E+04		1.51E+04		5.35E+02	4.12E+00	8.25E+01	1.54E-03	3.09E-02
Acetaldehyde	3.28E+02	2.41E+02	1.59E+03	1.14E+03	7.39E+03	2.11E+02	2.55E+01	1.88E+01	3.29E-03	6.58E-02		
Acetone		6.63E+04		9.59E+05		2.41E+05		1.41E+04	2.49E+00	4.98E+01		
Acetophenone		7.82E+03		1.30E+05		3.54E+04		1.92E+03	4.82E-01	9.64E+00		
Acrolein		4.50E-01		2.14E+00		3.97E-01		4.15E-02	7.29E-06	1.46E-04		
Acrylonitrile	4.90E+00	3.95E+01	2.45E+01	1.88E+02	1.29E+02	3.49E+01	5.23E-01	4.15E+00	9.77E-05	1.95E-03		
Alachlor	9.51E+01	6.16E+02	4.58E+02	9.16E+03	3.36E+03	2.69E+03	1.37E-01	1.86E+02	8.78E-05	1.76E-03	1.28E-03	2.57E-02
Aldrin	3.11E-01	1.85E+00	1.50E+00	2.75E+01	1.09E+01	8.07E+00	1.98E-03	3.31E-02	2.44E-04	4.88E-03		
Aluminum		7.80E+04		1.29E+06		4.14E+04		1.99E+04	2.99E+04	5.97E+05		
Anthracene		1.74E+04		2.53E+05		7.53E+04		1.72E+03	4.25E+01	8.51E+02		
Antimony		3.13E+01		5.19E+02		1.42E+02		7.26E+00	3.28E-01	6.56E+00	2.71E-01	5.42E+00
Arsenic	7.07E+00	1.30E+01	3.59E+01	2.08E+02	2.16E+02	4.12E+01	8.55E-01	3.55E+00	2.50E-02	4.99E-01	2.92E-01	5.83E+00
Atrazine	2.32E+01	2.16E+03	1.12E+02	3.21E+04	8.19E+02	9.42E+03	3.39E+00	7.02E+02	1.70E-03	3.41E-02	1.51E-03	3.02E-02
Barium		1.56E+04		2.55E+05		4.39E+03		3.28E+03	1.35E+02	2.70E+03	8.23E+01	1.65E+03
Benzene	1.77E+01	1.14E+02	8.65E+01	7.24E+02	4.20E+02	1.41E+02	4.55E+00	3.32E+01	1.90E-03	3.80E-02	2.09E-03	4.18E-02
Benzidine	5.18E-03	1.85E+02	1.12E-01	2.75E+03	8.12E-01	8.07E+02	1.09E-03	5.89E+01	2.13E-06	4.27E-05		
Benzo(a)anthracene	1.53E+00		3.23E+01		2.40E+02		1.20E-01		3.18E-02	6.37E-01		
Benzo(a)pyrene	1.12E+00		2.36E+01		1.73E+02	1.06E+02	2.51E-01	6.02E+00	2.21E-01	4.42E+00	1.76E-01	3.53E+00
Benzo(b)fluoranthene	1.53E+00		3.23E+01		2.40E+02		3.43E-01		3.09E-01	6.17E+00		
Benzo(k)fluoranthene	1.53E+01		3.23E+02		2.31E+03		3.43E+00		3.02E+00	6.05E+01		
Beryllium	6.44E+04	1.56E+02	3.13E+05	2.58E+03	2.71E+03	1.48E+02		1.24E+01	9.79E+00	1.96E+02	3.16E+00	6.32E+01
a-BHC (a-Hexachlorocyclohexane, a-HCH)	8.45E-01	4.93E+02	4.07E+00	7.33E+03	2.97E+01	2.15E+03	6.93E-02	9.18E+01	3.04E-04	6.08E-03		
b-BHC (b-Hexachlorocyclohexane, b-HCH)	2.96E+00		1.43E+01		1.04E+02		2.43E-01		1.06E-03	2.13E-02		
t-BHC (t-Hexachlorocyclohexane, Lindane)	5.63E+00	2.12E+01	2.83E+01	3.34E+02	1.98E+02	9.43E+01	4.15E-01	3.60E+00	1.82E-03	3.64E-02		
1,1-Biphenyl	8.48E+02	3.91E+04	4.43E+03	6.49E+05	3.02E+04	1.77E+05	3.71E+01	8.34E-01	6.56E-03	1.31E-01		
Bis(2-chloroethyl) ether	3.10E+00		1.56E+01		1.93E+00		1.37E-01		3.03E-05	6.05E-04		
Bis(2-chloroisopropyl) ether	9.93E+01		5.19E+02		3.54E+03		9.81E+00		2.38E-03	4.75E-02		
Bis(2-ethylhexyl) phthalate [Di(2-ethylhexyl)phthalate, DEHP]	3.80E+02	1.23E+03	1.83E+03	1.83E+04	1.34E+04	5.38E+03	5.56E+01	4.01E+02	9.99E+00	2.00E+02	1.08E+00	2.15E+01
Bis(chloromethyl) ether	2.06E-03		1.01E-02		4.77E-02		7.20E-04		1.50E-07	3.00E-06		
Boron		1.56E+04		2.59E+05		5.14E+04		3.95E+03	1.25E+01	2.51E+02		
Bromodichloromethane	6.14E+00	1.56E+03	2.99E+01	2.60E+04	1.41E+02	7.08E+03	1.34E+00	3.77E+02	3.10E-04	6.21E-03		
Bromomethane		1.76E+01		9.37E+01		1.77E+01		7.54E+00	1.71E-03	3.43E-02		
1,3-Butadiene	6.82E-01	2.28E+00	3.39E+00	1.07E+01	1.75E+01	2.00E+00	1.81E-01	4.17E+00	1.04E-04	2.08E-03		
2-Butanone (Methyl ethyl ketone, MEK)		3.73E+04		4.09E+05		9.12E+04		5.56E+03	1.00E+00	2.01E+01		
tert-Butyl methyl ether (MTBE)	9.68E+02	3.74E+04	4.78E+03	1.76E+05	2.40E+04	3.28E+04	1.43E+02	6.26E+03	2.77E-02	5.53E-01		
Cadmium	8.59E+04	7.05E+01	4.17E+05	1.11E+03	3.61E+03	7.21E+01		6.24E+00	4.69E-01	9.39E+00	3.76E-01	7.52E+00
Carbofuran		3.08E+02		4.58E+03		1.35E+03		9.36E+01	2.96E-02	5.91E-01	1.26E-02	2.53E-01
Carbon disulfide		1.54E+03		8.47E+03		1.61E+03		8.10E+02	2.21E-01	4.42E+00		
Carbon tetrachloride	1.06E+01	1.44E+02	5.21E+01	1.01E+03	2.50E+02	2.00E+02	4.55E+00	4.92E+01	1.67E-03	3.34E-02	1.84E-03	3.67E-02
Chlordane	1.77E+01	3.53E+01	8.90E+01	5.56E+02	6.23E+02	1.53E+02	4.48E-01	1.27E+00	2.28E-02	4.56E-01	1.02E-01	2.03E+00
2-Chloroacetophenone		1.72E+05		8.12E+05		2.81E+02						
2-Chloro-1,3-butadiene	1.73E-01	3.77E+01	8.41E-01	1.81E+02	3.91E+00	3.37E+01	1.87E-01	3.70E+01	9.83E-05	1.97E-03		
1-Chloro-1,1-difluoroethane		1.08E+05		5.10E+05		9.49E+04		1.04E+05	5.34E+01	1.07E+03		
Chlorobenzene (Monochlorobenzene)		3.76E+02		2.14E+03		4.08E+02		7.76E+01	4.18E-02	8.36E-01	5.39E-02	1.08E+00
1-Chlorobutane		3.13E+03		5.19E+04		1.42E+04		6.31E+02	2.27E-01	4.53E+00		
Chlorodifluoromethane		1.02E+05		4.79E+05		8.90E+04		1.04E+05	4.27E+01	8.55E+02		
Chloroform	5.85E+00	3.04E+02	2.84E+01	1.99E+03	1.33E+02	3.88E+02	2.29E+00	9.72E+01	5.46E-04	1.09E-02		
Chloromethane	4.08E+01	2.66E+02	1.99E+02	1.25E+03	9.47E+02	2.33E+02	2.03E+01	1.88E+02	4.76E-03	9.52E-02		
b-Chloronaphthalene		6.26E+03		1.04E+05		2.83E+04		7.33E+02	2.85E+00	5.70E+01		
o-Chloronitrobenzene	1.78E+01	1.84E+02	8.55E+01	2.72E+03	6.28E+02	8.39E+01	2.36E+00	5.49E+01	1.72E-03	3.44E-02		
p-Chloronitrobenzene	8.45E+02	6.16E+01	4.07E+03	9.16E+02	2.99E+04	2.57E+02	1.10E+02	1.79E+01	1.28E-02	2.57E-01		
2-Chlorophenol		3.91E+02		6.49E+03		1.77E+03		9.10E+01	5.76E-02	1.15E+00		
2-Chloropropane		2.84E+02		1.34E+03		2.49E+02		2.09E+02	6.31E-02	1.26E+00		
o-Chlorotoluene		1.56E+03		2.60E+04		7.08E+03		2.33E+02	1.78E-01	3.56E+00		
Chromium III		1.17E+05		1.95E+06		5.31E+05		1.36E+04	2.46E+07	4.91E+08		
Chromium VI	3.05E+00	2.35E+02	7.21E+01	3.89E+03	6.69E+01	4.98E+02	5.01E-01	2.67E+01	9.61E-03	1.92E-01		
Chromium (Total)	9.66E+01	4.52E+04	5.05E+02	3.14E+05	4.68E+02	1.34E+02	5.70E+00	1.17E+04	1.03E+04	2.05E+05	1.80E+05	3.60E+03
Chrysene	1.53E+02		3.23E+03		2.31E+04		3.43E+01		9.30E+00	1.86E+02		
Cobalt	1.72E+04	2.34E+01	8.34E+04	3.88E+02	7.22E+02	3.67E+01		5.98E+00	2.70E-01	5.40E+00		

Copper		3.13E+03		5.19E+04		1.42E+04		7.90E+02	2.78E+01	5.56E+02	4.57E+01	9.15E+02
Crotonaldehyde	3.66E+00	7.82E+01	1.91E+01	1.30E+03	1.30E+02	3.54E+02	4.04E-01	1.98E+01	7.11E-05	1.42E-03		
Cumene (isopropylbenzene)		2.35E+03		1.41E+04		2.71E+03		4.47E+02	5.69E-01	1.14E+01		
Cyanide		1.11E+01		6.28E+01		1.20E+01		1.46E+00	2.61E-04	5.22E-03	3.56E-02	7.13E-01
Cyanogen		7.82E+01		1.30E+03		3.54E+02		1.99E+01	4.01E-03	8.01E-02		
Cyanogen bromide		7.04E+03		1.17E+05		3.19E+04		1.80E+03	5.29E-01	1.06E+01		
Cyanogen chloride		3.91E+03		6.49E+04		1.77E+04		9.99E+02	2.94E-01	5.88E+00		
DDD	2.22E+01		1.07E+02		7.78E+02		3.17E-01		5.60E-02	1.12E+00		
DDE	1.57E+01		7.55E+01		5.49E+02		4.62E-01		8.15E-02	1.63E+00		
DDT	1.87E+01	3.62E+01	9.50E+01	5.77E+02	6.59E+02	1.62E+02	2.29E+00	1.00E+01	5.80E-01	1.16E+01		
Dibenz(a,h)anthracene	1.53E-01		3.23E+00		2.40E+01		3.43E-02		9.84E-02	1.97E+00		
1,2-Dibromo-3-chloropropane	8.51E-02	5.85E+00	1.17E+00	4.08E+01	5.48E+00	8.23E+00	3.34E-03	3.72E-01	1.16E-06	2.33E-05	6.95E-05	1.39E-03
Dibromochloromethane	1.38E+01	1.23E+03	6.69E+01	1.83E+04	3.38E+02	5.38E+03	1.68E+00	3.78E+02	3.77E-04	7.55E-03		
1,2-Dibromoethane (Ethylene dibromide)	6.68E-01	1.34E+02	3.28E+00	7.32E+02	1.62E+01	1.39E+02	7.47E-02	1.69E+01	1.76E-05	3.52E-04	1.18E-05	2.36E-04
1,4-Dichloro-2-butene	1.14E-01		5.53E-01		2.57E+00		1.34E-02		5.00E-06	9.99E-05		
1,2-Dichlorobenzene		2.14E+03		1.29E+04		2.47E+03		3.02E+02	2.29E-01	4.58E+00	4.54E-01	9.08E+00
1,4-Dichlorobenzene	1.29E+03	5.48E+03	6.73E+03		4.59E+04	2.48E+04	4.82E+00	5.63E+02	3.60E-03	7.20E-02	5.61E-02	1.12E+00
3,3-Dichlorobenzidine	1.18E+01		5.70E+01		4.10E+02		1.25E+00		6.21E-03	1.24E-01		
Dichlorodifluoromethane		1.80E+02		8.57E+02		1.59E+02		1.97E+02	3.61E-01	7.23E+00		
1,1-Dichloroethane	7.79E+01	1.56E+04	3.80E+02	2.60E+05	1.80E+03	7.08E+04	2.75E+01	3.74E+03	6.80E-03	1.36E-01		
1,2-Dichloroethane	8.25E+00	5.52E+01	4.03E+01	2.84E+02	1.94E+02	5.34E+01	1.71E+00	1.30E+01	4.07E-04	8.14E-03	1.19E-03	2.38E-02
cis-1,2-Dichloroethene		1.56E+02		2.60E+03		7.08E+02		3.65E+01	9.18E-03	1.84E-01	1.76E-02	3.52E-01
trans-1,2-Dichloroethene		2.93E+02		1.60E+03		3.03E+02		9.32E+01	2.35E-02	4.69E-01	2.52E-02	5.03E-01
1,1-Dichloroethene		4.36E+02		2.24E+03		4.20E+02		2.84E+02	9.74E-02	1.95E+00	2.40E-03	4.79E-02
2,4-Dichlorophenol		1.85E+02		2.75E+03		8.07E+02		4.53E+01	4.13E-02	8.25E-01		
1,2-Dichloropropane	1.76E+01	2.87E+01	8.61E+01	1.36E+02	4.11E+02	2.52E+01	4.38E+00	8.30E+00	1.21E-03	2.43E-02	1.39E-03	2.77E-02
1,3-Dichloropropene	2.91E+01	1.40E+02	1.46E+02	6.89E+02	7.76E+02	1.29E+02	4.71E+00	3.88E+01	1.40E-03	2.81E-02		
Dicyclopentadiene		6.26E+03		1.04E+05		2.83E+04		6.25E-01	1.71E-03	3.42E-02		
Dieldrin	3.33E-01	3.08E+00	1.60E+00	4.58E+01	1.17E+01	1.35E+01	1.75E-02	3.72E-01	5.32E-04	1.06E-02		
Diethyl phthalate		4.93E+04		7.33E+05		2.15E+05		1.48E+04	4.89E+00	9.79E+01		
Di-n-butyl phthalate (Dibutyl phthalate)		6.16E+03		9.16E+04		2.69E+04		8.85E+02	1.69E+00	3.38E+01		
2,4-Dimethylphenol		1.23E+03		1.83E+04		5.38E+03		3.54E+02	3.22E-01	6.45E+00		
Dimethyl phthalate (DMP, Phthalic Acid)		6.16E+04		9.16E+05		2.69E+05		6.12E+02	1.78E-01	3.57E+00		
4,6-Dinitro-o-cresol		4.93E+00		7.33E+01		2.15E+01		1.52E+00	1.99E-03	3.98E-02		
2,4-Dinitrophenol		1.23E+02		1.83E+03		5.38E+02		3.87E+01	3.34E-02	6.69E-01		
2,4-Dinitrotoluene	1.71E+01	1.23E+02	8.23E+01	1.82E+03	6.00E+02	5.36E+02	2.37E+00	3.80E+01	2.46E-03	4.92E-02		
2,6-Dintitrotoluene	3.56E+00	1.85E+01	1.72E+01	2.76E+02	1.65E+02	8.09E+01	4.85E-01	5.64E+00	5.12E-04	1.02E-02		
2,4/2,6-Dintrotoluene Mixture	7.83E+00		3.77E+01		2.77E+02		1.06E+00		1.12E-03	2.24E-02		
1,4-Dioxane	5.33E+01	1.85E+03	2.57E+02	2.75E+04	1.88E+03	7.85E+03	4.59E+00	5.67E+01	8.14E-04	1.63E-02		
1,2-Diphenylhydrazine	6.66E+00		3.21E+01		2.34E+02		7.80E-01		1.90E-03	3.79E-02		
Endosulfan		3.70E+02		5.50E+03		1.61E+03		9.87E+01	1.02E+00	2.04E+01		
Endrin		1.85E+01		2.75E+02		8.07E+01		2.23E+00	6.77E-02	1.35E+00	6.06E-02	1.21E+00
Epichlorohydrin	4.20E+02	4.24E+01	2.13E+03	2.14E+02	1.21E+04	3.99E+01	2.92E+01	2.05E+00	3.86E-04	7.72E-03		
Ethyl acetate		1.80E+03		8.67E+03		1.61E+03		1.45E+02	2.64E-02	5.28E-01		
Ethyl acrylate	1.45E+02		7.57E+02		5.16E+03		1.57E+01		2.99E-03	5.98E-02		
Ethyl chloride		1.88E+04		8.87E+04		1.65E+04		2.09E+04	5.37E+00	1.07E+02		
Ethyl ether		1.56E+04		2.60E+05		7.08E+04		3.93E+03	7.60E-01	1.52E+01		
Ethyl methacrylate		2.72E+03		1.77E+04		3.45E+03		4.55E+02	9.15E-02	1.83E+00		
Ethylbenzene	7.45E+01	3.92E+03	3.65E+02	2.88E+04	1.76E+03	5.75E+03	1.50E+01	8.00E+02	1.32E-02	2.64E-01	6.15E-01	1.23E+01
Ethylene oxide	1.87E-01	6.29E+02	9.06E-01	2.97E+03	4.22E+00	5.50E+02	1.86E-02	6.26E+01	3.32E-06	6.65E-05		
Fluoranthene		2.32E+03		3.37E+04		1.00E+04		8.02E+02	6.69E+01	1.34E+03		
Fluorene		2.32E+03		3.37E+04		1.00E+04		2.88E+02	4.00E+00	8.00E+01		
Fluoride		4.69E+03		7.78E+04		1.81E+04		1.18E+03	1.78E+02	3.56E+03	6.01E+02	1.20E+04
Furan		7.24E+01		1.15E+03		3.54E+02		1.92E+01	6.12E-03	1.22E-01		
Glyphosate		6.16E+03		9.16E+04		2.69E+04		2.01E+03	6.66E+00	1.33E+02	2.33E+00	4.65E+01
Heptachlor	1.18E+00	3.08E+01	5.70E+00	4.58E+02	4.15E+01	1.35E+02	2.21E-02	2.72E+00	1.37E-03	2.75E-02	2.48E-02	4.97E-01
Hexachlorobenzene	3.33E+00	4.93E+01	1.60E+01	7.33E+02	1.17E+02	2.15E+02	9.76E-02	1.60E+01	9.25E-04	1.85E-02	9.47E-03	1.89E-01
Hexachloro-1,3-butadiene	6.83E+01	6.16E+01	5.17E+01	9.16E+02	2.40E+03	2.69E+02	1.39E+00	6.30E+00	2.07E-03	4.13E-02		
Hexachlorocyclopentadiene		2.28E+00		5.49E+03		8.67E+02		4.11E-01	9.88E-04	1.98E-02	1.20E-01	2.40E+00
Hexachloroethane	1.33E+02	4.31E+01	6.41E+02	6.41E+02	4.67E+03	1.88E+02	3.28E+00	6.14E+00	1.60E-03	3.20E-02		
n-Hexane		6.10E+02		3.17E+03		5.97E+02		3.19E+02	2.78E+00	5.57E+01		
HMX		3.85E+03		6.33E+04		1.74E+04		1.00E+03	9.72E-01	1.94E+01		
Hydrazine anhydride	1.78E+00	1.80E+00	1.35E+00	8.12E+05	5.99E+01	2.81E+02	1.10E-02	6.26E-02	1.90E-06	3.81E-05		
Hydrogen cyanide		1.02E+01		5.67E+01		1.08E+01		1.46E+00	2.61E-04	5.22E-03		

Indeno(1,2,3-c,d)pyrene	1.53E+00		3.23E+01		2.40E+02		3.43E-01		1.00E+00	2.01E+01		
Iron		5.48E+04		9.08E+05		2.48E+05		1.38E+04	3.48E+02	6.96E+03		
Isobutanol (Isobutyl alcohol)		1.85E+04		2.75E+05		8.07E+04		5.91E+03	1.05E+00	2.10E+01		
Isophorone	5.61E+03	1.23E+04	2.70E+04	1.83E+05	1.98E+05	5.37E+04	7.81E+02	3.83E+03	2.12E-01	4.23E+00		
Lead											2.60E-03	5.20E-02
Lead (tetraethyl-)		6.16E-03		9.16E-02		3.54E-02		1.24E-03	4.70E-06	9.41E-05		
Maleic hydrazide		3.08E+04		4.58E+05		1.35E+05		1.00E+04	1.79E+00	3.57E+01		
Manganese		1.05E+04		1.60E+05		4.64E+02		2.02E+03	1.31E+02	2.63E+03		
Mercury (elemental)		2.36E+01		1.11E+02		2.05E+01		6.26E-01	3.27E-02	6.54E-01	1.04E-01	2.09E+00
Mercury (methyl)		7.82E+00		1.30E+02		3.54E+01		1.96E+00	3.79E-04	7.58E-03		
Mercury (salts)		2.35E+01		3.89E+02		7.71E+01		4.92E+00	2.56E-01	5.13E+00	1.04E-01	2.09E+00
Methacrylonitrile		7.70E+00		1.23E+02		3.27E+01		1.91E+00	3.71E-04	7.43E-03		
Methomyl		1.54E+03		2.29E+04		6.73E+03		4.98E+02	9.37E-02	1.87E+00		
Methyl acetate		7.82E+04		1.30E+06		3.54E+05		1.99E+04	3.55E+00	7.11E+01		
Methyl acrylate		3.47E+02		1.83E+03		3.45E+02		3.90E+01	7.13E-03	1.43E-01		
Methyl isobutyl ketone		5.81E+03		8.15E+04		2.02E+04		1.24E+03	2.40E-01	4.80E+00		
Methyl methacrylate		1.10E+04		5.60E+04		1.05E+04		1.39E+03	2.61E-01	5.22E+00		
Methyl styrene (alpha)		5.48E+03		9.08E+04		2.48E+04		7.65E+02	9.43E-01	1.89E+01		
Methyl styrene (mixture)		2.72E+02		2.19E+03		4.46E+02		3.73E+01	4.70E-02	9.40E-01		
Methylcyclohexane		5.45E+03		2.57E+04		4.78E+03		6.26E+03	1.58E+01	3.16E+02		
Methylene bromide (Dibromomethane)		5.74E+01		2.86E+02		5.34E+01		8.00E+00	1.68E-03	3.35E-02		
Methylene chloride (Dichloromethane)	7.66E+02	4.09E+02	1.44E+04	5.11E+03	8.93E+04	1.20E+03	1.18E+02	1.06E+02	2.35E-02	4.71E-01	1.11E-03	2.21E-02
1-Methylnaphthalene	1.72E+02	4.06E+03	8.13E+02	5.89E+04	6.06E+03	1.76E+04	1.14E+01	6.11E+02	4.47E-02	8.93E-01		
2-Methylnaphthalene		2.32E+02		3.37E+03		1.00E+03		3.51E+01	1.38E-01	2.76E+00		
Molybdenum		3.91E+02		6.49E+03		1.77E+03		9.87E+01	1.99E+00	3.98E+01		
Naphthalene		1.16E+03		1.68E+04		5.02E+03	1.65E+00	6.11E+00	4.11E-03	8.23E-02		
Nickel	5.95E+05	1.56E+03	2.89E+06	2.57E+04	2.50E+04	7.53E+02		3.72E+02	2.42E+01	4.85E+02		
Nitrate		1.25E+05		2.08E+06		5.66E+05		3.16E+04	2.13E+01	4.25E+02	6.73E+00	1.35E+02
Nitrite		7.82E+03		1.30E+05		3.54E+04		1.97E+03	1.33E+00	2.66E+01	6.73E-01	1.35E+01
Nitrobenzene	5.99E+01	1.31E+02	2.91E+02	1.54E+03	1.34E+03	3.51E+02	1.40E+00	1.25E+01	7.20E-04	1.44E-02		
Nitroglycerin	3.13E+02	6.16E+00	1.51E+03	9.16E+01	1.11E+04	2.69E+01	4.47E+01	1.96E+00	6.80E-04	1.36E-02		
p-Nitrophenol												
N-Nitrosodiethylamine	7.94E-03		1.71E-01		1.25E+00		1.67E-03		4.97E-07	9.94E-06		
N-Nitrosodimethylamine	2.34E-02	4.93E-01	5.03E-01	7.33E+00	3.66E+00	2.14E+00	4.91E-03	1.60E-01	1.02E-06	2.04E-05		
N-Nitrosodi-*n*-butylamine	7.79E-01		3.76E+00		2.45E+01		2.73E-02		4.21E-05	8.42E-04		
N-Nitrosodiphenylamine	1.09E+03		5.24E+03		3.79E+04		1.22E+02		5.02E-01	1.00E+01		
N-Nitrosopyrrolidine	2.54E+00		1.22E+01		8.89E+01		3.70E-01		1.15E-04	2.30E-03		
m-Nitrotoluene		6.16E+00		9.16E+01		2.69E+01		1.74E+00	1.25E-03	2.50E-02		
o-Nitrotoluene	3.16E+01	7.04E+01	1.65E+02	1.17E+03	1.13E+03	3.19E+02	3.14E+00	1.61E+01	2.29E-03	4.58E-02		
p-Nitrotoluene	3.33E+02	2.47E+02	1.60E+03	3.67E+03	1.18E+04	1.08E+03	4.27E+01	7.07E+01	3.06E-02	6.13E-01		
Pentachlorobenzene		4.93E+01		7.33E+02		2.15E+02		3.07E+00	1.76E-02	3.52E-01		
Pentachlorophenol	9.85E+00	2.34E+02	4.45E+01	3.18E+03	3.46E+02	9.89E+02	4.13E-01	2.21E+01	3.14E-03	6.29E-02	7.61E-03	1.52E-01
Perchlorate		5.48E+01		9.08E+02		2.48E+02		1.38E+01	5.85E-03	1.17E-01	6.35E-04	1.27E-02
Perfluorinate chemicals (PFCs)								7.00E-02				
Perfluorohexane sulfonic acid (PFHxS)												
Perfluorooctane sulfonate (PFO, PFOS)								7.00E-02				
Perfluorooctanoic acid (PFOA)								7.00E-02				
Phenanthrene		1.74E+03		2.53E+04		7.53E+03		1.70E+02	4.30E+00	8.59E+01		
Phenol		1.85E+04		2.75E+05		7.74E+04		5.76E+03	2.62E+00	5.23E+01		
Polychlorinatedbiphenyls (PCBs)												
Aroclor 1016	6.96E+01	3.98E+00	3.04E+02	5.74E+01	2.44E+03	1.72E+01	2.24E+00	1.40E+00	1.01E-01	2.01E+00	3.59E-02	7.17E-01
Aroclor 1221	1.80E+00		8.55E+00		5.52E+01		5.61E-02		7.17E-04	1.43E-02		
Aroclor 1232	1.85E+00		8.80E+00		5.74E+01		5.61E-02		7.17E-04	1.43E-02		
Aroclor 1242	2.43E+00		1.09E+01		8.53E+01		7.86E-02		9.22E-03	1.84E-01		
Aroclor 1248	2.43E+00		1.07E+01		8.53E+01		7.86E-02		9.04E-03	1.81E-01		
Aroclor 1254	2.43E+00	1.14E+00	1.10E+01	1.64E+01	8.53E+01	4.91E+00	7.86E-02	4.01E-01	1.54E-02	3.08E-01		
Aroclor 1260	2.43E+00		1.11E+01		8.53E+01		7.86E-02		4.13E-02	8.25E-01		
2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB 170)	3.75E-01	3.98E-01	1.77E+00	5.74E+00	1.31E+01	1.72E+00	5.99E-02	1.40E-01	3.21E-02	6.42E-01		
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	3.75E+00	3.98E+00	1.77E+01	5.74E+01	1.31E+02	1.72E+01	5.99E-01	1.40E+00	3.14E-01	6.29E+00		
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	1.25E+00	1.33E+00	5.81E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	2.07E-02	4.15E-01		
2,3',4,4',5,5'-Hexachlorobiphenyl (PCB 167)	1.25E+00	1.33E+00	5.78E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.24E-02	2.48E-01		
2,3,3',4,4',5'-Hexachlorobiphenyl (PCB 157)	1.25E+00	1.33E+00	5.78E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.27E-02	2.53E-01		
2,3,3',4,4',5-Hexachlorobiphenyl (PCB 156)	1.25E+00	1.33E+00	5.74E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	1.27E-02	2.53E-01		
3,3',4,4',5,5'-Hexachlorobiphenyl (PCB 169)	1.25E-03	1.33E-03	5.78E-03	1.91E-02	4.37E-02	5.73E-03	3.95E-05	4.01E-04	1.24E-05	2.48E-04		

2',3,4,4',5-Pentachlorobiphenyl (PCB 123)	1.25E+00	1.33E+00	5.73E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	7.74E-03	1.55E-01		
2',3',4,4',5-Pentachlorobiphenyl (PCB 118)	1.25E+00	1.32E+00	5.63E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	7.59E-03	1.52E-01		
2',3,3',4,4'-Pentachlorobiphenyl (PCB 105)	1.25E+00	1.32E+00	5.64E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	7.74E-03	1.55E-01		
2,3,4,4',5-Pentachlorobiphenyl (PCB 114)	1.25E+00	1.33E+00	5.73E+00	1.91E+01	4.37E+01	5.73E+00	3.95E-02	4.01E-01	7.74E-03	1.55E-01		
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	3.75E-04	3.98E-04	1.72E-03	5.74E-03	1.31E-02	1.72E-03	1.19E-05	1.20E-04	2.28E-06	4.55E-05		
3,3',4,4'-Tetrachlorobiphenyl (PCB 77)	3.75E-01	3.98E-01	1.77E+00	5.74E+00	1.31E+01	1.72E+00	5.99E-02	1.40E-01	7.03E-03	1.41E-01		
3,4,4',5-Tetrachlorobiphenyl (PCB 81)	1.25E-01	1.32E-01	5.66E-01	1.91E+00	4.37E+00	5.73E-01	3.95E-03	4.01E-02	4.64E-04	9.27E-03		
Propylene oxide	2.56E+01	9.06E+02	1.33E+02	4.27E+03	8.54E+02	7.92E+02	2.66E+00	6.26E+01	4.82E-04	9.65E-03		
Pyrene		1.74E+03		2.53E+04		7.53E+03		1.17E+02	9.59E+00	1.92E+02		
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine	6.04E+01	2.26E+02	3.11E+02	3.66E+03	2.15E+03	1.01E+03	7.02E+00	5.97E+01	2.16E-03	4.31E-02		
Selenium		3.91E+02		6.49E+03		1.75E+03		9.87E+01	5.11E-01	1.02E+01	2.59E-01	5.17E+00
Silver		3.91E+02		6.49E+03		1.77E+03		8.12E+01	6.88E-01	1.38E+01		
Simazine	4.44E+01	3.08E+02	2.14E+02	4.58E+03	1.57E+03	1.35E+03	6.07E+00	9.40E+01	2.42E-03	4.83E-02	1.59E-03	3.19E-02
Strontium		4.69E+04		7.79E+05		2.12E+05		1.18E+04	4.17E+02	8.33E+03		
Styrene		7.23E+03		5.09E+04		1.01E+04		1.21E+03	1.03E+00	2.06E+01	8.55E-02	1.71E+00
Sulfolane		6.16E+01		9.16E+02		2.65E+02		2.00E+01	3.75E-03	7.49E-02		
2,3,7,8-TCDD	4.90E-05	5.06E-05	2.38E-04	8.08E-04	1.72E-03	2.26E-04	1.19E-06	1.20E-05	4.43E-07	8.86E-06	1.12E-05	2.24E-04
2,3,7,8-TCDF	4.90E-04		2.43E-03		1.72E-02		1.84E-06		3.85E-07	7.69E-06		
1,2,4,5-Tetrachlorobenzene		1.85E+01		2.75E+02		8.07E+01		1.66E+00	5.83E-03	1.17E-01		
1,1,1,2-Tetrachloroethane	2.78E+01	2.35E+03	1.36E+02	3.89E+04	6.53E+02	1.06E+04	5.74E+00	4.77E+02	1.80E-03	3.60E-02		
1,1,2,2-Tetrachloroethane	7.93E+00	1.56E+03	3.91E+01	2.60E+04	1.95E+02	7.08E+03	7.57E-01	3.60E+02	2.40E-04	4.81E-03		
Tetrachloroethene	3.35E+02	1.10E+02	1.64E+03	6.24E+02	7.84E+03	1.19E+02	1.13E+02	4.03E+01	1.60E-02	3.21E-01	1.99E-03	3.98E-02
Tetryl (Trinitrophenylmethylnitramine)		1.56E+02		2.59E+03		7.06E+02		3.94E+01	2.79E-01	5.59E+00		
Thallium		7.82E-01		1.30E+01		3.54E+00		1.97E-01	1.41E-02	2.81E-01	1.42E-01	2.85E+00
Toluene		5.22E+03		6.11E+04		1.40E+04		1.09E+03	6.07E-01	1.21E+01	5.55E-01	1.11E+01
Toxaphene	4.84E+00		2.33E+01		1.70E+02		1.58E-01		1.83E-02	3.66E-01	3.48E-01	6.96E+00
Tribromomethane (Bromoform)	6.74E+02	1.23E+03	1.75E+03	1.83E+04	2.37E+04	5.38E+03	3.29E+01	3.76E+02	7.34E-03	1.47E-01		
1,1,2-Trichloro-1,2,2-trifluoroethane		5.03E+04		2.41E+05		4.49E+04		5.50E+04	1.60E+02	3.20E+03		
1,2,4-Trichlorobenzene	2.40E+02	8.22E+01	1.25E+03	4.19E+02	8.54E+03	7.84E+01	1.15E+01	3.98E+00	8.82E-03	1.76E-01	1.55E-01	3.10E+00
1,1,1-Trichloroethane		1.43E+04		7.19E+04		1.35E+04		8.00E+03	2.55E+00	5.11E+01	6.38E-02	1.28E+00
1,1,2-Trichloroethane	1.86E+01	2.59E+00	9.13E+01	1.23E+01	4.30E+03	2.28E+00	2.75E+00	4.15E-01	1.11E-04	2.23E-03	1.34E-03	2.68E-02
Trichloroethylene	1.54E+01	6.72E+00	1.11E+02	3.61E+01	5.37E+03	6.84E+00	2.59E+00	2.82E+00	8.04E-04	1.61E-02	1.55E-03	3.10E-02
Trichlorofluoromethane		1.22E+03		5.98E+03		1.12E+03		1.14E+03	7.84E-01	1.57E+01		
2,4,5-Trichlorophenol		6.16E+03		9.16E+04		2.69E+04		1.17E+03	3.31E+00	6.62E+01		
2,4,6-Trichlorophenol	4.84E+02	6.16E+01	2.33E+03	9.16E+02	1.70E+04	2.69E+02	4.11E+01	1.19E+01	3.37E-02	6.74E-01		
1,1,2-Trichloropropane		3.91E+02		6.49E+03		1.77E+03		8.81E+01	2.79E-02	5.59E-01		
1,2,3-Trichloropropane	5.10E-02	7.03E+00	1.21E+00	3.37E+01	8.26E+00	6.26E+00	8.35E-03	6.20E-01	2.91E-06	5.82E-05		
Triethylamine		1.91E+02		9.00E+02		1.67E+02		1.46E+01	3.65E-03	7.31E-02		
2,4,6-Trinitrotoluene	2.11E+02	3.60E+01	1.07E+03	5.73E+02	7.50E+03	1.61E+02	2.53E+01	9.80E+00	4.30E-02	8.61E-01		
Uranium (soluable salts)		2.34E+02		3.88E+03		2.77E+02		5.92E+01	2.67E+01	5.33E+02		2.70E+02
Vanadium		3.94E+02		6.53E+03		6.14E+02		6.31E+01	6.31E+01	1.26E+03		
Vinyl acetate		2.54E+03		1.22E+04		2.28E+03		4.09E+02	7.52E-02	1.50E+00		
Vinyl bromide	2.68E+00	9.57E+00	1.30E+01	4.51E+01	6.06E+01	8.39E+00	1.75E+00	6.26E+00	4.62E-04	9.23E-03		
Vinyl chloride	7.41E-01	1.13E+02	2.83E+01	8.10E+02	1.60E+02	1.61E+02	3.24E-01	4.43E+01	1.08E-04	2.17E-03	6.70E-04	1.34E-02
m-Xylene		7.57E+02		3.70E+03		6.90E+02		1.93E+02	1.48E-01	2.97E+00		
o-Xylene		7.98E+02		3.91E+03		7.29E+02		1.93E+02	1.49E-01	2.98E+00		
p-Xylene		7.85E+02		3.84E+03		7.16E+02		1.93E+02	1.50E-01	2.99E+00		
Xylenes		8.63E+02		4.24E+03		7.91E+02		1.93E+02	1.49E-01	2.98E+00	7.72E+00	1.54E+02
Zinc		2.35E+04		3.89E+05		1.06E+05		5.96E+03	3.71E+02	7.41E+03		
Essential Nutrients												
Calcium		1.30E+07		4.06E+07		1.11E+07						
Chloride		1.88E+07		5.84E+07		1.59E+07						
Magnesium		2.09E+07		5.68E+06		1.55E+06						
Phosphorus		2.45E+07		6.49E+07		1.77E+07						
Potassium		1.56E+07		7.62E+07		2.08E+07						
Sodium		1.20E+07		3.73E+07		1.02E+07						

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD$_o$ (mg/kg-day)	key	RfC$_i$ (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
				1.2E-03	O					-0.85	1	1	Yes	Acephate	30560-19-1					2.4E+01	3.4E+04		2.4E+01	
		2.2E-06	I			9.0E-03	I	V		-0.34	1	1	Yes	Acetaldehyde	75-07-0			2.6E+00	2.6E+00			1.9E+01	1.9E+01	
				2.0E-02	I					3.03	1	0.9	Yes	Acetochlor	34256-82-1					4.0E+02	2.9E+03		3.5E+02	
				9.0E-01	I	3.1E+01	A	V		-0.24	1	1	Yes	Acetone	67-64-1					1.8E+04	4.4E+06	6.4E+04	1.4E+04	
						2.0E-03	X			-0.03	1	1	Yes	Acetone Cyanohydrin	75-86-5									
						6.0E-02	I	V		-0.34	1	1	Yes	Acetonitrile	75-05-8							1.3E+02	1.3E+02	
				1.0E-01	I			V		1.58	1	1	Yes	Acetophenone	98-86-2					2.0E+03	4.6E+04		1.9E+03	
3.8E+00	C	1.3E-03	C							3.12	1	1	Yes	Acetylaminofluorene, 2-	53-96-3	2.1E-02	6.7E-02		1.6E-02					
				5.0E-04	I	2.0E-05	I	V		-0.01	1	1	Yes	Acrolein	107-02-8					1.0E+01	1.7E+03	4.2E-02	4.2E-02	
5.0E-01	I	1.0E-04	I	2.0E-03	I	6.0E-03	I		M	-0.67	1	1	Yes	Acrylamide	79-06-1	5.0E-02	2.3E+01		5.0E-02	4.0E+01	2.1E+04		4.0E+01	
				5.0E-01	I	1.0E-03	I	V		0.35	1	1	Yes	Acrylic Acid	79-10-7					1.0E+04	1.1E+06	2.1E+00	2.1E+00	
5.4E-01	I	6.8E-05	I	4.0E-02	A	2.0E-03	I	V		0.25	1	1	Yes	Acrylonitrile	107-13-1	1.4E-01	1.4E+01	8.3E-02	5.2E-02	8.0E+02	8.9E+04	4.2E+00	4.1E+00	
						6.0E-03	P			-0.32	1	1	Yes	Adiponitrile	111-69-3									
5.6E-02	C			1.0E-02	I					3.52	1	0.9	Yes	Alachlor	15972-60-8	1.4E+00	4.4E+00		1.1E+00	2.0E+02	6.9E+02		1.6E+02	2.0E+00
				1.0E-03	I					1.13	1	1	Yes	Aldicarb	116-06-3					2.0E+01	1.4E+03		2.0E+01	3.0E+00
				1.0E-03	I					-0.57	1	1	Yes	Aldicarb Sulfone	1646-88-4					2.0E+01	2.4E+04		2.0E+01	2.0E+00
										-0.78	1	1	Yes	Aldicarb sulfoxide	1646-87-3									4.0E+00
1.7E+01	I	4.9E-03	I	3.0E-05	I			V		6.50	1	1	No	Aldrin	309-00-2	4.6E-03		1.1E-03	9.2E-04	6.0E-01			6.0E-01	
				5.0E-03	I	1.0E-04	X	V		0.17	1	1	Yes	Allyl Alcohol	107-18-6					1.0E+02	1.3E+04	2.1E-01	2.1E-01	
2.1E-02	C	6.0E-06	C			1.0E-03	I	V		1.93	1	1	Yes	Allyl Chloride	107-05-1	3.7E+00	3.5E+01	9.4E-01	7.3E-01			2.1E+00	2.1E+00	
				1.0E+00	P	5.0E-03	P				1	1	Yes	Aluminum	7429-90-5					2.0E+04	4.6E+06		2.0E+04	
				4.0E-04	I						1	1	Yes	Aluminum Phosphide	20859-73-8					8.0E+00	1.8E+03		8.0E+00	
				9.0E-03	I					2.98	1	1	Yes	Ametryn	834-12-8					1.8E+02	9.8E+02		1.5E+02	
2.1E+01	C	6.0E-03	C							2.86	1	1	Yes	Aminobiphenyl, 4-	92-67-1	3.7E-03	1.5E-02		3.0E-03					
				8.0E-02	P					0.21	1	1	Yes	Aminophenol, m-	591-27-5					1.6E+03	2.8E+05		1.6E+03	
				4.0E-03	X					0.62	1	1	Yes	Aminophenol, o-	95-55-6					8.0E+01	7.5E+03		7.9E+01	
				2.0E-02	P					0.04	1	1	Yes	Aminophenol, p-	123-30-8					4.0E+02	9.1E+04		4.0E+02	
				2.5E-03	I					5.50	1	0.9	Yes	Amitraz	33089-61-1					5.0E+01	9.8E+00		8.2E+00	
						5.0E-01	I	V		0.23	1	1		Ammonia	7664-41-7									
				2.0E-01	I						1	1	Yes	Ammonium Sulfamate	7773-06-0					4.0E+03	9.1E+05		4.0E+03	
						3.0E-03	X	V		0.89	1	1	Yes	Amyl Alcohol, tert-	75-85-4							6.3E+00	6.3E+00	
5.7E-03	I	1.6E-06	C	7.0E-03	P	1.0E-03	I			0.90	1	1	Yes	Aniline	62-53-3	1.4E+01	6.9E+02		1.3E+01	1.4E+02	7.7E+03		1.4E+02	
4.0E-02	P			2.0E-03	X					3.39	1	0.9	Yes	Anthraquinone, 9,10-	84-65-1	1.9E+00	5.1E+00		1.4E+00	4.0E+01	1.1E+02		3.0E+01	
				4.0E-04	I						0.15	1	Yes	Antimony (metallic)	7440-36-0					8.0E+00	2.7E+02		7.8E+00	6.0E+00
				5.0E-04	H						0.15	1	Yes	Antimony Pentoxide	1314-60-9					1.0E+01	3.4E+02		9.7E+00	
				4.0E-04	H						0.15	1	Yes	Antimony Tetroxide	1332-81-6					8.0E+00	2.7E+02		7.8E+00	
						2.0E-04	I				0.15	1	Yes	Antimony Trioxide	1309-64-4									
1.5E+00	I	4.3E-03	I	3.0E-04	I	1.5E-05	C				1	1	Yes	Arsenic, Inorganic	7440-38-2	5.2E-02	9.7E+00		5.2E-02	6.0E+00	1.4E+03		6.0E+00	1.0E+01
				3.5E-06	C	5.0E-05	I				1	1	Yes	Arsine	7784-42-1					7.0E-02	1.6E+01		7.0E-02	
				3.6E-02	O					-0.27	1	1	Yes	Asulam	3337-71-1					7.2E+02	5.8E+05		7.2E+02	
2.3E-01	C			3.5E-02	I					2.61	1	1	Yes	Atrazine	1912-24-9	3.4E-01	2.8E+00		3.0E-01	7.0E+02	6.2E+03		6.3E+02	3.0E+00
8.8E-01	C	2.5E-04	C							2.98	1	0.9	Yes	Auramine	492-80-8	8.9E-02	2.7E-01		6.7E-02					
				4.0E-04	I					4.48	1	1	No	Avermectin B1	65195-55-3					8.0E+00			8.0E+00	
				3.0E-03	A	1.0E-02	A			2.75	1	1	Yes	Azinphos-methyl	86-50-0					6.0E+01	8.3E+02		5.6E+01	
1.1E-01	I	3.1E-05	I					V		3.82	1	1	Yes	Azobenzene	103-33-3	7.1E-01	7.3E-01	1.8E-01	1.2E-01					
				1.0E+00	P	7.0E-06	P			-1.70	1	1	Yes	Azodicarbonamide	123-77-3					2.0E+04	6.8E+07		2.0E+04	
				2.0E-01	I	5.0E-04	H				0.07	1	Yes	Barium	7440-39-3					4.0E+03	6.4E+04		3.8E+03	2.0E+03
				5.0E-03	O			V		5.29	1	0.8	Yes	Benfluralin	1861-40-1					1.0E+02	4.0E+01		2.8E+01	
				5.0E-02	I					2.12	1	1	Yes	Benomyl	17804-35-2					1.0E+03	3.0E+04		9.7E+02	
				2.0E-01	I					2.18	1	1	Yes	Bensulfuron-methyl	83055-99-6					4.0E+03	2.4E+05		3.9E+03	
				3.0E-02	I					2.34	1	1	Yes	Bentazon	25057-89-0					6.0E+02	9.4E+03		5.7E+02	
4.0E-03	P			1.0E-01	I			V		1.48	1	1	Yes	Benzaldehyde	100-52-7	1.9E+01	4.4E+02		1.9E+01	2.0E+03	4.9E+04		1.9E+03	
5.5E-02	I	7.8E-06	I	4.0E-03	I	3.0E-02	I	V		2.13	1	1	Yes	Benzene	71-43-2	1.4E+00	9.8E+00	7.2E-01	4.6E-01	8.0E+01	6.1E+02	6.3E+01	3.3E+01	5.0E+00
1.0E-01	X			3.0E-04	X					-3.73	1	1	No	Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	7.8E-01			7.8E-01	6.0E+00			6.0E+00	
				1.0E-03	P			V		2.52	1	1	Yes	Benzenethiol	108-98-5					2.0E+01	1.0E+02		1.7E+01	
2.3E+02	I	6.7E-02	I	3.0E-03	I				M	1.34	1	1	Yes	Benzidine	92-87-5	1.1E-04	5.0E-03		1.1E-04	6.0E+01	3.0E+03		5.9E+01	
				4.0E+00	I					1.87	1	1	Yes	Benzoic Acid	65-85-0					8.0E+04	1.2E+06		7.5E+04	
1.3E+01	I							V		3.90	1	1	Yes	Benzotrichloride	98-07-7	6.0E-03	6.0E-03		3.0E-03					
				1.0E-01	P					1.10	1	1	Yes	Benzyl Alcohol	100-51-6					2.0E+03	8.9E+04		2.0E+03	
1.7E-01	I	4.9E-05	C	2.0E-03	P	1.0E-03	P	V		2.30	1	1	Yes	Benzyl Chloride	100-44-7	4.6E-01	3.4E+00	1.1E-01	8.9E-02	4.0E+01	3.2E+02	2.1E+00	2.0E+00	
		2.4E-03	I	2.0E-03	I	2.0E-05	I				0.007	1	Yes	Beryllium and compounds	7440-41-7					4.0E+01	6.4E+01		2.5E+01	4.0E+00
				9.0E-03	P					4.48	1	0.9	Yes	Bifenox	42576-02-3					1.8E+02	2.3E+02		1.0E+02	
				1.5E-02	I					6.00	1	0	Yes	Biphenthrin	82657-04-3					3.0E+02			3.0E+02	
8.0E-03	I			5.0E-01	I	4.0E-04	X	V		4.01	1	1	Yes	Biphenyl, 1,1'-	92-52-4	9.7E+00	6.5E+00		3.9E+00	1.0E+04	7.3E+03	8.3E-01	8.3E-01	
				4.0E-02	I			V		2.48	1	1	Yes	Bis(2-chloro-1-methylethyl) ether	108-60-1					8.0E+02	6.5E+03		7.1E+02	
				3.0E-03	P					1.30	1	1	Yes	Bis(2-chloroethoxy)methane	111-91-1					6.0E+01	3.0E+03		5.9E+01	
1.1E+00	I	3.3E-04	I					V		1.29	1	1	Yes	Bis(2-chloroethyl)ether	111-44-4	7.1E-02	2.7E+00	1.7E-02	1.4E-02					
2.2E+02	I	6.2E-02	I					V		0.57	1	1	Yes	Bis(chloromethyl)ether	542-88-1	3.5E-04	3.4E-02	9.1E-05	7.2E-05					
				5.0E-02	I					3.32	1	1	Yes	Bisphenol A	80-05-7					1.0E+03	3.2E+03		7.7E+02	
				2.0E-01	I	2.0E-02	H				1	1	Yes	Boron And Borates Only	7440-42-8					4.0E+03	9.1E+05		4.0E+03	
				2.0E+00	P	2.0E-02	P	V		1.16	1	1	Yes	Boron Trichloride	10294-34-5					4.0E+04	9.1E+06	4.2E+01	4.2E+01	

TR=1E-06
HQ=1.0

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Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
				4.0E-02	C	1.3E-02	C	V		0.22	1	1	Yes	Boron Trifluoride	7637-07-2					8.0E+02	1.8E+05	2.7E+01	2.6E+01	
7.0E-01	I			4.0E-03	I						1	1	Yes	Bromate	15541-45-4	1.1E-01	2.1E+01		1.1E-01	8.0E+01	1.8E+04		8.0E+01	1.0E+01
2.0E+00	X	6.0E-04	X					V		1.92	1	1	Yes	Bromo-2-chloroethane, 1-	107-04-0	3.9E-02	5.7E-01	9.4E-03	7.4E-03					
				3.0E-04	X			V		2.92	1	1	Yes	Bromo-3-fluorobenzene, 1-	1073-06-9					6.0E+00	2.6E+01		4.9E+00	
				3.0E-04	X			V		3.08	1	1	Yes	Bromo-4-fluorobenzene, 1-	460-00-4					6.0E+00	2.0E+01		4.6E+00	
				8.0E-03	I	6.0E-02	I	V		2.99	1	1	Yes	Bromobenzene	108-86-1					1.6E+02	5.4E+02	1.3E+02	6.2E+01	
						4.0E-02	X	V		1.41	1	1	Yes	Bromochloromethane	74-97-5							8.3E+01	8.3E+01	
6.2E-02	I	3.7E-05	C	2.0E-02	I			V		2.00	1	1	Yes	Bromodichloromethane	75-27-4	1.3E+00	1.9E+01	1.5E-01	1.3E-01	4.0E+02	6.5E+03		3.8E+02	8.0E+01(F)
7.9E-03	I	1.1E-06	I	2.0E-02	I			V		2.40	1	1	Yes	Bromoform	75-25-2	9.9E+00	1.4E+02	5.1E+00	3.3E+00	4.0E+02	6.2E+03		3.8E+02	8.0E+01(F)
				1.4E-03	I	5.0E-03	I	V		1.19	1	1	Yes	Bromomethane	74-83-9					2.8E+01	1.0E+03	1.0E+01	7.5E+00	
				5.0E-03	H			V		5.21	1	0.8	Yes	Bromophos	2104-96-3					1.0E+02	5.5E+01		3.5E+01	
						1.0E-01	A	V		2.10	1	1	Yes	Bromopropane, 1-	106-94-5							2.1E+02	2.1E+02	
1.0E-01	O			1.5E-02	O					2.80	1	0.9	Yes	Bromoxynil	1689-84-5	7.6E-01	3.1E+00		6.1E-01	3.0E+02	1.3E+03		2.5E+02	
1.0E-01	O			1.5E-02	O			V		5.40	1	0.8	Yes	Bromoxynil Octanoate	1689-99-2	7.6E-01	3.6E-01		2.4E-01	3.0E+02	1.6E+02		1.0E+02	
3.4E+00	C	3.0E-05	I			2.0E-03	I	V		1.99	1	1	Yes	Butadiene, 1,3-	106-99-0	2.3E-02	1.6E-01	1.9E-01	1.8E-02			4.2E+00	4.2E+00	
				3.0E-02	O					3.53	1	0.9	Yes	Butanoic acid, 4-(2,4-dichlorophenoxy)-	94-82-6					6.0E+02	1.8E+03		4.5E+02	
				1.0E-01	I			V		0.88	1	1	Yes	Butanol, N-	71-36-3					2.0E+03	1.0E+05		2.0E+03	
				2.0E+00	P	3.0E+01	P	V		0.61	1	1	Yes	Butyl alcohol, sec-	78-92-2					4.0E+04	3.0E+06	6.3E+04	2.4E+04	
				5.0E-02	I			V		4.15	1	1	Yes	Butylate	2008-41-5					1.0E+03	8.5E+02		4.6E+02	
2.0E-04	C	5.7E-08	C							3.50	1	0.8	Yes	Butylated hydroxyanisole	25013-16-5	3.9E+02	2.5E+02		1.5E+02					
3.6E-03	P			3.0E-01	P					5.10	1	1	Yes	Butylated hydroxytoluene	128-37-0	2.2E+01	4.0E+00		3.4E+00	6.0E+03	1.2E+03		1.0E+03	
				5.0E-02	P			V		4.38	1	1	No	Butylbenzene, n-	104-51-8					1.0E+03			1.0E+03	
				1.0E-01	X			V		4.57	1	1	No	Butylbenzene, sec-	135-98-8					2.0E+03			2.0E+03	
				1.0E-01	X			V		4.11	1	1	Yes	Butylbenzene, tert-	98-06-6					2.0E+03	1.1E+03		6.9E+02	
				2.0E-02	A					0.36	1	1	Yes	Cacodylic Acid	75-60-5					4.0E+02	6.7E+04		4.0E+02	
		1.8E-03	I	1.0E-03	I	1.0E-05	A				0.025	1		Cadmium (Diet)	7440-43-9									
		1.8E-03	I	5.0E-04	I	1.0E-05	A				0.05	1	Yes	Cadmium (Water)	7440-43-9					1.0E+01	1.1E+02		9.2E+00	5.0E+00
				5.0E-01	I	2.2E-03	C			-0.19	1	1	Yes	Caprolactam	105-60-2					1.0E+04	9.0E+05		9.9E+03	
1.5E-01	C	4.3E-05	C	2.0E-03	I					3.80	1	0.9	Yes	Captafol	2425-06-1	5.2E-01	1.8E+00		4.0E-01	4.0E+01	1.5E+02		3.2E+01	
2.3E-03	C	6.6E-07	C	1.3E-01	I					2.80	1	1	Yes	Captan	133-06-2	3.4E+01	3.6E+02		3.1E+01	2.6E+03	3.0E+04		2.4E+03	
				1.0E-01	I					2.36	1	1	Yes	Carbaryl	63-25-2					2.0E+03	2.4E+04		1.8E+03	
				5.0E-03	I					2.32	1	1	Yes	Carbofuran	1563-66-2					1.0E+02	1.4E+03		9.4E+01	4.0E+01
				1.0E-01	I	7.0E-01	I	V		1.94	1	1	Yes	Carbon Disulfide	75-15-0					2.0E+03	2.0E+04	1.5E+03	8.1E+02	
7.0E-02	I	6.0E-06	I	4.0E-03	I	1.0E-01	I	V		2.83	1	1	Yes	Carbon Tetrachloride	56-23-5	1.1E+00	4.3E+00	9.4E-01	4.6E-01	8.0E+01	3.4E+02	2.1E+02	4.9E+01	5.0E+00
						1.0E-01	P	V		-1.33	1	1	Yes	Carbonyl Sulfide	463-58-1							2.1E+02	2.1E+02	
				1.0E-02	I					5.57	1	0.8	Yes	Carbosulfan	55285-14-8					2.0E+02	6.9E+01		5.1E+01	
				1.0E-01	I					2.14	1	1	Yes	Carboxin	5234-68-4					2.0E+03	4.1E+04		1.9E+03	
						9.0E-04	I				1	1	Yes	Ceric oxide	1306-38-3									
				1.0E-01	I			V		0.99	1	1	Yes	Chloral Hydrate	302-17-0					2.0E+03	1.5E+05		2.0E+03	
				1.5E-02	I					1.90	1	1	Yes	Chloramben	133-90-4					3.0E+02	7.4E+03		2.9E+02	
4.0E-01	H									2.22	1	1	Yes	Chloranil	118-75-2	1.9E-01	3.5E+00		1.8E-01					
3.5E-01	I	1.0E-04	I	5.0E-04	I	7.0E-04	I	V		6.16	1	0.7	Yes	Chlordane	12789-03-6	2.2E-01	3.6E-02	5.6E-02	2.0E-02	1.0E+01	1.8E+00	1.5E+00	7.4E-01	2.0E+00
1.0E+01	I	4.6E-03	C	3.0E-04	I					5.41	1	0.8	Yes	Chlordecone (Kepone)	143-50-0	7.8E-03	6.5E-03		3.5E-03	6.0E+00	5.4E+00		2.9E+00	
				7.0E-04	A					3.81	1	0.9	Yes	Chlorfenvinphos	470-90-6					1.4E+01	5.6E+01		1.1E+01	
				9.0E-02	O					2.50	1	1	Yes	Chlorimuron, Ethyl-	90982-32-4					1.8E+03	6.8E+04		1.8E+03	
				1.0E-01	I	1.5E-04	A	V		0.85	1	1	Yes	Chlorine	7782-50-5					2.0E+03	4.6E+05	3.0E-01	3.0E-01	
				3.0E-02	I	2.0E-04	I	V			1	1	Yes	Chlorine Dioxide	10049-04-4					6.0E+02	1.4E+05	4.2E-01	4.2E-01	
				3.0E-02	I						1	1	Yes	Chlorite (Sodium Salt)	7758-19-2					6.0E+02	1.4E+05		6.0E+02	1.0E+03
						5.0E+01	I	V		2.05	1	1	Yes	Chloro-1,1-difluoroethane, 1-	75-68-3							1.0E+05	1.0E+05	
		3.0E-04	I	2.0E-02	H	2.0E-02	I	V		2.53	1	1	Yes	Chloro-1,3-butadiene, 2-	126-99-8			1.9E-02	1.9E-02	4.0E+02	1.8E+03	4.2E+01	3.7E+01	
4.6E-01	H									2.27	1	1	Yes	Chloro-2-methylaniline HCl, 4-	3165-93-3	1.7E-01	5.1E+02		1.7E-01					
1.0E-01	P	7.7E-05	C	3.0E-03	X					2.27	1	1	Yes	Chloro-2-methylaniline, 4-	95-69-2	7.8E-01	6.6E+00		7.0E-01	6.0E+01	5.6E+02		5.4E+01	
2.7E-01	X							V		0.09	1	1	Yes	Chloroacetaldehyde, 2-	107-20-0	2.9E-01	4.6E+01		2.9E-01					
										0.22	1	1	Yes	Chloroacetic Acid	79-11-8									6.0E+01
						3.0E-05	I			1.93	1	1	Yes	Chloroacetophenone, 2-	532-27-4									
2.0E-01	P			4.0E-03	I					1.83	1	1	Yes	Chloroaniline, p-	106-47-8	3.9E-01	5.9E+00		3.7E-01	8.0E+01	1.3E+03		7.6E+01	
				2.0E-02	I	5.0E-02	P	V		2.84	1	1	Yes	Chlorobenzene	108-90-7					4.0E+02	1.3E+03	1.0E+02	7.8E+01	1.0E+02
				1.0E-01	X					-0.52	1	1	Yes	Chlorobenzene sulfonic acid, p-	98-66-8					2.0E+03	1.8E+06		2.0E+03	
1.1E-01	C	3.1E-05	C	2.0E-02	I					4.74	1	0.8	Yes	Chlorobenzilate	510-15-6	7.1E-01	5.6E-01		3.1E-01	4.0E+02	3.5E+02		1.9E+02	
				3.0E-02	X					2.65	1	1	Yes	Chlorobenzoic Acid, p-	74-11-3					6.0E+02	3.4E+03		5.1E+02	
				3.0E-03	P	3.0E-01	P	V		3.60	1	1	Yes	Chlorobenzotrifluoride, 4-	98-56-6					6.0E+01	9.3E+01	6.3E+02	3.5E+01	
				4.0E-02	P			V		2.64	1	1	Yes	Chlorobutane, 1-	109-69-3					8.0E+02	3.1E+03		6.4E+02	
						5.0E+01	I	V		1.08	1	1	Yes	Chlorodifluoromethane	75-45-6							1.0E+05	1.0E+05	
				2.0E-02	P			V		0.03	1	1	Yes	Chloroethanol, 2-	107-07-3					4.0E+02	7.7E+04		4.0E+02	
3.1E-02	C	2.3E-05	I	1.0E-02	I	9.8E-02	A	V		1.97	1	1	Yes	Chloroform	67-66-3	2.5E+00	2.9E+01	2.4E-01	2.2E-01	2.0E+02	2.5E+03	2.0E+02	9.7E+01	8.0E+01(F)
						9.0E-02	I	V		0.91	1	1	Yes	Chloromethane	74-87-3							1.9E+02	1.9E+02	
2.4E+00	C	6.9E-04	C					V		0.32	1	1	Yes	Chloromethyl Methyl Ether	107-30-2	3.2E-02	3.7E+00	8.1E-03	6.5E-03					
3.0E-01	P			3.0E-03	P	1.0E-05	X			2.24	1	1	Yes	Chloronitrobenzene, o-	88-73-3	2.6E-01	2.6E+00		2.4E-01	6.0E+01	6.4E+02		5.5E+01	
6.0E-02	P			7.0E-04	P	2.0E-03	P			2.39	1	1	Yes	Chloronitrobenzene, p-	100-00-5	1.3E+00	1.0E+01		1.2E+00	1.4E+01	1.2E+02		1.3E+01	
				5.0E-03	I			V		2.15	1	1	Yes	Chlorophenol, 2-	95-57-8					1.0E+02	1.0E+03		9.1E+01	
						4.0E-04	C	V		2.09	1	1	Yes	Chloropicrin	76-06-2							8.3E-01	8.3E-01	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD$_o$ (mg/kg-day)	key	RfC$_i$ (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
3.1E-03	C	8.9E-07	C	1.5E-02	I					3.05	1	0.9	Yes	Chlorothalonil	1897-45-6	2.5E+01	1.6E+02		2.2E+01	3.0E+02	2.1E+03		2.6E+02	
				2.0E-02	I			V		3.42	1	1	Yes	Chlorotoluene, o-	95-49-8					4.0E+02	5.8E+02		2.4E+02	
				2.0E-02	X			V		3.33	1	1	Yes	Chlorotoluene, p-	106-43-4					4.0E+02	6.6E+02		2.5E+02	
2.4E+02	C	6.9E-02	C							-1.02	1	1	Yes	Chlorozotocin	54749-90-5	3.2E-04	1.0E+00		3.2E-04					
				5.0E-02	O					3.51	1	0.9	Yes	Chlorpropham	101-21-3					1.0E+03	2.5E+03		7.1E+02	
				1.0E-03	A					4.96	1	0.8	Yes	Chlorpyrifos	2921-88-2					2.0E+01	1.5E+01		8.4E+00	
				1.0E-02	H					4.31	1	0.9	Yes	Chlorpyrifos Methyl	5598-13-0					2.0E+02	2.9E+02		1.2E+02	
				5.0E-02	O					2.00	1	1	Yes	Chlorsulfuron	64902-72-3					1.0E+03	5.7E+04		9.9E+02	
				1.0E-02	I					4.28	1	0.9	Yes	Chlorthal-dimethyl	1861-32-1					2.0E+02	3.3E+02		1.2E+02	
				8.0E-04	H					5.80	1	0.8	Yes	Chlorthiophos	60238-56-4					1.6E+01	3.4E+00		2.8E+00	
				1.5E+00	I						0.013	1	Yes	Chromium(III), Insoluble Salts	16065-83-1					3.0E+04	8.9E+04		2.2E+04	
5.0E-01	C	8.4E-02	S	3.0E-03	I	1.0E-04	I		M		0.025	1	Yes	Chromium(VI)	18540-29-9	5.0E-02	1.2E-01		3.5E-02	6.0E+01	1.7E+02		4.4E+01	
											0.013	1	Yes	Chromium, Total	7440-47-3									1.0E+02
				1.3E-02	I					3.10	1	0.9	Yes	Clofentezine	74115-24-5					2.6E+02	2.1E+03		2.3E+02	
		9.0E-03	P	3.0E-04	P	6.0E-06	P				1	1	Yes	Cobalt	7440-48-4					6.0E+00	3.4E+03		6.0E+00	
		6.2E-04	I					V	M		1	0		Coke Oven Emissions	8007-45-2									
				4.0E-02	H						1	1	Yes	Copper	7440-50-8					8.0E+02	1.8E+05		8.0E+02	1.3E+03
				5.0E-02	I	6.0E-01	C			1.96	1	1	Yes	Cresol, m-	108-39-4					1.0E+03	1.2E+04		9.3E+02	
				5.0E-02	I	6.0E-01	C			1.95	1	1	Yes	Cresol, o-	95-48-7					1.0E+03	1.2E+04		9.3E+02	
				1.0E-01	A	6.0E-01	C			1.94	1	1	Yes	Cresol, p-	106-44-5					2.0E+03	2.5E+04		1.9E+03	
				1.0E-01	A					3.10	1	1	Yes	Cresol, p-chloro-m-	59-50-7					2.0E+03	5.2E+03		1.4E+03	
				1.0E-01	A	6.0E-01	C			1.95	1	0.9	Yes	Cresols	1319-77-3					2.0E+03	6.7E+03		1.5E+03	
1.9E+00	H			1.0E-03	P			V		0.60	1	1	Yes	Crotonaldehyde, trans-	123-73-9	4.1E-02	2.7E+00		4.0E-02	2.0E+01	1.5E+03		2.0E+01	
				1.0E-01	I	4.0E-01	I	V		3.66	1	1	Yes	Cumene	98-82-8					2.0E+03	1.9E+03	8.3E+02	4.5E+02	
2.2E-01	C	6.3E-05	C							-1.73	1	1	Yes	Cupferron	135-20-6	3.5E-01	1.3E+04		3.5E-01					
8.4E-01	H			2.0E-03	H					2.22	1	1	Yes	Cyanazine	21725-46-2	9.3E-02	1.6E+00		8.8E-02	4.0E+01	7.6E+02		3.8E+01	
														Cyanides										
				1.0E-03	I						1	1	Yes	~Calcium Cyanide	592-01-8					2.0E+01	4.6E+03		2.0E+01	
				5.0E-03	I						1	1	Yes	~Copper Cyanide	544-92-3					1.0E+02	2.3E+04		1.0E+02	
				6.0E-04	I	8.0E-04	S	V			1	1	Yes	~Cyanide (CN-)	57-12-5					1.2E+01	2.7E+03	1.7E+00	1.5E+00	2.0E+02
				1.0E-03	I			V		0.07	1	1	Yes	~Cyanogen	460-19-5					2.0E+01	5.1E+03		2.0E+01	
				9.0E-02	I			V			1	1	Yes	~Cyanogen Bromide	506-68-3					1.8E+03	1.6E+06		1.8E+03	
				5.0E-02	I			V			1	1	Yes	~Cyanogen Chloride	506-77-4					1.0E+03	5.8E+05		1.0E+03	
				6.0E-04	I	8.0E-04	I	V		-0.25	1	1	Yes	~Hydrogen Cyanide	74-90-8					1.2E+01	2.7E+03	1.7E+00	1.5E+00	
				2.0E-03	I						1	1	Yes	~Potassium Cyanide	151-50-8					4.0E+01	4.6E+03		4.0E+01	
				5.0E-03	I						0.04	1	Yes	~Potassium Silver Cyanide	506-61-6					1.0E+02	4.6E+02		8.2E+01	
				1.0E-01	I						0.04	1	Yes	~Silver Cyanide	506-64-9					2.0E+03	1.8E+04		1.8E+03	
				1.0E-03	I						1	1	Yes	~Sodium Cyanide	143-33-9					2.0E+01	4.6E+03		2.0E+01	2.0E+02
				2.0E-04	P						1	0	Yes	~Thiocyanates	E1790664					4.0E+00	9.1E+02		4.0E+00	
				2.0E-04	X			V		0.58	1	1	Yes	~Thiocyanic Acid	463-56-9					4.0E+00	9.1E+02		4.0E+00	
				5.0E-02	I						1	1	Yes	~Zinc Cyanide	557-21-1					1.0E+03	3.8E+05		1.0E+03	
						6.0E+00	I	V		3.44	1	1	Yes	Cyclohexane	110-82-7							1.3E+04	1.3E+04	
2.0E-02	X			2.0E-02	X					4.72	1	0.9	Yes	Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	3.9E+00	9.6E+00		2.8E+00	4.0E+02	1.1E+03		2.9E+02	
				5.0E+00	I	7.0E-01	P	V		0.81	1	1	Yes	Cyclohexanone	108-94-1					1.0E+05	6.5E+06	1.5E+03	1.4E+03	
				5.0E-03	P	1.0E+00	X	V		2.86	1	1	Yes	Cyclohexene	110-83-8					1.0E+02	2.5E+02	2.1E+03	7.0E+01	
				2.0E-01	I			V		1.49	1	1	Yes	Cyclohexylamine	108-91-8					4.0E+03	9.3E+04		3.8E+03	
				2.5E-02	I					5.95	1	0.7	Yes	Cyfluthrin	68359-37-5					5.0E+02	1.6E+02		1.2E+02	
				1.0E-03	O					6.90	1	0.5	No	Cyhalothrin	68085-85-8					2.0E+01			2.0E+01	
				5.0E-01	O					-0.06	1	1	Yes	Cyromazine	66215-27-8					1.0E+04	8.0E+05		9.9E+03	
2.4E-01	I	6.9E-05	C	3.0E-05	X					6.02	1	0.8	Yes	DDD, p,p`- (DDD)	72-54-8	3.2E-01	3.5E-02		3.2E-02	6.0E-01	7.1E-02		6.3E-02	
3.4E-01	I	9.7E-05	C	3.0E-04	X			V		6.51	1	0.8	No	DDE, p,p'-	72-55-9	2.3E-01		5.8E-02	4.6E-02	6.0E+00			6.0E+00	
3.4E-01	I	9.7E-05	I	5.0E-04	I					6.91	1	0.7	No	DDT	50-29-3	2.3E-01			2.3E-01	1.0E+01			1.0E+01	
				3.0E-02	I					0.78	1	1	Yes	Dalapon	75-99-0					6.0E+02	5.5E+04		6.0E+02	2.0E+02
1.8E-02	C	5.1E-06	C	1.5E-01	I					-1.50	1	1	Yes	Daminozide	1596-84-5	4.3E+00	1.3E+04		4.3E+00	3.0E+03	1.0E+07		3.0E+03	
7.0E-04	I			7.0E-03	I					12.11	1	0	No	Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	1.1E+02			1.1E+02	1.4E+02			1.4E+02	
				4.0E-05	I					3.21	1	0.8	Yes	Demeton	8065-48-3					8.0E-01	8.8E-01		4.2E-01	
1.2E-03	I			6.0E-01	I					6.11	1	0	Yes	Di(2-ethylhexyl)adipate	103-23-1	6.5E+01			6.5E+01	1.2E+04			1.2E+04	4.0E+02
6.1E-02	H									4.49	1	0.9	Yes	Diallate	2303-16-4	1.3E+00	9.2E-01		5.4E-01					
				7.0E-04	A					3.81	1	0.9	Yes	Diazinon	333-41-5					1.4E+01	3.9E+01		1.0E+01	
				1.0E-02	X			V		4.38	1	1	Yes	Dibenzothiophene	132-65-0					2.0E+02	9.6E+01		6.5E+01	
8.0E-01	P	6.0E-03	P	2.0E-04	P	2.0E-04	I	V	M	2.96	1	1	Yes	Dibromo-3-chloropropane, 1,2-	96-12-8	3.1E-02	1.7E-01	3.4E-04	3.3E-04	4.0E+00	2.4E+01	4.2E-01	3.7E-01	2.0E-01
				4.0E-04	X			V		3.75	1	0.9	Yes	Dibromobenzene, 1,3-	108-36-1					8.0E+00	1.6E+01		5.3E+00	
				1.0E-02	I			V		3.79	1	0.9	Yes	Dibromobenzene, 1,4-	106-37-6					2.0E+02	3.7E+02		1.3E+02	
8.4E-02	I			2.0E-02	I			V		2.16	1	1	Yes	Dibromochloromethane	124-48-1	9.3E-01	1.4E+01		8.7E-01	4.0E+02	6.7E+03		3.8E+02	8.0E+01(F)
2.0E+00	I	6.0E-04	I	9.0E-03	I	9.0E-03	I	V		1.96	1	1	Yes	Dibromoethane, 1,2-	106-93-4	3.9E-02	7.1E-01	9.4E-03	7.5E-03	1.8E+02	3.6E+03	1.9E+01	1.7E+01	5.0E-02
						4.0E-03	X	V		1.70	1	1	Yes	Dibromomethane (Methylene Bromide)	74-95-3							8.3E+00	8.3E+00	
				3.0E-04	P						1	0	No	Dibutyltin Compounds	E1790660					6.0E+00			6.0E+00	
				3.0E-02	I					2.21	1	1	Yes	Dicamba	1918-00-9					6.0E+02	1.0E+04		5.7E+02	
		4.2E-03	P					V		2.60	1	1	Yes	Dichloro-2-butene, 1,4-	764-41-0			1.3E-03	1.3E-03					
		4.2E-03	P					V		2.60	1	1	Yes	Dichloro-2-butene, cis-1,4-	1476-11-5			1.3E-03	1.3E-03					
		4.2E-03	P					V		2.60	1	1	Yes	Dichloro-2-butene, trans-1,4-	110-57-6			1.3E-03	1.3E-03					

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
5.0E-02	I			4.0E-03	I					0.92	1	1	Yes	Dichloroacetic Acid	79-43-6	1.6E+00	9.6E+01		1.5E+00	8.0E+01	5.4E+03		7.9E+01	6.0E+01
				9.0E-02	I	2.0E-01	H	V		3.43	1	1	Yes	Dichlorobenzene, 1,2-	95-50-1					1.8E+03	2.9E+03	4.2E+02	3.0E+02	6.0E+02
5.4E-03	C	1.1E-05	C	7.0E-02	A	8.0E-01	I	V		3.44	1	1	Yes	Dichlorobenzene, 1,4-	106-46-7	1.4E+01	2.1E+01	5.1E-01	4.8E-01	1.4E+03	2.2E+03	1.7E+03	5.7E+02	7.5E+01
4.5E-01	I	3.4E-04	C							3.51	1	1	Yes	Dichlorobenzidine, 3,3'-	91-94-1	1.7E-01	4.5E-01		1.3E-01					
				9.0E-03	X					4.44	1	0.9	Yes	Dichlorobenzophenone, 4,4'-	90-98-2					1.8E+02	1.4E+02		7.8E+01	
				2.0E-01	I	1.0E-01	X	V		2.16	1	1	Yes	Dichlorodifluoromethane	75-71-8					4.0E+03	3.8E+04	2.1E+02	2.0E+02	
5.7E-03	C	1.6E-06	C	2.0E-01	P			V		1.79	1	1	Yes	Dichloroethane, 1,1-	75-34-3	1.4E+01	1.8E+02	3.5E+00	2.8E+00	4.0E+03	5.8E+04		3.8E+03	
9.1E-02	I	2.6E-05	I	6.0E-03	X	7.0E-03	P	V		1.48	1	1	Yes	Dichloroethane, 1,2-	107-06-2	8.6E-01	1.8E+01	2.2E-01	1.7E-01	1.2E+02	2.8E+03	1.5E+01	1.3E+01	5.0E+00
				5.0E-02	I	2.0E-01	I	V		2.13	1	1	Yes	Dichloroethylene, 1,1-	75-35-4					1.0E+03	8.5E+03	4.2E+02	2.8E+02	7.0E+00
				2.0E-03	I			V		1.86	1	1	Yes	Dichloroethylene, 1,2-cis-	156-59-2					4.0E+01	3.6E+02		3.6E+01	7.0E+01
				2.0E-02	I			V		2.09	1	1	Yes	Dichloroethylene, 1,2-trans-	156-60-5					4.0E+02	3.6E+03		3.6E+02	1.0E+02
				3.0E-03	I					3.06	1	1	Yes	Dichlorophenol, 2,4-	120-83-2					6.0E+01	1.9E+02		4.6E+01	
				1.0E-02	I					2.81	1	1	Yes	Dichlorophenoxy Acetic Acid, 2,4-	94-75-7					2.0E+02	1.4E+03		1.7E+02	7.0E+01
3.7E-02	P	3.7E-06	P	4.0E-02	P	4.0E-03	I	V		1.98	1	1	Yes	Dichloropropane, 1,2-	78-87-5	2.1E+00	2.3E+01	1.5E+00	8.5E-01	8.0E+02	9.6E+03	8.3E+00	8.2E+00	5.0E+00
				2.0E-02	P			V		2.00	1	1	Yes	Dichloropropane, 1,3-	142-28-9					4.0E+02	4.6E+03		3.7E+02	
				3.0E-03	I					0.78	1	1	Yes	Dichloropropanol, 2,3-	616-23-9					6.0E+01	5.0E+03		5.9E+01	
1.0E-01	I	4.0E-06	I	3.0E-02	I	2.0E-02	I	V		2.04	1	1	Yes	Dichloropropene, 1,3-	542-75-6	7.8E-01	7.8E+00	1.4E+00	4.7E-01	6.0E+02	6.6E+03	4.2E+01	3.9E+01	
2.9E-01	I	8.3E-05	C	5.0E-04	I	5.0E-04	I			1.43	1	1	Yes	Dichlorvos	62-73-7	2.7E-01	1.4E+01		2.6E-01	1.0E+01	5.6E+02		9.9E+00	
				3.0E-05	O					0.00	1	1	Yes	Dicrotophos	141-66-2					6.0E-01	3.3E+02		6.0E-01	
				8.0E-02	P	3.0E-04	X	V		3.16	1	1	Yes	Dicyclopentadiene	77-73-6					1.6E+03	3.5E+03	6.3E-01	6.3E-01	
1.6E+01	I	4.6E-03	I	5.0E-05	I					5.40	1	0.8	Yes	Dieldrin	60-57-1	4.9E-03	2.7E-03		1.8E-03	1.0E+00	6.1E-01		3.8E-01	
		3.0E-04	C			5.0E-03	I				1	0		Diesel Engine Exhaust	E17136615									
				2.0E-03	P	2.0E-04	P			-1.43	1	1	Yes	Diethanolamine	111-42-2					4.0E+01	8.4E+04		4.0E+01	
				3.0E-02	P	1.0E-04	P			0.56	1	1	Yes	Diethylene Glycol Monobutyl Ether	112-34-5					6.0E+02	8.7E+04		6.0E+02	
				6.0E-02	P	3.0E-04	P			-0.54	1	1	Yes	Diethylene Glycol Monoethyl Ether	111-90-0					1.2E+03	7.8E+05		1.2E+03	
				1.0E-03	P			V		0.05	1	1	Yes	Diethylformamide	617-84-5					2.0E+01	4.3E+03		2.0E+01	
3.5E+02	C	1.0E-01	C							5.07	1	0.9	Yes	Diethylstilbestrol	56-53-1	2.2E-04	6.6E-05		5.1E-05					
				8.3E-02	O					0.65	1	1	Yes	Difenzoquat	43222-48-6					1.7E+03	7.5E+05		1.7E+03	
				2.0E-02	I					3.88	1	0.9	Yes	Diflubenzuron	35367-38-5					4.0E+02	1.0E+03		2.9E+02	
						4.0E+01	I	V		0.75	1	1	Yes	Difluoroethane, 1,1-	75-37-6							8.3E+04	8.3E+04	
						3.0E+01	X	V		2.29	1	1	Yes	Difluoropropane, 2,2-	420-45-1							6.3E+04	6.3E+04	
4.4E-02	C	1.3E-05	C					V		3.58	1	1	Yes	Dihydrosafrole	94-58-6	1.8E+00	2.3E+00	4.3E-01	3.0E-01					
						7.0E-01	P	V		1.52	1	1	Yes	Diisopropyl Ether	108-20-3							1.5E+03	1.5E+03	
				8.0E-02	I			V		1.03	1	1	Yes	Diisopropyl Methylphosphonate	1445-75-6					1.6E+03	1.3E+05		1.6E+03	
				2.2E-02	O					-0.17	1	1	Yes	Dimethipin	55290-64-7					4.4E+02	2.6E+05		4.4E+02	
				2.2E-03	O					0.78	1	1	Yes	Dimethoate	60-51-5					4.4E+01	7.0E+03		4.4E+01	
1.6E+00	P									1.81	1	1	Yes	Dimethoxybenzidine, 3,3'-	119-90-4	4.9E-02	1.6E+00		4.7E-02					
1.7E-03	P			6.0E-02	P					-0.61	1	1	Yes	Dimethyl methylphosphonate	756-79-6	4.6E+01	2.8E+04		4.6E+01	1.2E+03	8.1E+05		1.2E+03	
4.6E+00	C	1.3E-03	C							4.58	1	1	Yes	Dimethylamino azobenzene [p-]	60-11-7	1.7E-02	7.2E-03		5.0E-03					
5.8E-01	H									2.17	1	1	Yes	Dimethylaniline HCl, 2,4-	21436-96-4	1.3E-01	5.2E+02		1.3E-01					
2.0E-01	P			2.0E-03	X					1.68	1	1	Yes	Dimethylaniline, 2,4-	95-68-1	3.9E-01	7.1E+00		3.7E-01	4.0E+01	8.0E+02		3.8E+01	
2.7E-02	P			2.0E-03	I			V		2.31	1	1	Yes	Dimethylaniline, N,N-	121-69-7	2.9E+00	2.0E+01		2.5E+00	4.0E+01	3.1E+02		3.5E+01	
1.1E+01	P									2.34	1	1	Yes	Dimethylbenzidine, 3,3'-	119-93-7	7.1E-03	8.5E-02		6.5E-03					
				1.0E-01	P	3.0E-02	I	V		-1.01	1	1	Yes	Dimethylformamide	68-12-2					2.0E+03	1.8E+06	6.3E+01	6.1E+01	
				1.0E-04	X	2.0E-06	X	V		-1.19	1	1	Yes	Dimethylhydrazine, 1,1-	57-14-7					2.0E+00	3.5E+03	4.2E-03	4.2E-03	
5.5E+02	C	1.6E-01	C					V		-0.54	1	1	Yes	Dimethylhydrazine, 1,2-	540-73-8	1.4E-04	5.0E-02	3.5E-05	2.8E-05					
				2.0E-02	I					2.30	1	1	Yes	Dimethylphenol, 2,4-	105-67-9					4.0E+02	3.1E+03		3.6E+02	
				6.0E-04	I					2.36	1	1	Yes	Dimethylphenol, 2,6-	576-26-1					1.2E+01	8.5E+01		1.1E+01	
				1.0E-03	I					2.23	1	1	Yes	Dimethylphenol, 3,4-	95-65-8					2.0E+01	1.7E+02		1.8E+01	
4.5E-02	C	1.3E-05	C					V		2.58	1	1	Yes	Dimethylvinylchloride	513-37-1	1.7E+00	6.5E+00	4.3E-01	3.3E-01					
				8.0E-05	X					2.13	1	1	Yes	Dinitro-o-cresol, 4,6-	534-52-1					1.6E+00	2.6E+01		1.5E+00	
				2.0E-03	I					4.12	1	0.9	Yes	Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5					4.0E+01	5.4E+01		2.3E+01	
				1.0E-04	P					1.69	1	1	Yes	Dinitrobenzene, 1,2-	528-29-0					2.0E+00	5.3E+01		1.9E+00	
				1.0E-04	I					1.49	1	1	Yes	Dinitrobenzene, 1,3-	99-65-0					2.0E+00	7.3E+01		2.0E+00	
				1.0E-04	P					1.46	1	1	Yes	Dinitrobenzene, 1,4-	100-25-4					2.0E+00	7.6E+01		2.0E+00	
				2.0E-03	I					1.67	1	1	Yes	Dinitrophenol, 2,4-	51-28-5					4.0E+01	1.2E+03		3.9E+01	
6.8E-01	I									2.18	1	1	Yes	Dinitrotoluene Mixture, 2,4/2,6-	E1615210	1.1E-01	1.5E+00		1.1E-01					
3.1E-01	C	8.9E-05	C	2.0E-03	I					1.98	1	1	Yes	Dinitrotoluene, 2,4-	121-14-2	2.5E-01	4.3E+00		2.4E-01	4.0E+01	7.5E+02		3.8E+01	
1.5E+00	P			3.0E-04	X					2.10	1	1	Yes	Dinitrotoluene, 2,6-	606-20-2	5.2E-02	7.4E-01		4.9E-02	6.0E+00	9.3E+01		5.7E+00	
				2.0E-03	S					1.84	1	1	Yes	Dinitrotoluene, 2-Amino-4,6-	35572-78-2					4.0E+01	1.0E+03		3.9E+01	
				2.0E-03	S					1.84	1	1	Yes	Dinitrotoluene, 4-Amino-2,6-	19406-51-0					4.0E+01	1.0E+03		3.9E+01	
4.5E-01	X			9.0E-04	X					2.18	1	0.8	Yes	Dinitrotoluene, Technical grade	25321-14-6	1.7E-01	2.6E-01		1.0E-01	1.8E+01	3.0E+01		1.1E+01	
				1.0E-03	I					3.56	1	0.9	Yes	Dinoseb	88-85-7					2.0E+01	5.4E+01		1.5E+01	7.0E+00
1.0E-01	I	5.0E-06	I	3.0E-02	I	3.0E-02	I	V		-0.27	1	1	Yes	Dioxane, 1,4-	123-91-1	7.8E-01	2.3E+02	1.1E+00	4.6E-01	6.0E+02	1.9E+05	6.3E+01	5.7E+01	
														Dioxins										
6.2E+03	I	1.3E+00	I							8.21	1	0	No	~Hexachlorodibenzo-p-dioxin, Mixture		1.3E-05			1.3E-05					
1.3E+05	C	3.8E+01	C	7.0E-10	I	4.0E-08	C	V		6.80	1	0.5	No	~TCDD, 2,3,7,8-	1746-01-6	6.0E-07		1.5E-07	1.2E-07	1.4E-05		8.3E-05	1.2E-05	3.0E-05
				3.0E-02	I					2.17	1	1	Yes	Diphenamid	957-51-7					6.0E+02	4.2E+03		5.3E+02	
						4.0E-04	X	V		4.21	1	1	Yes	Diphenyl Ether	101-84-8							8.3E-01	8.3E-01	
				8.0E-04	X					2.40	1	1	Yes	Diphenyl Sulfone	127-63-9					1.6E+01	2.0E+02		1.5E+01	
				1.0E-01	O					3.50	1	1	Yes	Diphenylamine	122-39-4					2.0E+03	3.4E+03		1.3E+03	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
8.0E-01	I	2.2E-04	I							2.94	1	1	Yes	Diphenylhydrazine, 1,2-	122-66-7	9.7E-02	3.9E-01		7.8E-02					
				2.2E-03	I					-4.60	1	1	No	Diquat	85-00-7					4.4E+01			4.4E+01	2.0E+01
7.1E+00	C	1.4E-01	C							4.90	1	1	No	Direct Black 38	1937-37-7	1.1E-02			1.1E-02					
7.4E+00	C	1.4E-01	C							2.60	1	1	No	Direct Blue 6	2602-46-2	1.1E-02			1.1E-02					
6.7E+00	C	1.4E-01	C							-6.53	1	1	No	Direct Brown 95	16071-86-6	1.2E-02			1.2E-02					
				4.0E-05	I					4.02	1	0.9	Yes	Disulfoton	298-04-4					8.0E-01	1.3E+00		5.0E-01	
				1.0E-02	I			V		0.77	1	1	Yes	Dithiane, 1,4-	505-29-3					2.0E+02	1.6E+04		2.0E+02	
				2.0E-03	I					2.68	1	1	Yes	Diuron	330-54-1					4.0E+01	3.6E+02		3.6E+01	
				2.0E-02	O					1.15	1	1	Yes	Dodine	2439-10-3					4.0E+02	5.3E+04		4.0E+02	
				5.0E-02	O			V		3.21	1	1	Yes	EPTC	759-94-4					1.0E+03	3.0E+03		7.5E+02	
				6.0E-03	I			V		3.83	1	0.9	Yes	Endosulfan	115-29-7					1.2E+02	6.3E+02		1.0E+02	
				2.0E-02	I					1.91	1	1	Yes	Endothall	145-73-3					4.0E+02	8.5E+03		3.8E+02	1.0E+02
				3.0E-04	I					5.20	1	0.8	Yes	Endrin	72-20-8					6.0E+00	3.7E+00		2.3E+00	2.0E+00
9.9E-03	I	1.2E-06	I	6.0E-03	P	1.0E-03	I	V		0.45	1	1	Yes	Epichlorohydrin	106-89-8	7.9E+00	7.9E+02	4.7E+00	2.9E+00	1.2E+02	1.3E+04	2.1E+00	2.0E+00	
						2.0E-02	I	V		0.86	1	1	Yes	Epoxybutane, 1,2-	106-88-7							4.2E+01	4.2E+01	
				4.0E-02	P					-1.18	1	1	Yes	Ethanol, 2-(2-methoxyethoxy)-	111-77-3					8.0E+02	3.9E+05		8.0E+02	
				5.0E-03	I					-0.22	1	1	Yes	Ethephon	16672-87-0					1.0E+02	4.2E+04		1.0E+02	
				5.0E-04	I					5.07	1	0.8	Yes	Ethion	563-12-2					1.0E+01	7.7E+00		4.3E+00	
				1.0E-01	P	6.0E-02	P	V		0.59	1	1	Yes	Ethoxyethanol Acetate, 2-	111-15-9					2.0E+03	2.3E+05	1.3E+02	1.2E+02	
				9.0E-02	P	2.0E-01	I	V		-0.32	1	1	Yes	Ethoxyethanol, 2-	110-80-5					1.8E+03	6.3E+05	4.2E+02	3.4E+02	
				9.0E-01	I	7.0E-02	P	V		0.73	1	1	Yes	Ethyl Acetate	141-78-6					1.8E+04	1.2E+06	1.5E+02	1.4E+02	
				5.0E-03	P	8.0E-03	P	V		1.32	1	1	Yes	Ethyl Acrylate	140-88-5					1.0E+02	3.0E+03	1.7E+01	1.4E+01	
						1.0E+01	I	V		1.43	1	1	Yes	Ethyl Chloride (Chloroethane)	75-00-3							2.1E+04	2.1E+04	
				2.0E-01	I			V		0.89	1	1	Yes	Ethyl Ether	60-29-7					4.0E+03	2.0E+05		3.9E+03	
						3.0E-01	P	V		1.94	1	1	Yes	Ethyl Methacrylate	97-63-2							6.3E+02	6.3E+02	
				1.0E-05	I					4.78	1	0.8	Yes	Ethyl-p-nitrophenyl Phosphonate	2104-64-5					2.0E-01	1.6E-01		8.9E-02	
1.1E-02	C	2.5E-06	C	1.0E-01	I	1.0E+00	I	V		3.15	1	1	Yes	Ethylbenzene	100-41-4	7.1E+00	1.2E+01	2.2E+00	1.5E+00	2.0E+03	3.8E+03	2.1E+03	8.1E+02	7.0E+02
				7.0E-02	P					-0.94	1	1	Yes	Ethylene Cyanohydrin	109-78-4					1.4E+03	1.1E+06		1.4E+03	
				9.0E-02	P			V		-2.04	1	1	No	Ethylene Diamine	107-15-3					1.8E+03			1.8E+03	
				2.0E+00	I	4.0E-01	C			-1.36	1	1	Yes	Ethylene Glycol	107-21-1					4.0E+04	5.7E+07		4.0E+04	
				1.0E-01	I	1.6E+00	I			0.83	1	1	Yes	Ethylene Glycol Monobutyl Ether	111-76-2					2.0E+03	1.4E+05		2.0E+03	
3.1E-01	C	3.0E-03	I			3.0E-02	C	V	M	-0.30	1	1	Yes	Ethylene Oxide	75-21-8	8.1E-02	1.7E+01	6.8E-04	6.7E-04			6.3E+01	6.3E+01	
4.5E-02	C	1.3E-05	C	8.0E-05	I					-0.66	1	1	Yes	Ethylene Thiourea	96-45-7	1.7E+00	1.0E+03		1.7E+00	1.6E+00	1.0E+03		1.6E+00	
6.5E+01	C	1.9E-02	C					V		-0.28	1	1	Yes	Ethyleneimine	151-56-4	1.2E-03	2.5E-01	3.0E-04	2.4E-04					
				3.0E+00	I					2.19	1	1	Yes	Ethylphthalyl Ethyl Glycolate	84-72-0					6.0E+04	1.5E+06		5.8E+04	
				2.5E-04	I					3.23	1	0.9	Yes	Fenamiphos	22224-92-6					5.0E+00	3.4E+01		4.4E+00	
				2.5E-02	I					5.70	1	0.8	Yes	Fenpropathrin	39515-41-8					5.0E+02	7.3E+01		6.4E+01	
				2.5E-02	I					6.20	1	0.7	No	Fenvalerate	51630-58-1					5.0E+02			5.0E+02	
				1.3E-02	I					2.42	1	1	Yes	Fluometuron	2164-17-2					2.6E+02	3.4E+03		2.4E+02	
				4.0E-02	C	1.3E-02	C				1	1	Yes	Fluoride	16984-48-8					8.0E+02	1.8E+05		8.0E+02	4.0E+03
				6.0E-02	I	1.3E-02	C				1	1	Yes	Fluorine (Soluble Fluoride)	7782-41-4					1.2E+03	2.7E+05		1.2E+03	4.0E+03
				8.0E-02	I					3.16	1	0.9	Yes	Fluridone	59756-60-4					1.6E+03	1.4E+04		1.4E+03	
				4.0E-02	O					3.34	1	0.9	Yes	Flurprimidol	56425-91-3					8.0E+02	4.8E+03		6.9E+02	
				2.0E-03	O					3.70	1	0.9	Yes	Flusilazole	85509-19-9					4.0E+01	1.4E+02		3.1E+01	
				5.0E-01	O					3.70	1	0.9	Yes	Flutolanil	66332-96-5					1.0E+04	3.7E+04		7.9E+03	
				1.0E-02	I					6.81	1	0.6	No	Fluvalinate	69409-94-5					2.0E+02			2.0E+02	
				9.0E-02	O					2.85	1	1	Yes	Folpet	133-07-3					1.8E+03	1.9E+04		1.6E+03	
				2.5E-03	O					2.90	1	1	Yes	Fomesafen	72178-02-0					5.0E+01	1.2E+03		4.8E+01	
				2.0E-03	I					3.94	1	0.9	Yes	Fonofos	944-22-9					4.0E+01	6.3E+01		2.4E+01	
		1.3E-05	I	2.0E-01	I	9.8E-03	A	V		0.35	1	1	Yes	Formaldehyde	50-00-0			4.3E-01	4.3E-01	4.0E+03	3.2E+05	2.0E+01	2.0E+01	
				9.0E-01	P	3.0E-04	X	V		-0.54	1	1	Yes	Formic Acid	64-18-6					1.8E+04	6.4E+06	6.3E-01	6.3E-01	
				2.5E+00	O					-2.40	1	1	No	Fosetyl-AL	39148-24-8					5.0E+04			5.0E+04	
														Furans										
				1.0E-03	X			V		4.12	1	1	Yes	~Dibenzofuran	132-64-9					2.0E+01	1.3E+01		7.9E+00	
				1.0E-03	I			V		1.34	1	1	Yes	~Furan	110-00-9					2.0E+01	4.8E+02		1.9E+01	
				9.0E-01	I	2.0E+00	I	V		0.46	1	1	Yes	~Tetrahydrofuran	109-99-9					1.8E+04	1.7E+06	4.2E+03	3.4E+03	
3.8E+00	H									-0.04	1	1	Yes	Furazolidone	67-45-8	2.1E-02	1.0E+01		2.0E-02					
				3.0E-03	I	5.0E-02	H	V		0.41	1	1	Yes	Furfural	98-01-1					6.0E+01	7.1E+03	1.0E+02	3.8E+01	
1.5E+00	C	4.3E-04	C							1.80	1	1	Yes	Furium	531-82-8	5.2E-02	1.9E+00		5.1E-02					
3.0E-02	I	8.6E-06	C							4.38	1	0.9	Yes	Furmecyclox	60568-05-0	2.6E+00	2.0E+00		1.1E+00					
				6.0E-03	O					-4.81	1	1	No	Glufosinate, Ammonium	77182-82-2					1.2E+02			1.2E+02	
				1.0E-01	A	8.0E-05	C			-0.33	1	1	Yes	Glutaraldehyde	111-30-8					2.0E+03	6.0E+05		2.0E+03	
				4.0E-04	I	1.0E-03	H	V		-0.12	1	1	Yes	Glycidyl	765-34-4					8.0E+00	1.8E+03	2.1E+00	1.7E+00	
				1.0E-01	I					-3.40	1	1	No	Glyphosate	1071-83-6					2.0E+03			2.0E+03	7.0E+02
				1.0E-02	X			V		-1.63	1	1	Yes	Guanidine	113-00-8					2.0E+02	4.2E+05		2.0E+02	
				2.0E-02	P					-3.56	1	1	No	Guanidine Chloride	50-01-1					4.0E+02			4.0E+02	
				3.0E-02	X					-8.35	1	1	No	Guanidine Nitrate	506-93-4					6.0E+02			6.0E+02	
				5.0E-05	I					4.07	1	0.9	Yes	Haloxyfop, Methyl	69806-40-2					1.0E+00	3.1E+00		7.6E-01	
4.5E+00	I	1.3E-03	I	5.0E-04	I			V		6.10	1	0.8	Yes	Heptachlor	76-44-8	1.7E-02	2.3E-03	4.3E-03	1.4E-03	1.0E+01	1.5E+00		1.3E+00	4.0E-01
9.1E+00	I	2.6E-03	I	1.3E-05	I			V		4.98	1	0.8	Yes	Heptachlor Epoxide	1024-57-3	8.6E-03	7.1E-03	2.2E-03	1.4E-03	2.6E-01	2.4E-01		1.2E-01	2.0E-01
						3.0E-03	X	V		2.29	1	1	Yes	Heptanal, n-	111-71-7							6.3E+00	6.3E+00	

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
				3.0E-04	X	4.0E-01	P	V		4.66	1	1	No	Heptane, N-	142-82-5					6.0E+00		8.3E+02	6.0E+00	
				2.0E-03	I			V		6.07	1	0.7	No	Hexabromobenzene	87-82-1					4.0E+01			4.0E+01	
				2.0E-04	I						1	0	No	Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2					4.0E+00			4.0E+00	
1.6E+00	I	4.6E-04	I	8.0E-04	I			V		5.73	1	0.9	No	Hexachlorobenzene	118-74-1	4.9E-02		1.2E-02	9.8E-03	1.6E+01			1.6E+01	1.0E+00
7.8E-02	I	2.2E-05	I	1.0E-03	P			V		4.78	1	0.9	Yes	Hexachlorobutadiene	87-68-3	1.0E+00	4.4E-01	2.6E-01	1.4E-01	2.0E+01	9.5E+00		6.5E+00	
6.3E+00	I	1.8E-03	I	8.0E-03	A					3.80	1	0.9	Yes	Hexachlorocyclohexane, Alpha-	319-84-6	1.2E-02	1.8E-02		7.2E-03	1.6E+02	2.5E+02		9.7E+01	
1.8E+00	I	5.3E-04	I							3.78	1	0.9	Yes	Hexachlorocyclohexane, Beta-	319-85-7	4.3E-02	6.1E-02		2.5E-02					
1.1E+00	C	3.1E-04	C	3.0E-04	I					3.72	1	0.9	Yes	Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	7.1E-02	1.0E-01		4.2E-02	6.0E+00	9.3E+00		3.6E+00	2.0E-01
1.8E+00	I	5.1E-04	I							4.14	1	0.9	Yes	Hexachlorocyclohexane, Technical	608-73-1	4.3E-02	6.1E-02		2.5E-02					
				6.0E-03	I	2.0E-04	I	V		5.04	1	0.9	Yes	Hexachlorocyclopentadiene	77-47-4					1.2E+02	4.2E+01	4.2E-01	4.1E-01	5.0E+01
4.0E-02	I	1.1E-05	C	7.0E-04	I	3.0E-02	I	V		4.14	1	1	Yes	Hexachloroethane	67-72-1	1.9E+00	1.7E+00	5.1E-01	3.3E-01	1.4E+01	1.4E+01	6.3E+01	6.2E+00	
				3.0E-04	I					7.54	1	0	No	Hexachlorophene	70-30-4					6.0E+00			6.0E+00	
1.1E-01	I			3.0E-03	I					0.87	1	1	Yes	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	7.1E-01	8.6E+01		7.0E-01	6.0E+01	8.0E+03		6.0E+01	
						1.0E-05	I	V		3.20	1	1	Yes	Hexamethylene Diisocyanate, 1,6-	822-06-0							2.1E-02	2.1E-02	
				4.0E-04	P					0.28	1	1	Yes	Hexamethylphosphoramide	680-31-9					8.0E+00	2.0E+03		8.0E+00	
						7.0E-01	I	V		3.90	1	1	Yes	Hexane, N-	110-54-3							1.5E+03	1.5E+03	
				2.0E+00	P					0.08	1	1	Yes	Hexanedioic Acid	124-04-9					4.0E+04	1.1E+07		4.0E+04	
				5.0E-03	I	3.0E-02	I	V		1.38	1	1	Yes	Hexanone, 2-	591-78-6					1.0E+02	2.8E+03	6.3E+01	3.8E+01	
				3.3E-02	I					1.85	1	1	Yes	Hexazinone	51235-04-2					6.6E+02	2.4E+04		6.4E+02	
				2.5E-02	I					5.57	1	0.8	Yes	Hexythiazox	78587-05-0					5.0E+02	1.4E+02		1.1E+02	
				1.7E-02	O					2.31	1	1	Yes	Hydramethylnon	67485-29-4					3.4E+02	2.9E+04		3.4E+02	
3.0E+00	I	4.9E-03	I			3.0E-05	P	V		-2.07	1	1	Yes	Hydrazine	302-01-2	2.6E-02	1.1E+02	1.1E-03	1.1E-03			6.3E-02	6.3E-02	
3.0E+00	I	4.9E-03	I								1	1	Yes	Hydrazine Sulfate	10034-93-2	2.6E-02	4.9E+00		2.6E-02					
						2.0E-02	I	V			1	1	Yes	Hydrogen Chloride	7647-01-0							4.2E+01	4.2E+01	
				4.0E-02	C	1.4E-02	C	V		0.23	1	1	Yes	Hydrogen Fluoride	7664-39-3					8.0E+02	1.8E+05	2.9E+01	2.8E+01	
						2.0E-03	I	V		0.23	1	1	Yes	Hydrogen Sulfide	7783-06-4							4.2E+00	4.2E+00	
6.0E-02	P			4.0E-02	P					0.59	1	1	Yes	Hydroquinone	123-31-9	1.3E+00	1.2E+02		1.3E+00	8.0E+02	7.9E+04		7.9E+02	
6.1E-02	O			2.5E-03	O					3.82	1	0.9	Yes	Imazalil	35554-44-0	1.3E+00	3.1E+00		9.0E-01	5.0E+01	1.3E+02		3.6E+01	
				2.5E-01	I					1.86	1	1	Yes	Imazaquin	81335-37-7					5.0E+03	2.6E+05		4.9E+03	
				2.5E+00	O					1.49	1	1	Yes	Imazethapyr	81335-77-5					5.0E+04	7.2E+05		4.7E+04	
				1.0E-02	A					2.49	1	1	Yes	Iodine	7553-56-2					2.0E+02	4.6E+04		2.0E+02	
				4.0E-02	I					3.00	1	0.9	Yes	Iprodione	36734-19-7					8.0E+02	9.1E+03		7.4E+02	
				7.0E-01	P						1	1	Yes	Iron	7439-89-6					1.4E+04	3.2E+06		1.4E+04	
				3.0E-01	I			V		0.76	1	1	Yes	Isobutyl Alcohol	78-83-1					6.0E+03	3.6E+05		5.9E+03	
9.5E-04	I			2.0E-01	I	2.0E+00	C			1.70	1	1	Yes	Isophorone	78-59-1	8.2E+01	1.6E+03		7.8E+01	4.0E+03	8.6E+04		3.8E+03	
				1.5E-02	I			V		5.80	1	0.8	Yes	Isopropalin	33820-53-0					3.0E+02	4.6E+01		4.0E+01	
				2.0E+00	P	2.0E-01	P	V		0.05	1	1	Yes	Isopropanol	67-63-0					4.0E+04	6.5E+06	4.2E+02	4.1E+02	
				1.0E-01	I					0.27	1	1	Yes	Isopropyl Methyl Phosphonic Acid	1832-54-8					2.0E+03	3.9E+05		2.0E+03	
				5.0E-02	I					3.94	1	0.9	Yes	Isoxaben	82558-50-7					1.0E+03	2.7E+03		7.3E+02	
						3.0E-01	A	V		8.00	1	0	No	JP-7	E1737665							6.3E+02	6.3E+02	
				8.0E-03	O					4.81	1	0.9	Yes	Lactofen	77501-63-4					1.6E+02	2.7E+02		1.0E+02	
				2.0E-04	X					-0.94	1	1	Yes	Lactonitrile	78-97-7					4.0E+00	3.2E+03		4.0E+00	
														Lead Compounds										
8.5E-03	C	1.2E-05	C								1	0.8	Yes	~Lead Phosphate	7446-27-7	9.2E+00	1.7E+03		9.1E+00					
8.5E-03	C	1.2E-05	C							-0.08	1	1	Yes	~Lead acetate	301-04-2	9.2E+00	9.1E+03		9.2E+00					
											1	1	Yes	~Lead and Compounds	7439-92-1								1.5E+01	1.5E+01
8.5E-03	C	1.2E-05	C							-4.00	1	1	No	~Lead subacetate	1335-32-6	9.2E+00			9.2E+00					
				1.0E-07	I			V		4.15	1	0.9	Yes	~Tetraethyl Lead	78-00-2					2.0E-03	3.8E-03		1.3E-03	
				5.0E-06	P			V		2.56	1	1	Yes	Lewisite	541-25-3					1.0E-01	9.1E-01		9.0E-02	
				7.7E-03	O					3.20	1	0.9	Yes	Linuron	330-55-2					1.5E+02	7.6E+02		1.3E+02	
				2.0E-03	P						1	1	Yes	Lithium	7439-93-2					4.0E+01	9.1E+03		4.0E+01	
				5.0E-04	I					3.25	1	1	Yes	MCPA	94-74-6					1.0E+01	3.0E+01		7.5E+00	
				4.4E-03	O					2.79	1	0.9	Yes	MCPB	94-81-5					8.8E+01	2.4E+02		6.5E+01	
				1.0E-03	I					3.13	1	1	Yes	MCPP	93-65-2					2.0E+01	7.1E+01		1.6E+01	
				2.0E-02	I					2.36	1	1	Yes	Malathion	121-75-5					4.0E+02	1.1E+04		3.9E+02	
				1.0E-01	I	7.0E-04	C			1.62	1	1	Yes	Maleic Anhydride	108-31-6					2.0E+03	3.8E+04		1.9E+03	
				5.0E-01	I					-0.84	1	1	Yes	Maleic Hydrazide	123-33-1					1.0E+04	8.9E+06		1.0E+04	
				1.0E-04	P					-0.60	1	1	Yes	Malononitrile	109-77-3					2.0E+00	9.2E+02		2.0E+00	
				3.0E-02	H					1.33	1	0.9	Yes	Mancozeb	8018-01-7					6.0E+02	4.9E+03		5.4E+02	
				5.0E-03	I					0.62	1	1	Yes	Maneb	12427-38-2					1.0E+02	3.6E+03		9.8E+01	
				1.4E-01	I	5.0E-05	I				1	1		Manganese (Diet)	7439-96-5									
				2.4E-02	S	5.0E-05	I				0.04	1	Yes	Manganese (Non-diet)	7439-96-5					4.8E+02	4.4E+03		4.3E+02	
				9.0E-05	H					1.04	1	1	Yes	Mephosfolan	950-10-7					1.8E+00	2.5E+02		1.8E+00	
				3.0E-02	I					-2.82	1	1	No	Mepiquat Chloride	24307-26-4					6.0E+02			6.0E+02	
1.1E-02	P			4.0E-03	P					2.42	1	1	Yes	Mercaptobenzothiazole, 2-	149-30-4	7.1E+00	5.6E+01		6.3E+00	8.0E+01	6.9E+02		7.2E+01	
														Mercury Compounds										
				3.0E-04	I	3.0E-04	S			-0.22	0.07	1	Yes	~Mercuric Chloride (and other Mercury salts)	7487-94-7					6.0E+00	9.6E+01		5.7E+00	2.0E+00
						3.0E-04	I	V		0.62	1	1	Yes	~Mercury (elemental)	7439-97-6							6.3E-01	6.3E-01	2.0E+00
				1.0E-04	I						1	1	Yes	~Methyl Mercury	22967-92-6					2.0E+00	4.6E+02		2.0E+00	
				8.0E-05	I					0.71	1	1	Yes	~Phenylmercuric Acetate	62-38-4					1.6E+00	5.7E+02		1.6E+00	
				3.0E-05	I			V		7.67	1	0.3	No	Merphos	150-50-5					6.0E-01			6.0E-01	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
				1.0E-04	O					5.70	1	0.9	Yes	Merphos Oxide	78-48-8					2.0E+00	3.3E-01		2.8E-01	
				6.0E-02	I					1.65	1	1	Yes	Metalaxyl	57837-19-1					1.2E+03	6.4E+04		1.2E+03	
				1.0E-04	I	3.0E-02	P	V		0.68	1	1	Yes	Methacrylonitrile	126-98-7					2.0E+00	1.3E+02	6.3E+01	1.9E+00	
				5.0E-05	I					-0.80	1	1	Yes	Methamidophos	10265-92-6					1.0E+00	1.0E+03		1.0E+00	
				2.0E+00	I	2.0E+01	I	V		-0.77	1	1	Yes	Methanol	67-56-1					4.0E+04	1.8E+07	4.2E+04	2.0E+04	
				1.5E-03	O					2.20	1	1	Yes	Methidathion	950-37-8					3.0E+01	8.7E+02		2.9E+01	
				2.5E-02	I					0.60	1	1	Yes	Methomyl	16752-77-5					5.0E+02	6.8E+04		5.0E+02	
4.9E-02	C	1.4E-05	C							1.47	1	1	Yes	Methoxy-5-nitroaniline, 2-	99-59-2	1.6E+00	5.4E+01		1.5E+00					
				5.0E-03	I					5.08	1	0.8	Yes	Methoxychlor	72-43-5					1.0E+02	5.9E+01		3.7E+01	4.0E+01
				8.0E-03	P	1.0E-03	P	V		0.10	1	1	Yes	Methoxyethanol Acetate, 2-	110-49-6					1.6E+02	3.5E+04	2.1E+00	2.1E+00	
				5.0E-03	P	2.0E-02	I	V		-0.77	1	1	Yes	Methoxyethanol, 2-	109-86-4					1.0E+02	6.3E+04	4.2E+01	2.9E+01	
				1.0E+00	X			V		0.18	1	1	Yes	Methyl Acetate	79-20-9					2.0E+04	2.9E+06		2.0E+04	
						2.0E-02	P	V		0.80	1	1	Yes	Methyl Acrylate	96-33-3							4.2E+01	4.2E+01	
				6.0E-01	I	5.0E+00	I	V		0.29	1	1	Yes	Methyl Ethyl Ketone (2-Butanone)	78-93-3					1.2E+04	1.5E+06	1.0E+04	5.6E+03	
		1.0E-03	X	1.0E-03	P	2.0E-05	X	V		-1.05	1	1	Yes	Methyl Hydrazine	60-34-4			5.6E-03	5.6E-03	2.0E+01	1.5E+04	4.2E-02	4.2E-02	
						3.0E+00	I	V		1.31	1	1	Yes	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1							6.3E+03	6.3E+03	
						1.0E-03	C	V		0.79	1	1	Yes	Methyl Isocyanate	624-83-9							2.1E+00	2.1E+00	
				1.4E+00	I	7.0E-01	I	V		1.38	1	1	Yes	Methyl Methacrylate	80-62-6					2.8E+04	7.7E+05	1.5E+03	1.4E+03	
				2.5E-04	I					2.86	1	1	Yes	Methyl Parathion	298-00-0					5.0E+00	4.1E+01		4.5E+00	
				6.0E-02	X					-0.70	1	1	Yes	Methyl Phosphonic Acid	993-13-5					1.2E+03	1.2E+06		1.2E+03	
				6.0E-03	H	4.0E-02	H	V		3.44	1	0.8	Yes	Methyl Styrene (Mixed Isomers)	25013-15-4					1.2E+02	4.3E+01	8.3E+01	2.3E+01	
9.9E-02	C	2.8E-05	C							-0.66	1	1	Yes	Methyl methanesulfonate	66-27-3	7.9E-01	4.8E+02		7.9E-01					
1.8E-03	C	2.6E-07	C			3.0E+00	I	V		0.94	1	1	Yes	Methyl tert-Butyl Ether (MTBE)	1634-04-4	4.3E+01	2.0E+03	2.2E+01	1.4E+01			6.3E+03	6.3E+03	
				3.0E-04	X					-2.06	1	1	Yes	Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2					6.0E+00	5.9E+04		6.0E+00	
						3.0E+00	X	V		1.43	1	1	Yes	Methyl-2-Pentanol, 4-	108-11-2							6.3E+03	6.3E+03	
9.0E-03	P			2.0E-02	X					1.87	1	1	Yes	Methyl-5-Nitroaniline, 2-	99-55-8	8.7E+00	1.4E+02		8.2E+00	4.0E+02	7.3E+03		3.8E+02	
8.3E+00	C	2.4E-03	C							-0.92	1	1	Yes	Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	9.4E-03	1.1E+01		9.4E-03					
1.3E-01	C	3.7E-05	C							1.62	1	1	Yes	Methylaniline Hydrochloride, 2-	636-21-5	6.0E-01	3.9E+03		6.0E-01					
				1.0E-02	A					-1.18	1	1	Yes	Methylarsonic acid	124-58-3					2.0E+02	3.6E+05		2.0E+02	
				2.0E-04	X						1	0	No	Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7					4.0E+00			4.0E+00	
1.0E-01	X			3.0E-04	X						1	0	No	Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	7.8E-01			7.8E-01	6.0E+00			6.0E+00	
2.2E+01	C	6.3E-03	C						M	6.42	1	0.8	No	Methylcholanthrene, 3-	56-49-5	1.1E-03			1.1E-03					
2.0E-03	I	1.0E-08	I	6.0E-03	I	6.0E-01	I	V	M	1.25	1	1	Yes	Methylene Chloride	75-09-2	1.3E+01	3.5E+02	2.0E+02	1.1E+01	1.2E+02	3.7E+03	1.3E+03	1.1E+02	5.0E+00
1.0E-01	P	4.3E-04	C	2.0E-03	P				M	3.91	1	0.9	Yes	Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	2.5E-01	4.3E-01		1.6E-01	4.0E+01	7.5E+01		2.6E+01	
4.6E-02	I	1.3E-05	C							4.37	1	1	Yes	Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	1.7E+00	6.7E-01		4.8E-01					
1.6E+00	C	4.6E-04	C			2.0E-02	C			1.59	1	1	Yes	Methylenebisbenzenamine, 4,4'-	101-77-9	4.9E-02	1.7E+00		4.7E-02					
						6.0E-04	I			5.22	1	0.9	Yes	Methylenediphenyl Diisocyanate	101-68-8									
				7.0E-02	H			V		3.48	1	1	Yes	Methylstyrene, Alpha-	98-83-9					1.4E+03	1.7E+03		7.8E+02	
				1.5E-01	I					3.13	1	1	Yes	Metolachlor	51218-45-2					3.0E+03	2.6E+04		2.7E+03	
				2.5E-02	I					1.70	1	1	Yes	Metribuzin	21087-64-9					5.0E+02	1.8E+04		4.9E+02	
				2.5E-01	I					2.20	1	1	Yes	Metsulfuron-methyl	74223-64-6					5.0E+03	2.4E+05		4.9E+03	
				3.0E+00	P			V		6.10	1	1	No	Mineral oils	8012-95-1					6.0E+04			6.0E+04	
1.8E+01	C	5.1E-03	C	2.0E-04	I			V		6.89	1	0.5	No	Mirex	2385-85-5	4.3E-03		1.1E-03	8.8E-04	4.0E+00			4.0E+00	
				2.0E-03	I					3.21	1	1	Yes	Molinate	2212-67-1					4.0E+01	1.2E+02		3.0E+01	
				5.0E-03	I						1	1	Yes	Molybdenum	7439-98-7					1.0E+02	2.3E+04		1.0E+02	
				1.0E-01	I						1	1	Yes	Monochloramine	10599-90-3					2.0E+03	4.6E+05		2.0E+03	4.0E+03
				2.0E-03	P					1.66	1	1	Yes	Monomethylaniline	100-61-8					4.0E+01	7.5E+02		3.8E+01	
				2.5E-02	I					2.94	1	1	Yes	Myclobutanil	88671-89-0					5.0E+02	4.7E+03		4.5E+02	
				3.0E-04	X					4.04	1	0.9	Yes	N,N'-Diphenyl-1,4-benzenediamine	74-31-7					6.0E+00	8.9E+00		3.6E+00	
				2.0E-03	I			V		1.38	1	1	Yes	Naled	300-76-5					4.0E+01	6.8E+03		4.0E+01	
				3.0E-02	X	1.0E-01	P	V			1	0	No	Naphtha, High Flash Aromatic (HFAN)	64742-95-6					6.0E+02		2.1E+02	1.5E+02	
1.8E+00	C	0.0E+00	C							2.28	1	1	Yes	Naphthylamine, 2-	91-59-8	4.3E-02	3.6E-01		3.9E-02					
				1.2E-01	O					3.36	1	0.9	Yes	Napropamide	15299-99-7					2.4E+03	1.1E+04		2.0E+03	
		2.6E-04	C	1.1E-02	C	1.4E-05	C			-1.38	1	1	Yes	Nickel Acetate	373-02-4					2.2E+02	6.8E+05		2.2E+02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C			-2.12	1	1	Yes	Nickel Carbonate	3333-67-3					2.2E+02	1.4E+06		2.2E+02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C	V			1	0	Yes	Nickel Carbonyl	13463-39-3			2.2E-02	2.2E-02	2.2E+02		2.9E-02	2.9E-02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C				0.04	1	Yes	Nickel Hydroxide	12054-48-7					2.2E+02	2.0E+03		2.0E+02	
		2.6E-04	C	1.1E-02	C	2.0E-05	C				0.04	1	Yes	Nickel Oxide	1313-99-1					2.2E+02	2.0E+03		2.0E+02	
		2.4E-04	I	1.1E-02	C	1.4E-05	C				0.04	0	Yes	Nickel Refinery Dust	E715532					2.2E+02	1.0E+04		2.2E+02	
		2.6E-04	C	2.0E-02	I	9.0E-05	A				0.04	1	Yes	Nickel Soluble Salts	7440-02-0					4.0E+02	1.8E+04		3.9E+02	
1.7E+00	C	4.8E-04	I	1.1E-02	C	1.4E-05	C				0.04	1	Yes	Nickel Subsulfide	12035-72-2	4.6E-02	1.7E+00		4.5E-02	2.2E+02	1.0E+04		2.2E+02	
		2.6E-04	C	1.1E-02	C	1.4E-05	C				1	0	Yes	Nickelocene	1271-28-9					2.2E+02			2.2E+02	
				1.6E+00	I						1	1	Yes	Nitrate	14797-55-8					3.2E+04	7.3E+06		3.2E+04	1.0E+04
											1	0	Yes	Nitrate + Nitrite (as N)	E701177									1.0E+04
				1.0E-01	I						1	1	Yes	Nitrite	14797-65-0					2.0E+03	4.6E+05		2.0E+03	1.0E+03
				1.0E-02	X	5.0E-05	X			1.85	1	1	Yes	Nitroaniline, 2-	88-74-4					2.0E+02	3.4E+03		1.9E+02	
2.0E-02	P			4.0E-03	P	6.0E-03	P			1.39	1	1	Yes	Nitroaniline, 4-	100-01-6	3.9E+00	1.2E+02		3.8E+00	8.0E+01	2.8E+03		7.8E+01	
		4.0E-05	I	2.0E-03	I	9.0E-03	I	V		1.85	1	1	Yes	Nitrobenzene	98-95-3			1.4E-01	1.4E-01	4.0E+01	6.2E+02	1.9E+01	1.3E+01	
				3.0E+03	P					-4.56	1	1	No	Nitrocellulose	9004-70-0					6.0E+07			6.0E+07	
				7.0E-02	H					-0.47	1	1	Yes	Nitrofurantoin	67-20-9					1.4E+03	1.6E+06		1.4E+03	
1.3E+00	C	3.7E-04	C							0.23	1	1	Yes	Nitrofurazone	59-87-0	6.0E-02	1.7E+01		6.0E-02					

MCL-1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD$_o$ (mg/kg-day)	key	RfC$_i$ (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
1.7E-02	P			1.0E-04	P					1.62	1	1	Yes	Nitroglycerin	55-63-0	4.6E+00	1.8E+02		4.5E+00	2.0E+00	8.7E+01		2.0E+00	
				1.0E-01	I					-0.89	1	1	Yes	Nitroguanidine	556-88-7					2.0E+03	1.8E+06		2.0E+03	
		8.8E-06	P			5.0E-03	P	V		-0.35	1	1	Yes	Nitromethane	75-52-5			6.4E-01	6.4E-01			1.0E+01	1.0E+01	
		2.7E-03	H			2.0E-02	I	V		0.93	1	1	Yes	Nitropropane, 2-	79-46-9			2.1E-03	2.1E-03			4.2E+01	4.2E+01	
2.7E+01	C	7.7E-03	C						M	0.23	1	1	Yes	Nitroso-N-ethylurea, N-	759-73-9	9.3E-04	1.5E-01		9.2E-04					
1.2E+02	C	3.4E-02	C						M	-0.03	1	1	Yes	Nitroso-N-methylurea, N-	684-93-5	2.1E-04	4.6E-02		2.1E-04					
5.4E+00	I	1.6E-03	I					V		2.63	1	1	Yes	Nitroso-di-N-butylamine, N-	924-16-3	1.4E-02	7.9E-02	3.5E-03	2.7E-03					
7.0E+00	I	2.0E-03	C							1.36	1	1	Yes	Nitroso-di-N-propylamine, N-	621-64-7	1.1E-02	3.5E-01		1.1E-02					
2.8E+00	I	8.0E-04	C							-1.28	1	1	Yes	Nitrosodiethanolamine, N-	1116-54-7	2.8E-02	8.1E+01		2.8E-02					
1.5E+02	I	4.3E-02	I						M	0.48	1	1	Yes	Nitrosodiethylamine, N-	55-18-5	1.7E-04	1.7E-02		1.7E-04					
5.1E+01	I	1.4E-02	I	8.0E-06	P	4.0E-05	X	V	M	-0.57	1	1	Yes	Nitrosodimethylamine, N-	62-75-9	4.9E-04	2.0E-01	1.4E-04	1.1E-04	1.6E-01	7.4E+01	8.3E-02	5.5E-02	
4.9E-03	I	2.6E-06	C							3.13	1	1	Yes	Nitrosodiphenylamine, N-	86-30-6	1.6E+01	5.2E+01		1.2E+01					
2.2E+01	I	6.3E-03	C					V		0.04	1	1	Yes	Nitrosomethylethylamine, N-	10595-95-6	3.5E-03	6.4E-01	8.9E-04	7.1E-04					
6.7E+00	C	1.9E-03	C							-0.44	1	1	Yes	Nitrosomorpholine [N-]	59-89-2	1.2E-02	5.3E+00		1.2E-02					
9.4E+00	C	2.7E-03	C							0.36	1	1	Yes	Nitrosopiperidine [N-]	100-75-4	8.3E-03	1.1E+00		8.2E-03					
2.1E+00	I	6.1E-04	I							-0.19	1	1	Yes	Nitrosopyrrolidine, N-	930-55-2	3.7E-02	1.0E+01		3.7E-02					
				1.0E-04	X					2.45	1	1	Yes	Nitrotoluene, m-	99-08-1					2.0E+00	1.4E+01		1.7E+00	
2.2E-01	P			9.0E-04	P			V		2.30	1	1	Yes	Nitrotoluene, o-	88-72-2	3.5E-01	2.8E+00		3.1E-01	1.8E+01	1.5E+02		1.6E+01	
1.6E-02	P			4.0E-03	P					2.37	1	1	Yes	Nitrotoluene, p-	99-99-0	4.9E+00	3.4E+01		4.3E+00	8.0E+01	6.2E+02		7.1E+01	
				3.0E-04	X	2.0E-02	P	V		5.65	1	1	No	Nonane, n-	111-84-2					6.0E+00		4.2E+01	5.3E+00	
				1.5E-02	O					2.30	1	1	Yes	Norflurazon	27314-13-2					3.0E+02	7.5E+03		2.9E+02	
				3.0E-03	I					8.71	1	0.3	No	Octabromodiphenyl Ether	32536-52-0					6.0E+01			6.0E+01	
				5.0E-02	I					0.16	1	1	Yes	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0					1.0E+03	6.3E+05		1.0E+03	
				2.0E-03	H					-1.01	1	1	Yes	Octamethylpyrophosphoramide	152-16-9					4.0E+01	1.4E+05		4.0E+01	
7.8E-03	O			1.4E-01	O					3.73	1	0.9	Yes	Oryzalin	19044-88-3	1.0E+01	3.8E+01		7.9E+00	2.8E+03	1.2E+04		2.3E+03	
				5.0E-03	I					4.80	1	0.8	Yes	Oxadiazon	19666-30-9					1.0E+02	9.0E+01		4.7E+01	
				2.5E-02	I					-0.47	1	1	Yes	Oxamyl	23135-22-0					5.0E+02	5.1E+05		5.0E+02	2.0E+02
7.3E-02	O			3.0E-02	O					4.73	1	0.8	Yes	Oxyfluorfen	42874-03-3	1.1E+00	1.1E+00		5.4E-01	6.0E+02	6.7E+02		3.2E+02	
				1.3E-02	I					3.20	1	0.9	Yes	Paclobutrazol	76738-62-0					2.6E+02	1.7E+03		2.3E+02	
				4.5E-03	I					-4.50	1	1	No	Paraquat Dichloride	1910-42-5					9.0E+01			9.0E+01	
				6.0E-03	H					3.83	1	0.9	Yes	Parathion	56-38-2					1.2E+02	3.0E+02		8.6E+01	
				5.0E-02	H			V		3.83	1	1	Yes	Pebulate	1114-71-2					1.0E+03	1.3E+03		5.6E+02	
				3.0E-01	O					5.20	1	0.9	Yes	Pendimethalin	40487-42-1					6.0E+03	1.8E+03		1.4E+03	
				2.0E-03	I			V		6.84	1	0.6	No	Pentabromodiphenyl Ether	32534-81-9					4.0E+01			4.0E+01	
				1.0E-04	I					7.66	1	0.6	No	Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9					2.0E+00			2.0E+00	
				8.0E-04	I			V		5.17	1	0.9	Yes	Pentachlorobenzene	608-93-5					1.6E+01	3.9E+00		3.2E+00	
9.0E-02	P							V		3.22	1	1	Yes	Pentachloroethane	76-01-7	8.7E-01	2.5E+00		6.5E-01					
2.6E-01	H			3.0E-03	I			V		4.64	1	0.9	Yes	Pentachloronitrobenzene	82-68-8	3.0E-01	2.0E-01		1.2E-01	6.0E+01	4.4E+01		2.6E+01	
4.0E-01	I	5.1E-06	C	5.0E-03	I					5.12	1	0.9	Yes	Pentachlorophenol	87-86-5	1.9E-01	5.2E-02		4.1E-02	1.0E+02	2.9E+01		2.3E+01	1.0E+00
4.0E-03	X			2.0E-03	P					2.38	1	1	Yes	Pentaerythritol tetranitrate (PETN)	78-11-5	1.9E+01	4.3E+02		1.9E+01	4.0E+01	9.6E+02		3.9E+01	
						1.0E+00	P	V		3.39	1	1	Yes	Pentane, n-	109-66-0							2.1E+03	2.1E+03	
														Perchlorates										
				7.0E-04	I						1	1	Yes	~Ammonium Perchlorate	7790-98-9					1.4E+01	3.2E+03		1.4E+01	
				7.0E-04	I						1	1	Yes	~Lithium Perchlorate	7791-03-9					1.4E+01	3.2E+03		1.4E+01	
				7.0E-04	I						1	1	Yes	~Perchlorate and Perchlorate Salts	14797-73-0					1.4E+01	3.2E+03		1.4E+01	1.5E+01(F)
				7.0E-04	I						1	1	Yes	~Potassium Perchlorate	7778-74-7					1.4E+01	1.6E+03		1.4E+01	
				7.0E-04	I						1	1	Yes	~Sodium Perchlorate	7601-89-0					1.4E+01	3.2E+03		1.4E+01	
				2.0E-02	P						1	0	Yes	Perfluorobutane sulfonic acid (PFBS)	375-73-5					4.0E+02			4.0E+02	
				2.0E-02	P						1	0	Yes	Perfluorobutanesulfonate	45187-15-3					4.0E+02			4.0E+02	
				5.0E-02	I					6.50	1	0.6	No	Permethrin	52645-53-1					1.0E+03			1.0E+03	
2.2E-03	C	6.3E-07	C							1.58	1	1	Yes	Phenacetin	62-44-2	3.5E+01	1.1E+03		3.4E+01					
				2.4E-01	O					3.59	1	0.9	Yes	Phenmedipham	13684-63-4					4.8E+03	1.8E+04		3.8E+03	
				3.0E-01	I	2.0E-01	C			1.46	1	1	Yes	Phenol	108-95-2					6.0E+03	1.4E+05		5.8E+03	
				4.0E-03	I					1.52	1	1	Yes	Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1					8.0E+01	3.6E+03		7.8E+01	
				5.0E-04	X					4.15	1	1	Yes	Phenothiazine	92-84-2					1.0E+01	7.6E+00		4.3E+00	
				2.0E-04	X			V		3.28	1	1	Yes	Phenyl Isothiocyanate	103-72-0					4.0E+00	7.6E+00		2.6E+00	
				6.0E-03	I					-0.33	1	1	Yes	Phenylenediamine, m-	108-45-2					1.2E+02	4.8E+04		1.2E+02	
1.2E-01	P			4.0E-03	P					0.15	1	1	Yes	Phenylenediamine, o-	95-54-5	6.5E-01	1.1E+02		6.5E-01	8.0E+01	1.5E+04		8.0E+01	
				1.0E-03	X					-0.30	1	1	Yes	Phenylenediamine, p-	106-50-3					2.0E+01	7.6E+03		2.0E+01	
1.9E-03	H									3.09	1	1	Yes	Phenylphenol, 2-	90-43-7	4.0E+01	1.2E+02		3.0E+01					
				2.0E-04	H					3.56	1	0.9	Yes	Phorate	298-02-2					4.0E+00	1.2E+01		3.0E+00	
						3.0E-04	I	V		-0.71	1	1		Phosgene	75-44-5									
				2.0E-02	I					2.78	1	1	Yes	Phosmet	732-11-6					4.0E+02	5.3E+03		3.7E+02	
														Phosphates, Inorganic										
				4.9E+01	P						1	1	Yes	~Aluminum metaphosphate	13776-88-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0	Yes	~Ammonium polyphosphate	68333-79-9					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Calcium pyrophosphate	7790-76-3					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Diammonium phosphate	7783-28-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Dicalcium phosphate	7757-93-9					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Dimagnesium phosphate	7782-75-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Dipotassium phosphate	7758-11-4					9.7E+05	2.2E+08		9.7E+05	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
				4.9E+01	P						1	1	Yes	~Disodium phosphate	7558-79-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monoaluminum phosphate	13530-50-2					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monoammonium phosphate	7722-76-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monocalcium phosphate	7758-23-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monomagnesium phosphate	7757-86-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monopotassium phosphate	7778-77-0					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Monosodium phosphate	7558-80-7					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Polyphosphoric acid	8017-16-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0.9	Yes	~Potassium tripolyphosphate	13845-36-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium acid pyrophosphate	7758-16-9					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium aluminum phosphate (acidic)	7785-88-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0	Yes	~Sodium aluminum phosphate (anhydrous)	10279-59-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0.8	Yes	~Sodium aluminum phosphate (tetrahydrate)	10305-76-7					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0.9	Yes	~Sodium hexametaphosphate	10124-56-8					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium polyphosphate	68915-31-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium trimetaphosphate	7785-84-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Sodium tripolyphosphate	7758-29-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tetrapotassium phosphate	7320-34-5					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tetrasodium pyrophosphate	7722-88-5					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	0.8	Yes	~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tricalcium phosphate	7758-87-4					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Trimagnesium phosphate	7757-87-1					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Tripotassium phosphate	7778-53-2					9.7E+05	2.2E+08		9.7E+05	
				4.9E+01	P						1	1	Yes	~Trisodium phosphate	7601-54-9					9.7E+05	2.2E+08		9.7E+05	
				3.0E-04	I	3.0E-04	I	V		-0.27	1	1	Yes	Phosphine	7803-51-2					6.0E+00	1.4E+03	6.3E-01	5.7E-01	
				4.9E+01	P	1.0E-02	I				1	1	Yes	Phosphoric Acid	7664-38-2					9.7E+05	2.2E+08		9.7E+05	
				2.0E-05	I			V		3.08	1	1	Yes	Phosphorus, White	7723-14-0					4.0E-01	9.1E+01		4.0E-01	
														Phthalates											
1.4E-02	I	2.4E-06	C	2.0E-02	I					7.60	1	0.8	No	~Bis(2-ethylhexyl)phthalate	117-81-7	5.6E+00			5.6E+00	4.0E+02			4.0E+02	6.0E+00
1.9E-03	P			2.0E-01	I					4.73	1	0.9	Yes	~Butyl Benzyl Phthalate	85-68-7	4.1E+01	2.7E+01		1.6E+01	4.0E+03	2.9E+03		1.7E+03	
				1.0E+00	I					4.15	1	0.9	Yes	~Butylphthalyl Butylglycolate	85-70-1					2.0E+04	4.1E+04		1.3E+04	
				1.0E-01	I					4.50	1	0.9	Yes	~Dibutyl Phthalate	84-74-2					2.0E+03	1.6E+03		9.0E+02	
				8.0E-01	I					2.42	1	1	Yes	~Diethyl Phthalate	84-66-2					1.6E+04	2.0E+05		1.5E+04	
				1.0E-01	I			V		2.25	1	1	Yes	~Dimethylterephthalate	120-61-6					2.0E+03	2.7E+04		1.9E+03	
				1.0E-02	P					8.10	1	0	No	~Octyl Phthalate, di-N-	117-84-0					2.0E+02			2.0E+02	
				1.0E+00	H					2.00	1	1	Yes	~Phthalic Acid, P-	100-21-0					2.0E+04	3.3E+05		1.9E+04	
				2.0E+00	I	2.0E-02	C			1.60	1	1	Yes	~Phthalic Anhydride	85-44-9					4.0E+04	1.1E+06		3.9E+04	
				7.0E-02	I					1.90	1	1	Yes	Picloram	1918-02-1					1.4E+03	4.3E+04		1.4E+03	5.0E+02
				1.0E-04	X					0.93	1	1	Yes	Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3					2.0E+00	2.1E+02		2.0E+00	
				9.0E-04	X					1.44	1	1	Yes	Picric Acid (2,4,6-Trinitrophenol)	88-89-1					1.8E+01	1.2E+03		1.8E+01	
				7.0E-05	O					4.20	1	0.9	Yes	Pirimiphos, Methyl	29232-93-7					1.4E+00	2.2E+00		8.5E-01	
3.0E+01	C	8.6E-03	C	7.0E-06	H						1	0	No	Polybrominated Biphenyls	59536-65-1	2.6E-03			2.6E-03	1.4E-01			1.4E-01	
														Polychlorinated Biphenyls (PCBs)										
7.0E-02	S	2.0E-05	S	7.0E-05	I			V		5.69	1	0	No	~Aroclor 1016	12674-11-2	1.1E+00		2.8E-01	2.2E-01	1.4E+00			1.4E+00	
2.0E+00	S	5.7E-04	S					V		4.65	1	1	Yes	~Aroclor 1221	11104-28-2	3.9E-02	1.2E-02	9.8E-03	4.7E-03					
2.0E+00	S	5.7E-04	S					V		4.40	1	1	Yes	~Aroclor 1232	11141-16-5	3.9E-02	1.2E-02	9.8E-03	4.7E-03					
2.0E+00	S	5.7E-04	S					V		6.34	1	0.7	No	~Aroclor 1242	53469-21-9	3.9E-02		9.8E-03	7.8E-03					
2.0E+00	S	5.7E-04	S					V		6.20	1	0	No	~Aroclor 1248	12672-29-6	3.9E-02		9.8E-03	7.8E-03					
2.0E+00	S	5.7E-04	S	2.0E-05	I			V		6.50	1	0.5	No	~Aroclor 1254	11097-69-1	3.9E-02		9.8E-03	7.8E-03	4.0E-01			4.0E-01	
2.0E+00	S	5.7E-04	S					V		7.55	1	0	No	~Aroclor 1260	11096-82-5	3.9E-02		9.8E-03	7.8E-03					
				6.0E-04	X			V		6.34	1	0.7	No	~Aroclor 5460	11126-42-4					1.2E+01			1.2E+01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		8.27	1	0	No	~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.50	1	0	No	~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.60	1	0	No	~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.60	1	0	No	~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+03	E	1.1E+00	E	2.3E-08	E	1.3E-06	E	V		7.41	1	0.1	No	~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	2.0E-05		4.9E-06	4.0E-06	4.7E-04		2.8E-03	4.0E-04	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		7.12	1	0.3	No	~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.79	1	0.5	No	~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
3.9E+00	E	1.1E-03	E	2.3E-05	E	1.3E-03	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	2.0E-02		4.9E-03	4.0E-03	4.7E-01		2.8E+00	4.0E-01	
1.3E+04	E	3.8E+00	E	7.0E-09	E	4.0E-07	E	V		6.98	1	0.4	No	~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	6.0E-06		1.5E-06	1.2E-06	1.4E-04		8.3E-04	1.2E-04	
2.0E+00	I	5.7E-04	I					V		7.10	1	0.7		~Polychlorinated Biphenyls (high risk)	1336-36-3									5.0E-01
4.0E-01	I	1.0E-04	I					V		7.10	1	0.7	No	~Polychlorinated Biphenyls (low risk)	1336-36-3	1.9E-01		5.6E-02	4.4E-02					5.0E-01
7.0E-02	I	2.0E-05	I					V		7.10	1	0.7		~Polychlorinated Biphenyls (lowest risk)	1336-36-3									5.0E-01
1.3E+01	E	3.8E-03	E	7.0E-06	E	4.0E-04	E			6.63	1	0.6	No	~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	6.0E-03			6.0E-03	1.4E-01			1.4E-01	
3.9E+01	E	1.1E-02	E	2.3E-06	E	1.3E-04	E	V		6.34	1	0.7	No	~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	2.0E-03		4.9E-04	4.0E-04	4.7E-02		2.8E-01	4.0E-02	
						6.0E-04	I			10.46	1	0	No	Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9									
														Polynuclear Aromatic Hydrocarbons (PAHs)										
				6.0E-02	I			V		3.92	1	1	Yes	~Acenaphthene	83-32-9					1.2E+03	9.6E+02		5.3E+02	
				3.0E-01	I			V		4.45	1	1	Yes	~Anthracene	120-12-7					6.0E+03	2.5E+03		1.8E+03	
1.0E-01	E	6.0E-05	E					V	M	5.76	1	1	No	~Benz[a]anthracene	56-55-3	2.5E-01		3.4E-02	3.0E-02					

TR=1E-06
HQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information															Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
1.2E+00	C	1.1E-04	C							6.11	1	0.9	No	~Benzo(j)fluoranthene	205-82-3	6.5E-02			6.5E-02					
1.0E+00	I	6.0E-04	I	3.0E-04	I	2.0E-06	I		M	6.13	1	1	No	~Benzo[a]pyrene	50-32-8	2.5E-02			2.5E-02	6.0E+00			6.0E+00	2.0E-01
1.0E-01	E	6.0E-05	E						M	5.78	1	1	No	~Benzo[b]fluoranthene	205-99-2	2.5E-01			2.5E-01					
1.0E-02	E	6.0E-06	E						M	6.11	1	0.9	No	~Benzo[k]fluoranthene	207-08-9	2.5E+00			2.5E+00					
				8.0E-02	I			V		3.90	1	1	Yes	~Chloronaphthalene, Beta-	91-58-7					1.6E+03	1.4E+03		7.5E+02	
1.0E-03	E	6.0E-07	E						M	5.81	1	1	No	~Chrysene	218-01-9	2.5E+01			2.5E+01					
1.0E+00	E	6.0E-04	E						M	6.75	1	0.6	No	~Dibenz[a,h]anthracene	53-70-3	2.5E-02			2.5E-02					
1.2E+01	C	1.1E-03	C							7.71	1	0.3	No	~Dibenzo(a,e)pyrene	192-65-4	6.5E-03			6.5E-03					
2.5E+02	C	7.1E-02	C						M	5.80	1	0.9	No	~Dimethylbenz(a)anthracene, 7,12-	57-97-6	1.0E-04			1.0E-04					
				4.0E-02	I					5.16	1	1	No	~Fluoranthene	206-44-0					8.0E+02			8.0E+02	
				4.0E-02	I			V		4.18	1	1	Yes	~Fluorene	86-73-7					8.0E+02	4.6E+02		2.9E+02	
1.0E-01	E	6.0E-05	E						M	6.70	1	0.6	No	~Indeno[1,2,3-cd]pyrene	193-39-5	2.5E-01			2.5E-01					
2.9E-02	P			7.0E-02	A			V		3.87	1	1	Yes	~Methylnaphthalene, 1-	90-12-0	2.7E+00	2.0E+00		1.1E+00	1.4E+03	1.1E+03		6.2E+02	
				4.0E-03	I			V		3.86	1	1	Yes	~Methylnaphthalene, 2-	91-57-6					8.0E+01	6.5E+01		3.6E+01	
		3.4E-05	C	2.0E-02	I	3.0E-03	I	V		3.30	1	1	Yes	~Naphthalene	91-20-3			1.7E-01	1.7E-01	4.0E+02	7.0E+02	6.3E+00	6.1E+00	
1.2E+00	C	1.1E-04	C							4.75	1	0.9	Yes	~Nitropyrene, 4-	57835-92-4	6.5E-02	2.7E-02		1.9E-02					
				3.0E-02	I			V		4.88	1	1	Yes	~Pyrene	129-00-0					6.0E+02	1.5E+02		1.2E+02	
				2.0E-02	P						1	0	Yes	Potassium Perfluorobutane Sulfonate	29420-49-3					4.0E+02			4.0E+02	
1.5E-01	I			9.0E-03	I					4.10	1	0.9	Yes	Prochloraz	67747-09-5	5.2E-01	1.4E+00		3.8E-01	1.8E+02	5.1E+02		1.3E+02	
				6.0E-03	H			V		5.58	1	0.8	Yes	Profluralin	26399-36-0					1.2E+02	3.3E+01		2.6E+01	
				1.5E-02	I					2.99	1	1	Yes	Prometon	1610-18-0					3.0E+02	1.6E+03		2.5E+02	
				4.0E-02	O					3.51	1	0.9	Yes	Prometryn	7287-19-6					8.0E+02	2.3E+03		6.0E+02	
				1.3E-02	I					2.18	1	1	Yes	Propachlor	1918-16-7					2.6E+02	4.3E+03		2.5E+02	
				5.0E-03	I					3.07	1	1	Yes	Propanil	709-98-8					1.0E+02	4.4E+02		8.2E+01	
1.9E-01	O			4.0E-02	O					5.00	1	0.8	Yes	Propargite	2312-35-8	4.1E-01	2.5E-01		1.6E-01	8.0E+02	5.5E+02		3.3E+02	
				2.0E-03	I			V		-0.38	1	1	Yes	Propargyl Alcohol	107-19-7					4.0E+01	1.2E+04		4.0E+01	
				2.0E-02	I					2.93	1	1	Yes	Propazine	139-40-2					4.0E+02	2.4E+03		3.4E+02	
				2.0E-02	I					2.60	1	1	Yes	Propham	122-42-9					4.0E+02	2.8E+03		3.5E+02	
				1.0E-01	O					3.72	1	0.9	Yes	Propiconazole	60207-90-1					2.0E+03	8.2E+03		1.6E+03	
						8.0E-03	I	V		0.59	1	1	Yes	Propionaldehyde	123-38-6							1.7E+01	1.7E+01	
				1.0E-01	X	1.0E+00	X	V		3.69	1	1	Yes	Propyl benzene	103-65-1					2.0E+03	1.8E+03	2.1E+03	6.6E+02	
						3.0E+00	C	V		1.77	1	1	Yes	Propylene	115-07-1							6.3E+03	6.3E+03	
				2.0E+01	P					-0.92	1	1	Yes	Propylene Glycol	57-55-6					4.0E+05	3.2E+08		4.0E+05	
						2.7E-04	A			1.83	1	1	Yes	Propylene Glycol Dinitrate	6423-43-4									
				7.0E-01	H	2.0E+00	I	V		-0.49	1	1	Yes	Propylene Glycol Monomethyl Ether	107-98-2					1.4E+04	3.9E+06	4.2E+03	3.2E+03	
2.4E-01	I	3.7E-06	I			3.0E-02	I	V		0.03	1	1	Yes	Propylene Oxide	75-56-9	3.2E-01	4.7E+01	1.5E+00	2.7E-01			6.3E+01	6.3E+01	
				7.5E-02	I					3.43	1	0.9	Yes	Propyzamide	23950-58-5					1.5E+03	5.5E+03		1.2E+03	
				1.0E-03	I			V		0.65	1	1	Yes	Pyridine	110-86-1					2.0E+01	1.5E+03		2.0E+01	
				5.0E-04	I					4.44	1	0.9	Yes	Quinalphos	13593-03-8					1.0E+01	1.0E+01		5.1E+00	
3.0E+00	I									2.03	1	1	Yes	Quinoline	91-22-5	2.6E-02	2.9E-01		2.4E-02					
				9.0E-03	I					4.28	1	0.9	Yes	Quizalofop-ethyl	76578-14-8					1.8E+02	3.8E+02		1.2E+02	
						3.0E-02	A				1	0	Yes	Refractory Ceramic Fibers	E715557									
				3.0E-02	I					6.14	1	0.7	Yes	Resmethrin	10453-86-8					6.0E+02	7.6E+01		6.7E+01	
				5.0E-02	H			V		4.88	1	0.8	Yes	Ronnel	299-84-3					1.0E+03	6.8E+02		4.1E+02	
				4.0E-03	I					4.10	1	0.9	Yes	Rotenone	83-79-4					8.0E+01	2.6E+02		6.1E+01	
2.2E-01	C	6.3E-05	C						M	3.45	1	1	Yes	Safrole	94-59-7	1.1E-01	6.0E-01		9.6E-02					
				5.0E-03	I						1	1	Yes	Selenious Acid	7783-00-8					1.0E+02	2.3E+04		1.0E+02	
				5.0E-03	I	2.0E-02	C				1	1	Yes	Selenium	7782-49-2					1.0E+02	2.3E+04		1.0E+02	5.0E+01
				5.0E-03	C	2.0E-02	C				1	1	Yes	Selenium Sulfide	7446-34-6					1.0E+02	2.3E+04		1.0E+02	
				1.4E-01	O					4.38	1	0.9	Yes	Sethoxydim	74051-80-2					2.8E+03	3.8E+03		1.6E+03	
						3.0E-03	C				1	1	Yes	Silica (crystalline, respirable)	7631-86-9									
				5.0E-03	I						0.04	1	Yes	Silver	7440-22-4					1.0E+02	1.5E+03		9.4E+01	
1.2E-01	H			5.0E-03	I					2.18	1	1	Yes	Simazine	122-34-9	6.5E-01	9.3E+00		6.1E-01	1.0E+02	1.6E+03		9.4E+01	4.0E+00
				1.3E-02	I					0.37	1	1	Yes	Sodium Acifluorfen	62476-59-9					2.6E+02	2.1E+05		2.6E+02	
				4.0E-03	I						1	1	Yes	Sodium Azide	26628-22-8					8.0E+01	1.8E+04		8.0E+01	
2.7E-01	H			3.0E-02	I					-1.43	1	1	Yes	Sodium Diethyldithiocarbamate	148-18-5	2.9E-01	8.5E+02		2.9E-01	6.0E+02	1.9E+06		6.0E+02	
				5.0E-02	A	1.3E-02	C				1	1	Yes	Sodium Fluoride	7681-49-4					1.0E+03	2.3E+05		1.0E+03	4.0E+03
				2.0E-05	I					-3.78	1	1	No	Sodium Fluoroacetate	62-74-8					4.0E-01			4.0E-01	
				1.0E-03	H						1	1	Yes	Sodium Metavanadate	13718-26-8					2.0E+01	4.6E+03		2.0E+01	
				8.0E-04	P						1	1	Yes	Sodium Tungstate	13472-45-2					1.6E+01	3.6E+03		1.6E+01	
				8.0E-04	P						1	1	Yes	Sodium Tungstate Dihydrate	10213-10-2					1.6E+01	3.6E+03		1.6E+01	
2.4E-02	H			3.0E-02	I					3.53	1	0.9	Yes	Stirofos (Tetrachlorovinphos)	961-11-5	3.2E+00	1.9E+01		2.8E+00	6.0E+02	3.8E+03		5.2E+02	
				6.0E-01	I						1	1	Yes	Strontium, Stable	7440-24-6					1.2E+04	2.7E+06		1.2E+04	
				3.0E-04	I					1.93	1	1	Yes	Strychnine	57-24-9					6.0E+00	3.2E+02		5.9E+00	
				2.0E-01	I	1.0E+00	I	V		2.95	1	1	Yes	Styrene	100-42-5					4.0E+03	1.0E+04	2.1E+03	1.2E+03	1.0E+02
				3.0E-03	P					3.10	1	1	Yes	Styrene-Acrylonitrile (SAN) Trimer						6.0E+01	2.4E+02		4.8E+01	
				1.0E-03	P	2.0E-03	X			-0.77	1	1	Yes	Sulfolane	126-33-0					2.0E+01	1.7E+04		2.0E+01	
				8.0E-04	P					3.90	1	0.9	Yes	Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9					1.6E+01	3.5E+01		1.1E+01	
						1.0E-03	C	V			1	1	Yes	Sulfur Trioxide	7446-11-9							2.1E+00	2.1E+00	
						1.0E-03	C				1	1	Yes	Sulfuric Acid	7664-93-9									
2.5E-02	I	7.1E-06	I	5.0E-02	H					4.82	1	0.8	Yes	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl	140-57-8	3.1E+00	2.3E+00		1.3E+00	1.0E+03	8.2E+02		4.5E+02	

TR=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD$_o$ (mg/kg-day)	key	RfC$_i$ (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
				3.0E-02	H					3.30	1	0.9	Yes	TCMTB	21564-17-0					6.0E+02	2.4E+03		4.8E+02	
				7.0E-02	I					1.79	1	1	Yes	Tebuthiuron	34014-18-1					1.4E+03	4.7E+04		1.4E+03	
				2.0E-02	H					5.96	1	0.7	No	Temephos	3383-96-8					4.0E+02			4.0E+02	
				1.3E-02	I					1.89	1	1	Yes	Terbacil	5902-51-2					2.6E+02	7.0E+03		2.5E+02	
				2.5E-05	H			V		4.48	1	0.9	Yes	Terbufos	13071-79-9					5.0E-01	4.5E-01		2.4E-01	
				1.0E-03	I					3.74	1	0.9	Yes	Terbutryn	886-50-0					2.0E+01	4.1E+01		1.3E+01	
				1.0E-04	I					6.77	1	0.6	No	Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1					2.0E+00			2.0E+00	
				3.0E-04	I			V		4.64	1	1	Yes	Tetrachlorobenzene, 1,2,4,5-	95-94-3					6.0E+00	2.4E+00		1.7E+00	
2.6E-02	I	7.4E-06	I	3.0E-02	I			V		2.93	1	1	Yes	Tetrachloroethane, 1,1,1,2-	630-20-6	3.0E+00	1.1E+01	7.6E-01	5.7E-01	6.0E+02	2.4E+03		4.8E+02	
2.0E-01	I	5.8E-05	C	2.0E-02	I			V		2.39	1	1	Yes	Tetrachloroethane, 1,1,2,2-	79-34-5	3.9E-01	3.3E+00	9.7E-02	7.6E-02	4.0E+02	3.6E+03		3.6E+02	
2.1E-03	I	2.6E-07	I	6.0E-03	I	4.0E-02	I	V		3.40	1	1	Yes	Tetrachloroethylene	127-18-4	3.7E+01	6.5E+01	2.2E+01	1.1E+01	1.2E+02	2.3E+02	8.3E+01	4.1E+01	5.0E+00
				3.0E-02	I					4.45	1	0.9	Yes	Tetrachlorophenol, 2,3,4,6-	58-90-2					6.0E+02	3.9E+02		2.4E+02	
2.0E+01	H							V		4.54	1	0.9	Yes	Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	3.9E-03	2.0E-03		1.3E-03					
				5.0E-04	I					3.99	1	0.9	Yes	Tetraethyl Dithiopyrophosphate	3689-24-5					1.0E+01	2.4E+01		7.1E+00	
						8.0E+01	I	V		1.68	1	1	Yes	Tetrafluoroethane, 1,1,1,2-	811-97-2							1.7E+05	1.7E+05	
				2.0E-03	P					1.64	1	1	Yes	Tetryl (Trinitrophenylmethylnitramine)	479-45-8					4.0E+01	2.5E+03		3.9E+01	
				2.0E-05	S						1	0.9	Yes	Thallic Oxide	1314-32-5					4.0E-01	9.1E+01		4.0E-01	
				1.0E-05	X						1	1	Yes	Thallium (I) Nitrate	10102-45-1					2.0E-01	4.6E+01		2.0E-01	
				1.0E-05	X						1	1	Yes	Thallium (Soluble Salts)	7440-28-0					2.0E-01	4.6E+01		2.0E-01	2.0E+00
				1.0E-05	X			V		-0.17	1	1	Yes	Thallium Acetate	563-68-8					2.0E-01	1.7E+02		2.0E-01	
				2.0E-05	X			V		-0.86	1	1	Yes	Thallium Carbonate	6533-73-9					4.0E-01	9.3E+04		4.0E-01	
				1.0E-05	X						1	1	Yes	Thallium Chloride	7791-12-0					2.0E-01	4.6E+01		2.0E-01	
				1.0E-05	S						1	1	Yes	Thallium Selenite	12039-52-0					2.0E-01	4.6E+01		2.0E-01	
				2.0E-05	X						1	0.9	Yes	Thallium Sulfate	7446-18-6					4.0E-01	9.1E+01		4.0E-01	
				4.3E-02	O					1.56	1	1	Yes	Thifensulfuron-methyl	79277-27-3					8.6E+02	1.2E+05		8.6E+02	
				1.0E-02	I					3.40	1	0.9	Yes	Thiobencarb	28249-77-6					2.0E+02	7.7E+02		1.6E+02	
				7.0E-02	X					-0.63	1	1	Yes	Thiodiglycol	111-48-8					1.4E+03	9.7E+05		1.4E+03	
				3.0E-04	H					2.16	1	1	Yes	Thiofanox	39196-18-4					6.0E+00	4.4E+01		5.3E+00	
1.2E-02	O			2.7E-02	O					1.40	1	1	Yes	Thiophanate, Methyl	23564-05-8	6.7E+00	7.9E+02		6.7E+00	5.4E+02	6.8E+04		5.3E+02	
				1.5E-02	O					1.73	1	1	Yes	Thiram	137-26-8					3.0E+02	1.2E+04		2.9E+02	
				6.0E-01	H						1	1	Yes	Tin	7440-31-5					1.2E+04	2.7E+06		1.2E+04	
						1.0E-04	A	V			1	1	Yes	Titanium Tetrachloride	7550-45-0							2.1E-01	2.1E-01	
				8.0E-02	I	5.0E+00	I	V		2.73	1	1	Yes	Toluene	108-88-3					1.6E+03	5.3E+03	1.0E+04	1.1E+03	1.0E+03
		1.1E-05	C			8.0E-06	C	V		3.74	1	1	Yes	Toluene-2,4-diisocyanate	584-84-9			5.1E-01	5.1E-01			1.7E-02	1.7E-02	
1.8E-01	X			2.0E-04	X					0.16	1	1	Yes	Toluene-2,5-diamine	95-70-5	4.3E-01	8.2E+01		4.3E-01	4.0E+00	8.3E+02		4.0E+00	
		1.1E-05	C			8.0E-06	C	V		3.74	1	1	Yes	Toluene-2,6-diisocyanate	91-08-7			5.1E-01	5.1E-01			1.7E-02	1.7E-02	
				5.0E-03	P					2.27	1	1	Yes	Toluic Acid, p-	99-94-5					1.0E+02	8.9E+02		9.0E+01	
1.6E-02	P	5.1E-05	C							1.32	1	1	Yes	Toluidine, o- (Methylaniline, 2-)	95-53-4	4.9E+00	1.4E+02		4.7E+00					
3.0E-02	P			4.0E-03	X					1.39	1	1	Yes	Toluidine, p-	106-49-0	2.6E+00	6.8E+01		2.5E+00	8.0E+01	2.3E+03		7.7E+01	
				3.0E+00	P			V		6.10	1	1	No	Total Petroleum Hydrocarbons (Aliphatic High)	E1790670					6.0E+04			6.0E+04	
						6.0E-01	P	V		3.90	1	1	Yes	Total Petroleum Hydrocarbons (Aliphatic Low)	E1790666							1.3E+03	1.3E+03	
				1.0E-02	X	1.0E-01	P	V		5.65	1	1	No	Total Petroleum Hydrocarbons (Aliphatic Medium)	E1790668					2.0E+02		2.1E+02	1.0E+02	
				4.0E-02	P					5.16	1	1	No	Total Petroleum Hydrocarbons (Aromatic High)	E1790676					8.0E+02			8.0E+02	
				4.0E-03	P	3.0E-02	P	V		2.13	1	1	Yes	Total Petroleum Hydrocarbons (Aromatic Low)	E1790672					8.0E+01	6.1E+02	6.3E+01	3.3E+01	
				4.0E-03	P	3.0E-03	P	V		3.58	1	1	Yes	Total Petroleum Hydrocarbons (Aromatic Medium)	E1790674					8.0E+01	9.0E+01	6.3E+00	5.5E+00	
1.1E+00	I	3.2E-04	I							5.90	1	0.8	No	Toxaphene	8001-35-2	7.1E-02			7.1E-02					3.0E+00
				7.5E-03	I					7.56	1	0.5	No	Tralomethrin	66841-25-6					1.5E+02			1.5E+02	
				3.0E-04	A			V		4.10	1	0.9	Yes	Tri-n-butyltin	688-73-3					6.0E+00	9.9E+00		3.7E+00	
				8.0E+01	X					0.25	1	1	Yes	Triacetin	102-76-1					1.6E+06	5.3E+08		1.6E+06	
				3.4E-02	O					2.77	1	1	Yes	Triadimefon	43121-43-3					6.8E+02	7.8E+03		6.3E+02	
7.2E-02	O			2.5E-02	O			V		4.60	1	0.9	Yes	Triallate	2303-17-5	1.1E+00	8.3E-01		4.7E-01	5.0E+02	4.2E+02		2.3E+02	
				1.0E-02	I					1.10	1	1	Yes	Triasulfuron	82097-50-5					2.0E+02	6.0E+04		2.0E+02	
				8.0E-03	I					0.78	1	1	Yes	Tribenuron-methyl	101200-48-0					1.6E+02	5.0E+03		1.6E+02	
				5.0E-03	I			V		4.66	1	0.9	Yes	Tribromobenzene, 1,2,4-	615-54-3					1.0E+02	8.1E+01		4.5E+01	
				9.0E-03	X					4.13	1	0.9	Yes	Tribromophenol, 2,4,6-	118-79-6					1.8E+02	3.7E+02		1.2E+02	
9.0E-03	P			1.0E-02	P					4.00	1	0.9	Yes	Tributyl Phosphate	126-73-8	8.7E+00	1.3E+01		5.2E+00	2.0E+02	3.3E+02		1.2E+02	
				3.0E-04	P						1	0	No	Tributyltin Compounds	E1790678					6.0E+00			6.0E+00	
				3.0E-04	I					4.05	1	1	Yes	Tributyltin Oxide	56-35-9					6.0E+00	9.5E+01		5.7E+00	
				3.0E+01	I	5.0E+00	P	V		3.16	1	1	Yes	Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1					6.0E+05	1.9E+06	1.0E+04	1.0E+04	
7.0E-02	I			2.0E-02	I					1.33	1	1	Yes	Trichloroacetic Acid	76-03-9	1.1E+00	4.6E+01		1.1E+00	4.0E+02	1.8E+04		3.9E+02	6.0E+01
2.9E-02	H									-0.67	1	1	Yes	Trichloroaniline HCl, 2,4,6-	33663-50-2	2.7E+00	3.7E+03		2.7E+00					
7.0E-03	X			3.0E-05	X					3.52	1	1	Yes	Trichloroaniline, 2,4,6-	634-93-5	1.1E+01	2.0E+01		7.1E+00	6.0E-01	1.2E+00		4.0E-01	
				8.0E-04	X			V		4.05	1	1	Yes	Trichlorobenzene, 1,2,3-	87-61-6					1.6E+01	1.3E+01		7.0E+00	
2.9E-02	P			1.0E-02	I	2.0E-03	P	V		4.02	1	1	Yes	Trichlorobenzene, 1,2,4-	120-82-1	2.7E+00	2.0E+00		1.2E+00	2.0E+02	1.6E+02	4.2E+00	4.0E+00	7.0E+01
				2.0E+00	I	5.0E+00	I	V		2.49	1	1	Yes	Trichloroethane, 1,1,1-	71-55-6					4.0E+04	2.5E+05	1.0E+04	8.0E+03	2.0E+02
5.7E-02	I	1.6E-05	I	4.0E-03	I	2.0E-04	X	V		1.89	1	1	Yes	Trichloroethane, 1,1,2-	79-00-5	1.4E+00	2.0E+01	3.5E-01	2.8E-01	8.0E+01	1.3E+03	4.2E-01	4.1E-01	5.0E+00
4.6E-02	I	4.1E-06	I	5.0E-04	I	2.0E-03	I	V	M	2.42	1	1	Yes	Trichloroethylene	79-01-6	1.2E+00	7.4E+00	9.6E-01	4.9E-01	1.0E+01	6.9E+01	4.2E+00	2.8E+00	5.0E+00
				3.0E-01	I			V		2.53	1	1	Yes	Trichlorofluoromethane	75-69-4					6.0E+03	3.6E+04		5.2E+03	
				1.0E-01	I					3.72	1	1	Yes	Trichlorophenol, 2,4,5-	95-95-4					2.0E+03	2.9E+03		1.2E+03	
1.1E-02	I	3.1E-06	I	1.0E-03	P					3.69	1	1	Yes	Trichlorophenol, 2,4,6-	88-06-2	7.1E+00	9.8E+00		4.1E+00	2.0E+01	3.0E+01		1.2E+01	
				1.0E-02	I					3.31	1	0.9	Yes	Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5					2.0E+02	8.7E+02		1.6E+02	

R=1E-06
THQ=1.0

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #29); H = HEAST; F = See FAQ; E = see user guide Section 2.3.5; W = see user guide Section 2.3.6; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Toxicity and Chemical-specific Information														Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer CHILD Hazard Index (HI) = 1				
SFO (mg/kg-day)$^{-1}$	key	IUR (ug/m^3)$^{-1}$	key	RfD_o (mg/kg-day)	key	RfC_i (mg/m^3)	key	vol	muta-gen	LOGP	GIABS	FA	In EPD?	Analyte	CAS No.	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	MCL (ug/L)
				8.0E-03	I					3.80	1	0.9	Yes	Trichlorophenoxypropionic acid, -2,4,5	93-72-1					1.6E+02	3.6E+02		1.1E+02	5.0E+01
				5.0E-03	I			V		2.43	1	1	Yes	Trichloropropane, 1,1,2-	598-77-6					1.0E+02	7.5E+02		8.8E+01	
3.0E+01	I			4.0E-03	I	3.0E-04	I	V	M	2.27	1	1	Yes	Trichloropropane, 1,2,3-	96-18-4	8.4E-04	7.3E-03		7.5E-04	8.0E+01	7.7E+02	6.3E-01	6.2E-01	
				3.0E-03	X	3.0E-04	P	V		2.78	1	1	Yes	Trichloropropene, 1,2,3-	96-19-5					6.0E+01	2.6E+02	6.3E-01	6.2E-01	
				2.0E-02	A					5.11	1	0.8	Yes	Tricresyl Phosphate (TCP)	1330-78-5					4.0E+02	2.6E+02		1.6E+02	
				3.0E-03	I					5.18	1	0.8	Yes	Tridiphane	58138-08-2					6.0E+01	2.6E+01		1.8E+01	
						7.0E-03	I	V		1.45	1	1	Yes	Triethylamine	121-44-8							1.5E+01	1.5E+01	
				2.0E+00	P					-1.75	1	1	Yes	Triethylene Glycol	112-27-6					4.0E+04	1.8E+08		4.0E+04	
						2.0E+01	P	V		1.74	1	1	Yes	Trifluoroethane, 1,1,1-	420-46-2							4.2E+04	4.2E+04	
7.7E-03	I			7.5E-03	I			V		5.34	1	0.8	Yes	Trifluralin	1582-09-8	1.0E+01	3.4E+00		2.6E+00	1.5E+02	5.5E+01		4.0E+01	
2.0E-02	P			1.0E-02	P					-0.65	1	1	Yes	Trimethyl Phosphate	512-56-1	3.9E+00	2.8E+03		3.9E+00	2.0E+02	1.6E+05		2.0E+02	
				1.0E-02	I	6.0E-02	I	V		3.66	1	1	Yes	Trimethylbenzene, 1,2,3-	526-73-8					2.0E+02	1.9E+02	1.3E+02	5.5E+01	
				1.0E-02	I	6.0E-02	I	V		3.63	1	1	Yes	Trimethylbenzene, 1,2,4-	95-63-6					2.0E+02	2.0E+02	1.3E+02	5.6E+01	
				1.0E-02	I	6.0E-02	I	V		3.42	1	1	Yes	Trimethylbenzene, 1,3,5-	108-67-8					2.0E+02	2.8E+02	1.3E+02	6.0E+01	
				1.0E-02	X			V		4.08	1	1	Yes	Trimethylpentene, 2,4,4-	25167-70-8					2.0E+02	9.6E+01		6.5E+01	
				3.0E-02	I					1.18	1	1	Yes	Trinitrobenzene, 1,3,5-	99-35-4					6.0E+02	4.7E+04		5.9E+02	
3.0E-02	I			5.0E-04	I					1.60	1	1	Yes	Trinitrotoluene, 2,4,6-	118-96-7	2.6E+00	1.1E+02		2.5E+00	1.0E+01	4.5E+02		9.8E+00	
				2.0E-02	P					2.83	1	1	Yes	Triphenylphosphine Oxide	791-28-6					4.0E+02	3.8E+03		3.6E+02	
				2.0E-02	A					3.65	1	0.9	Yes	Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8					4.0E+02	3.2E+03		3.6E+02	
				1.0E-02	X					2.59	1	1	Yes	Tris(1-chloro-2-propyl)phosphate	13674-84-5					2.0E+02	3.8E+03		1.9E+02	
2.3E+00	C	6.6E-04	C					V		4.29	1	1	No	Tris(2,3-dibromopropyl)phosphate	126-72-7	3.4E-02		8.5E-03	6.8E-03					
2.0E-02	P			7.0E-03	P					1.44	1	1	Yes	Tris(2-chloroethyl)phosphate	115-96-8	3.9E+00	3.0E+02		3.8E+00	1.4E+02	1.2E+04		1.4E+02	
3.2E-03	P			1.0E-01	P					9.49	1	0	No	Tris(2-ethylhexyl)phosphate	78-42-2	2.4E+01			2.4E+01	2.0E+03			2.0E+03	
				8.0E-04	P						1	1	Yes	Tungsten	7440-33-7					1.6E+01	3.6E+03		1.6E+01	
				2.0E-04	A	4.0E-05	A				1	1	Yes	Uranium (Soluble Salts)	E715565					4.0E+00	9.1E+02		4.0E+00	3.0E+01
1.0E+00	C	2.9E-04	C						M	-0.15	1	1	Yes	Urethane	51-79-6	2.5E-02	6.1E+00		2.5E-02					
		8.3E-03	P	9.0E-03	I	7.0E-06	P				0.026	1	Yes	Vanadium Pentoxide	1314-62-1					1.8E+02	1.1E+03		1.5E+02	
				5.0E-03	S	1.0E-04	A				0.026	1	Yes	Vanadium and Compounds	7440-62-2					1.0E+02	6.0E+02		8.6E+01	
				1.0E-03	I			V		3.84	1	1	Yes	Vernolate	1929-77-7					2.0E+01	2.5E+01		1.1E+01	
				1.2E-03	O					3.10	1	0.9	Yes	Vinclozolin	50471-44-8					2.4E+01	1.8E+02		2.1E+01	
				1.0E+00	H	2.0E-01	I	V		0.73	1	1	Yes	Vinyl Acetate	108-05-4					2.0E+04	1.4E+06	4.2E+02	4.1E+02	
		3.2E-05	H			3.0E-03	I	V		1.57	1	1	Yes	Vinyl Bromide	593-60-2			1.8E-01	1.8E-01			6.3E+00	6.3E+00	
7.2E-01	I	4.4E-06	I	3.0E-03	I	1.0E-01	I	V	M	1.38	1	1	Yes	Vinyl Chloride	75-01-4	2.1E-02	2.8E-01	3.4E-01	1.9E-02	6.0E+01	8.9E+02	2.1E+02	4.4E+01	2.0E+00
				3.0E-04	I					2.70	1	1	Yes	Warfarin	81-81-2					6.0E+00	8.4E+01		5.6E+00	
				2.0E-01	S	1.0E-01	S	V		3.15	1	1	Yes	Xylene, P-	106-42-3					4.0E+03	7.6E+03	2.1E+02	1.9E+02	
				2.0E-01	S	1.0E-01	S	V		3.20	1	1	Yes	Xylene, m-	108-38-3					4.0E+03	7.1E+03	2.1E+02	1.9E+02	
				2.0E-01	S	1.0E-01	S	V		3.12	1	1	Yes	Xylene, o-	95-47-6					4.0E+03	8.0E+03	2.1E+02	1.9E+02	
				2.0E-01	I	1.0E-01	I	V		3.16	1	1	Yes	Xylenes	1330-20-7					4.0E+03	7.5E+03	2.1E+02	1.9E+02	1.0E+04
				3.0E-04	I						1	1	Yes	Zinc Phosphide	1314-84-7					6.0E+00	2.3E+03		6.0E+00	
				3.0E-01	I						1	1	Yes	Zinc and Compounds	7440-66-6					6.0E+03	2.3E+06		6.0E+03	
				5.0E-02	I					1.30	1	1	Yes	Zineb	12122-67-7					1.0E+03	9.7E+04		9.9E+02	
				8.0E-05	X						1	1	Yes	Zirconium	7440-67-7					1.6E+00	3.6E+02		1.6E+00	

TR=1E-06
HQ=1.0

APPENDIX D
SUMMARY OF EPA/NMED/RCRA ACTIVITY

Summary of EPA/NMED/RCRA Activity

January

- Submit annual RCRA Financial Assurance Cost Estimates to HWB.
- Completion of Investigation Report for SWMUs 4 and 5.
- NMED approval of revised Investigation Report for SWMUs 1 and 14

April

- Submission of Annual Facility-Wide Ground Water Monitoring Work Plan – updates for 2017

June

- Install additional boundary monitoring wells (BW-4A,BW-4B BW-5A, BW-5B, and BW-5C)
- Install new monitoring wells (OW-59 and OW-60) near SMW-2

September

- Approval of Class 3 Permit Modification
- Submission of 2016 Annual Facility-Wide Ground Water Monitoring Report

APPENDIX E

SUMMARY OF ALL LEAKS, SPILLS AND RELEASES

APPENDIX E

SUMMARY OF ALL LEAKS, SPILLS AND RELEASES

March 26, 2017 – Sour Naphtha Release

At approximately 10:00 am on March 26, 2017 the release was detected. An operator was making his rounds and smelled naphtha in the air. The operator located a saturated area in the middle of a service road where the sour naphtha was seeping to the surface. The sour naphtha flowed downhill in a westerly direction along the middle and sides of the service road for approximately 332 feet. The release collected at the base of the slope in two separate areas. The operator notified the Environmental Department and Kurtz Fire Department. Foam was applied to the release area to minimize vapors. The operator immediately isolated the line by blocking in valves. The release area was isolated and barricaded with tape. Maintenance was notified and installed earthen berms to control the flow of the release. No injuries or fires were reported.

The Sour Naphtha release occurred from a hole found in a 3-inch diameter underground carbon steel pipeline located four feet below ground level. The estimated volume of the Sour Naphtha release was less than five barrels.

Notification of the spill was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division on March 27, 2017 at 10:00. An initial written report (Form C-141) was completed on August 30, 2017.

The sour naphtha was observed to be seeping in the middle of the service road. The dimensions of the excavation was 20 feet long (parallel to the pipeline) x 4 feet wide x 4 feet deep. An underground 3-inch carbon steel pipe with a 1-inch hole was located and was determined to be the source of the release. Maintenance replaced the damaged section of the pipeline. The visibly impacted soil surrounding the area was excavated and placed inside 20-yard bins for disposal. All visibly impacted soil from the spill was cleaned up from the site and disposed off-site.

Six confirmation soil samples were collected. Based on analytical results, the soil (16 tons) was treated as a hazardous waste (D018 – soil with benzene) and sent offsite for disposal. The area was backfilled with clean soil and the service road was opened.

April 20, 2017 – Sodium Hydroxide Leak – API Caustic Pump Hose from Flare Knock Out Tank

At 2130 hours on April 20, 2017, during regular rounds, the operator noticed the hose to the sandpiper pump had ruptured. Caustic was spraying out of the hole in in the hose. An earlier inspection of the area by the operator at 1900 hours did not indicate a problem with the hose.

The operator who discovered the leak donned the proper PPE, turned off and block in the sandpiper pump. The shift foreman, refinery manager, and the Environmental Department were notified of the incident. Maintenance personnel pumped approximately 20 to 30 gallons of caustic into a vacuum truck. Initial estimates of the volume of the leak were less than 4 barrels. Maintenance personnel also sprayed water on the surrounding equipment in an attempt to remove the caustic. Pumping of the caustic was switched to the east caustic pump. The area was taped off with barricade tape to limit access.

After further investigation, the following morning, it became apparent that the volume of caustic that was released was larger than the initial estimate. Based on the initial mass balance calculation on the flare knock out drum tank, where the caustic came from, the estimated volume of caustic released was revised to 80 barrels. The caustic and cleaning water was somewhat confined to the caustic pump containment area. A portion of the released caustic spilled over a retaining wall to a bermed area north of the pump and knock out drum tank. A portion of the released caustic also sprayed surrounding equipment and out of the containment area to the surrounding ground surface.

Notification of the spill was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division on April 21, 2017 at 12:30. An initial written report (Form C-141) was completed on April 27, 2017.

May 7, 2017 – Gasoline Release – DGS Additive Tank – Rail Car Loading Area

At 8:00 am on May 7, 2017 an operator observed gasoline pooling underneath the pipe rack located on the west side of the rail car loading area. The operator observed that gasoline had pooled in and around the pipe rack area and was flowing into the sewer box located near the rail car loading area. The off-site supervisor, Kurtz Fire Department, the Maintenance Department and the Environmental Department were immediately notified.

The Maintenance Department responded to the release and began to vacuum out the sewer box. When the level in the sewer box was lowered it was observed that a 3/4-inch valve, which discharges into a sewer cup, was in the open position and was draining into the sewer cup. Valves were

immediately closed at the DGS 105 additive tank. The sewer cup overflowed onto a concrete pad located beneath the pipe rack and into a sewer drain. No personnel injuries were reported and no fires occurred from this release.

The overflow was contained inside a concrete berm underneath the pipe rack and then flowed in a south, south-easterly direction within the bermed containment towards a sewer box. The overflow was pumped out using a vacuum truck and approximately three truck loads were collected from the area as well as from the sump box located north of the pipe rack. A sample of the product was collected and analyzed by the refinery's onsite laboratory to verify the type of product. An estimated 8,900 gallons of gasoline was picked up via vacuum truck and placed back into the process at the slop tank. Clean-up activities beyond the containment areas were not conducted as the majority of the spill was contained inside a concrete pad.

Notification of the spill was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division via email on May 8, 2017 5:08 pm. An initial written report (Form C-141) was completed on August 30, 2017 for this release.

<u>July 30, 2017 – Oily Water Release – Tank 35</u>

The Gallup Refinery received heavy rainfall on July 29, 2017 and July 30, 2017. During this time frame a fire water line leak was in progress within the process area (Amine Unit). The Waste Water Treatment Plant was operating at the maximum flow rate of 260 gallons per minute and was not able to keep up with the volume of water going to Tank T-35 from the rainstorm and the fire water leak. The operator had switched rundown tanks to try to keep up with the influx of water filling up all of the storage tanks (Tank 27, Tank 28 and Tank 35). At approximately 1:30 am on July 30, 2017 Tank T-35 began to overfill with oily water. The oily water flowed through the vents at the top of the tank and onto the ground surface, pooling inside the tank dike. The overflow stopped at 2:45 am. The operator closed the rundown line to Tank T-35 to slow down the flow so the WWTP could process the excess flow and lower the fluid level on Tank T-35. The onsite Fire Department was notified and responded by applying a foam layer on the spill site to minimize vapor and fire hazards. No personnel injuries were reported and no fires occurred.

The overflow was contained inside the earthen berm (227 feet x 60 feet) with the deepest pooling inside the northern section of the bermed area. A thin, oily layer with a sheen was observed on the surface of the water. Clean up activities were not immediately initiated due to severe weather (lightning) and muddy conditions on July 30 and July 31, 2017. Clean up activities began on August

1, 2017 with the vacuuming of the oily water mixture from inside the berm. As of August 3, 2017 an estimated 18,000 gallons of the oily water mixture had been vacuumed from the area.

Notification of the spill was provided to the NMED Hazardous Waste Bureau and the Oil Conservation Division via email. An initial written report (Form C-141) was completed on July 30, 2017 and forwarded to NMED via letter.

The material released to the ground consisted of an oily water mixture. The volume of wastewater released was estimated at 542 barrels. A sample of the material was analyzed and reported to contain 112.9 ppm benzene.

The remediation of the oily water mixture released from Tank T-35 consisted of the initial spill response (removal of an estimated 18,000 gallons of oily water via vacuum truck) and one subsequent soil excavation event. On August 14, 2017, Advanced Chemical Transport (ACT) was contracted to remove the stained soil and clean the staining on the side of Tank T-35. ACT was issued an excavation permit to remove stained soil to a depth not greater than six inches. Some areas of the berm were affected and the stained soil was removed from these areas in addition to the floor of the containment. Field screening (e.g., visual and olfactory) was conducted during the excavation event to determine the extent of the remediation. The remediation activities were completed by August 18, 2017. ACT used cleaner to wipe the staining from the vents on Tank T-35. All contaminated personal protective equipment, rags and material were placed in one 55-gallon drum for disposal.

Five 20-yard bins were filled with stained soil and gravel. The areas where excavation was conducted were backfilled with clean soil and gravel to allow vacuum trucks and tanker trucks access to the wastewater tanks within the tank dike. On August 23, 2017 a composite sample of the stained soil was obtained from all five bins and submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis.

After the stained soil was removed, six discrete soil samples, T-35-1 through T-35-6 were collected from six separate locations. Soil confirmation samples were collected on August 30, 2017 from 0 to 6” below the backfill using a trowel that was decontaminated between sample locations. The confirmation samples were collected at six locations chosen because they appeared to representative of the most impacted areas (highest degree of staining).

APPENDIX F

TEMPORARY LAND FARM ANALYTICAL RESULTS (ON ATTACHED CD)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 05, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling OrderNo.: 1706F97

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 9 sample(s) on 6/30/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:10:00 AM
Lab ID: 1706F97-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.011	0.020		mg/Kg	1	7/11/2017 9:21:00 AM	32629
Aroclor 1221	ND	0.020	0.020		mg/Kg	1	7/11/2017 9:21:00 AM	32629
Aroclor 1232	ND	0.020	0.020		mg/Kg	1	7/11/2017 9:21:00 AM	32629
Aroclor 1242	ND	0.020	0.020		mg/Kg	1	7/11/2017 9:21:00 AM	32629
Aroclor 1248	ND	0.020	0.020		mg/Kg	1	7/11/2017 9:21:00 AM	32629
Aroclor 1254	ND	0.020	0.020		mg/Kg	1	7/11/2017 9:21:00 AM	32629
Aroclor 1260	ND	0.0093	0.020		mg/Kg	1	7/11/2017 9:21:00 AM	32629
Surr: Decachlorobiphenyl	57.6	0	26.3-128		%Rec	1	7/11/2017 9:21:00 AM	32629
Surr: Tetrachloro-m-xylene	62.0	0	20.7-151		%Rec	1	7/11/2017 9:21:00 AM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.5	9.3		mg/Kg	1	7/5/2017 3:11:47 PM	32588
Motor Oil Range Organics (MRO)	ND	46	46		mg/Kg	1	7/5/2017 3:11:47 PM	32588
Surr: DNOP	105	0	70-130		%Rec	1	7/5/2017 3:11:47 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.7		mg/Kg	1	7/5/2017 4:05:07 PM	32616
Surr: BFB	97.0	0	54-150		%Rec	1	7/5/2017 4:05:07 PM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	2.5	0.10	0.30		mg/Kg	1	7/13/2017 10:06:00 AM	32783
Chloride	1200	9.1	75		mg/Kg	50	7/18/2017 4:05:59 PM	32783
Nitrogen, Nitrate (As N)	18	1.9	6.0		mg/Kg	20	7/13/2017 10:43:14 AM	32783
Sulfate	1800	7.1	30		mg/Kg	20	7/13/2017 10:43:14 AM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	0.012	0.0066	0.032	J	mg/Kg	1	7/7/2017 12:18:48 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.3	12		mg/Kg	5	7/13/2017 11:31:39 AM	32636
Barium	230	0.35	0.49		mg/Kg	5	7/17/2017 11:10:30 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 11:31:39 AM	32636
Chromium	15	0.46	1.5		mg/Kg	5	7/13/2017 11:31:39 AM	32636
Copper	3.3	0.59	1.5		mg/Kg	5	7/17/2017 11:10:30 AM	32636
Iron	17000	74	240		mg/Kg	100	7/13/2017 11:29:56 AM	32636
Lead	2.9	0.85	1.2		mg/Kg	5	7/13/2017 11:31:39 AM	32636
Manganese	430	0.26	0.49		mg/Kg	5	7/17/2017 11:10:30 AM	32636
Selenium	ND	8.9	12		mg/Kg	5	7/13/2017 11:31:39 AM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 11:31:39 AM	32636
Uranium	ND	5.6	24		mg/Kg	5	7/13/2017 11:31:39 AM	32636
Zinc	19	1.7	12		mg/Kg	5	7/17/2017 11:10:30 AM	32636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:10:00 AM
Lab ID: 1706F97-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Aniline	ND	0.11	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Anthracene	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Azobenzene	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Benzoic acid	ND	0.15	0.50		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Bis(2-ethylhexyl)phthalate	0.33	0.19	0.50	J	mg/Kg	1	7/8/2017 9:40:28 AM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Carbazole	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
4-Chloro-3-methylphenol	ND	0.18	0.50		mg/Kg	1	7/8/2017 9:40:28 AM	32653
4-Chloroaniline	ND	0.15	0.50		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Chrysene	ND	0.15	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Di-n-butyl phthalate	0.28	0.11	0.40	J	mg/Kg	1	7/8/2017 9:40:28 AM	32653
Di-n-octyl phthalate	ND	0.15	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
3,3´-Dichlorobenzidine	ND	0.15	0.25		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Diethyl phthalate	0.23	0.17	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Dimethyl phthalate	ND	0.19	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2,4-Dichlorophenol	ND	0.16	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2,4-Dimethylphenol	ND	0.088	0.30		mg/Kg	1	7/8/2017 9:40:28 AM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2,4-Dinitrophenol	ND	0.12	0.50		mg/Kg	1	7/8/2017 9:40:28 AM	32653

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:10:00 AM
Lab ID: 1706F97-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	0.19	0.50		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2,6-Dinitrotoluene	ND	0.17	0.50		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Fluoranthene	ND	0.17	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Fluorene	ND	0.15	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Isophorone	ND	0.19	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2-Methylphenol	ND	0.15	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
N-Nitrosodi-n-propylamine	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Naphthalene	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
4-Nitroaniline	ND	0.17	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Nitrobenzene	ND	0.17	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Pentachlorophenol	ND	0.17	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Phenanthrene	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Phenol	ND	0.14	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Pyrene	ND	0.15	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Pyridine	ND	0.13	0.40		mg/Kg	1	7/8/2017 9:40:28 AM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	7/8/2017 9:40:28 AM	32653
Surr: 2-Fluorophenol	59.6	0	21.4-101		%Rec	1	7/8/2017 9:40:28 AM	32653
Surr: Phenol-d5	66.8	0	32-110		%Rec	1	7/8/2017 9:40:28 AM	32653
Surr: 2,4,6-Tribromophenol	67.6	0	38.7-115		%Rec	1	7/8/2017 9:40:28 AM	32653
Surr: Nitrobenzene-d5	73.5		26.2-120		%Rec	1	7/8/2017 9:40:28 AM	32653
Surr: 2-Fluorobiphenyl	76.6		36.2-124		%Rec	1	7/8/2017 9:40:28 AM	32653
Surr: 4-Terphenyl-d14	61.0		15-114		%Rec	1	7/8/2017 9:40:28 AM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0046	0.023		mg/Kg	1	7/5/2017 7:03:20 PM	32616

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:10:00 AM
Lab ID: 1706F97-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0038	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Ethylbenzene	ND	0.0033	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0072	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2,4-Trimethylbenzene	ND	0.0041	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,3,5-Trimethylbenzene	ND	0.0030	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2-Dichloroethane (EDC)	ND	0.0049	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2-Dibromoethane (EDB)	ND	0.0059	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Naphthalene	ND	0.0047	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1-Methylnaphthalene	ND	0.0033	0.19		mg/Kg	1	7/5/2017 7:03:20 PM	32616
2-Methylnaphthalene	ND	0.0038	0.19		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Acetone	ND	0.051	0.70		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Bromobenzene	ND	0.0034	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Bromodichloromethane	ND	0.0061	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Bromoform	ND	0.011	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Bromomethane	ND	0.0080	0.14		mg/Kg	1	7/5/2017 7:03:20 PM	32616
2-Butanone	0.16	0.028	0.47	J	mg/Kg	1	7/5/2017 7:03:20 PM	32616
Carbon disulfide	ND	0.0055	0.47		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Carbon tetrachloride	ND	0.0046	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Chlorobenzene	ND	0.0028	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Chloroethane	ND	0.015	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Chloroform	ND	0.0028	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Chloromethane	ND	0.0098	0.14		mg/Kg	1	7/5/2017 7:03:20 PM	32616
2-Chlorotoluene	ND	0.0036	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
4-Chlorotoluene	ND	0.0042	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
cis-1,2-DCE	ND	0.0060	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
cis-1,3-Dichloropropene	ND	0.0035	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2-Dibromo-3-chloropropane	ND	0.0064	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Dibromochloromethane	ND	0.0039	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Dibromomethane	ND	0.0023	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2-Dichlorobenzene	ND	0.0024	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,3-Dichlorobenzene	ND	0.0041	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,4-Dichlorobenzene	ND	0.0052	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Dichlorodifluoromethane	ND	0.019	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,1-Dichloroethane	ND	0.019	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,1-Dichloroethene	ND	0.019	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2-Dichloropropane	ND	0.0029	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,3-Dichloropropane	ND	0.012	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
2,2-Dichloropropane	ND	0.0053	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,1-Dichloropropene	ND	0.0053	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616

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Lab ID: 1706F97-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
2-Hexanone	ND	0.0091	0.47		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Isopropylbenzene	ND	0.0031	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
4-Isopropyltoluene	ND	0.0036	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
4-Methyl-2-pentanone	ND	0.010	0.47		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/5/2017 7:03:20 PM	32616
n-Butylbenzene	ND	0.0042	0.14		mg/Kg	1	7/5/2017 7:03:20 PM	32616
n-Propylbenzene	ND	0.0029	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
sec-Butylbenzene	ND	0.0048	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Styrene	ND	0.0081	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
tert-Butylbenzene	ND	0.0038	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,1,1,2-Tetrachloroethane	ND	0.0053	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,1,2,2-Tetrachloroethane	ND	0.013	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Tetrachloroethene (PCE)	ND	0.0037	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
trans-1,2-DCE	ND	0.019	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
trans-1,3-Dichloropropene	ND	0.0056	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2,3-Trichlorobenzene	ND	0.0043	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2,4-Trichlorobenzene	ND	0.0047	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,1,1-Trichloroethane	ND	0.0061	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,1,2-Trichloroethane	ND	0.0050	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Trichloroethene (TCE)	ND	0.0056	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Trichlorofluoromethane	ND	0.0070	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
1,2,3-Trichloropropane	ND	0.023	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Vinyl chloride	ND	0.0039	0.047		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Xylenes, Total	ND	0.015	0.093		mg/Kg	1	7/5/2017 7:03:20 PM	32616
Surr: Dibromofluoromethane	103		70-130		%Rec	1	7/5/2017 7:03:20 PM	32616
Surr: 1,2-Dichloroethane-d4	102		70-130		%Rec	1	7/5/2017 7:03:20 PM	32616
Surr: Toluene-d8	102		70-130		%Rec	1	7/5/2017 7:03:20 PM	32616
Surr: 4-Bromofluorobenzene	90.7		70-130		%Rec	1	7/5/2017 7:03:20 PM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	11	3.2	19	J	mg/Kg	1	7/10/2017	32597

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Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:30:00 AM
Lab ID: 1706F97-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 9:54:00 AM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 9:54:00 AM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 9:54:00 AM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 9:54:00 AM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 9:54:00 AM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 9:54:00 AM	32629
Aroclor 1260	ND	0.0090	0.019		mg/Kg	1	7/11/2017 9:54:00 AM	32629
Surr: Decachlorobiphenyl	104	0	26.3-128		%Rec	1	7/11/2017 9:54:00 AM	32629
Surr: Tetrachloro-m-xylene	117	0	20.7-151		%Rec	1	7/11/2017 9:54:00 AM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.6	9.9		mg/Kg	1	7/5/2017 4:18:27 PM	32588
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	7/5/2017 4:18:27 PM	32588
Surr: DNOP	106	0	70-130		%Rec	1	7/5/2017 4:18:27 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.8		mg/Kg	1	7/5/2017 4:29:16 PM	32616
Surr: BFB	97.9	0	54-150		%Rec	1	7/5/2017 4:29:16 PM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.4	0.10	0.30		mg/Kg	1	7/13/2017 10:55:38 AM	32783
Chloride	2600	18	150		mg/Kg	100	7/18/2017 4:18:24 PM	32783
Nitrogen, Nitrate (As N)	5.7	0.096	0.30		mg/Kg	1	7/13/2017 10:55:38 AM	32783
Sulfate	520	7.1	30		mg/Kg	20	7/13/2017 11:08:03 AM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	0.0082	0.0065	0.032	J	mg/Kg	1	7/7/2017 12:20:30 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.3	12		mg/Kg	5	7/13/2017 11:34:57 AM	32636
Barium	300	0.35	0.49		mg/Kg	5	7/17/2017 11:12:02 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 11:34:57 AM	32636
Chromium	19	0.46	1.5		mg/Kg	5	7/13/2017 11:34:57 AM	32636
Copper	4.0	0.59	1.5		mg/Kg	5	7/17/2017 11:12:02 AM	32636
Iron	21000	74	240		mg/Kg	100	7/13/2017 11:33:17 AM	32636
Lead	2.9	0.85	1.2		mg/Kg	5	7/13/2017 11:34:57 AM	32636
Manganese	310	0.26	0.49		mg/Kg	5	7/17/2017 11:12:02 AM	32636
Selenium	ND	8.9	12		mg/Kg	5	7/13/2017 11:34:57 AM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 11:34:57 AM	32636
Uranium	ND	5.6	24		mg/Kg	5	7/13/2017 11:34:57 AM	32636
Zinc	24	1.7	12		mg/Kg	5	7/17/2017 11:12:02 AM	32636

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Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:30:00 AM
Lab ID: 1706F97-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Aniline	ND	0.11	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Anthracene	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Azobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Benzoic acid	ND	0.15	0.50		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Bis(2-ethylhexyl)phthalate	0.36	0.19	0.50	J	mg/Kg	1	7/11/2017 2:33:55 PM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Carbazole	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
4-Chloro-3-methylphenol	ND	0.18	0.50		mg/Kg	1	7/11/2017 2:33:55 PM	32653
4-Chloroaniline	ND	0.15	0.50		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Chrysene	ND	0.15	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Di-n-butyl phthalate	0.31	0.11	0.40	J	mg/Kg	1	7/11/2017 2:33:55 PM	32653
Di-n-octyl phthalate	ND	0.15	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
3,3´-Dichlorobenzidine	ND	0.15	0.25		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Diethyl phthalate	0.21	0.17	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Dimethyl phthalate	ND	0.19	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2,4-Dichlorophenol	ND	0.16	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2,4-Dimethylphenol	ND	0.088	0.30		mg/Kg	1	7/11/2017 2:33:55 PM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2,4-Dinitrophenol	ND	0.12	0.50		mg/Kg	1	7/11/2017 2:33:55 PM	32653

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.18	0.50		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2,6-Dinitrotoluene	ND	0.17	0.50		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Fluoranthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Fluorene	ND	0.15	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Isophorone	ND	0.19	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2-Methylphenol	ND	0.15	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
N-Nitrosodi-n-propylamine	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Naphthalene	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
4-Nitroaniline	ND	0.17	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Nitrobenzene	ND	0.16	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Pentachlorophenol	ND	0.17	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Phenanthrene	ND	0.17	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Phenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Pyrene	ND	0.15	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Pyridine	ND	0.13	0.40		mg/Kg	1	7/11/2017 2:33:55 PM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	7/11/2017 2:33:55 PM	32653
Surr: 2-Fluorophenol	52.5	0	21.4-101		%Rec	1	7/11/2017 2:33:55 PM	32653
Surr: Phenol-d5	57.9	0	32-110		%Rec	1	7/11/2017 2:33:55 PM	32653
Surr: 2,4,6-Tribromophenol	64.3	0	38.7-115		%Rec	1	7/11/2017 2:33:55 PM	32653
Surr: Nitrobenzene-d5	66.8		26.2-120		%Rec	1	7/11/2017 2:33:55 PM	32653
Surr: 2-Fluorobiphenyl	68.6		36.2-124		%Rec	1	7/11/2017 2:33:55 PM	32653
Surr: 4-Terphenyl-d14	59.9		15-114		%Rec	1	7/11/2017 2:33:55 PM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0047	0.024		mg/Kg	1	7/5/2017 7:32:04 PM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:30:00 AM
Lab ID: 1706F97-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Ethylbenzene	ND	0.0033	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0073	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2,4-Trimethylbenzene	ND	0.0041	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,3,5-Trimethylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Naphthalene	ND	0.0048	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/5/2017 7:32:04 PM	32616
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Acetone	ND	0.052	0.71		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Bromodichloromethane	ND	0.0062	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Bromoform	ND	0.012	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Bromomethane	ND	0.0082	0.14		mg/Kg	1	7/5/2017 7:32:04 PM	32616
2-Butanone	0.15	0.028	0.48	J	mg/Kg	1	7/5/2017 7:32:04 PM	32616
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Carbon tetrachloride	ND	0.0047	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Chlorobenzene	ND	0.0028	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Chloroethane	ND	0.016	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Chloroform	ND	0.0029	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Chloromethane	ND	0.010	0.14		mg/Kg	1	7/5/2017 7:32:04 PM	32616
2-Chlorotoluene	ND	0.0037	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
4-Chlorotoluene	ND	0.0043	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
cis-1,2-DCE	ND	0.0061	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
cis-1,3-Dichloropropene	ND	0.0036	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2-Dibromo-3-chloropropane	ND	0.0066	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Dibromochloromethane	ND	0.0040	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Dibromomethane	ND	0.0023	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,3-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,4-Dichlorobenzene	ND	0.0053	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2-Dichloropropane	ND	0.0029	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
2,2-Dichloropropane	ND	0.0054	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,1-Dichloropropene	ND	0.0054	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:30:00 AM
Lab ID: 1706F97-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
2-Hexanone	ND	0.0093	0.48		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
4-Isopropyltoluene	ND	0.0036	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/5/2017 7:32:04 PM	32616
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	7/5/2017 7:32:04 PM	32616
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
sec-Butylbenzene	ND	0.0049	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Styrene	ND	0.0083	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
trans-1,3-Dichloropropene	ND	0.0057	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2,3-Trichlorobenzene	ND	0.0044	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2,4-Trichlorobenzene	ND	0.0048	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,1,1-Trichloroethane	ND	0.0062	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
1,2,3-Trichloropropane	ND	0.024	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Xylenes, Total	ND	0.015	0.095		mg/Kg	1	7/5/2017 7:32:04 PM	32616
Surr: Dibromofluoromethane	104		70-130		%Rec	1	7/5/2017 7:32:04 PM	32616
Surr: 1,2-Dichloroethane-d4	101		70-130		%Rec	1	7/5/2017 7:32:04 PM	32616
Surr: Toluene-d8	98.8		70-130		%Rec	1	7/5/2017 7:32:04 PM	32616
Surr: 4-Bromofluorobenzene	90.3		70-130		%Rec	1	7/5/2017 7:32:04 PM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	19	3.1	19		mg/Kg	1	7/10/2017	32597

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:50:00 AM
Lab ID: 1706F97-003 **Matrix:** SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 10:27:00 AM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 10:27:00 AM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 10:27:00 AM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 10:27:00 AM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 10:27:00 AM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 10:27:00 AM	32629
Aroclor 1260	ND	0.0090	0.019		mg/Kg	1	7/11/2017 10:27:00 AM	32629
Surr: Decachlorobiphenyl	116	0	26.3-128		%Rec	1	7/11/2017 10:27:00 AM	32629
Surr: Tetrachloro-m-xylene	132	0	20.7-151		%Rec	1	7/11/2017 10:27:00 AM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.5	9.4		mg/Kg	1	7/5/2017 4:40:57 PM	32588
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	7/5/2017 4:40:57 PM	32588
Surr: DNOP	108	0	70-130		%Rec	1	7/5/2017 4:40:57 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.9		mg/Kg	1	7/5/2017 4:53:22 PM	32616
Surr: BFB	96.3	0	54-150		%Rec	1	7/5/2017 4:53:22 PM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	4.8	0.10	0.30		mg/Kg	1	7/13/2017 11:45:16 AM	32783
Chloride	340	3.6	30		mg/Kg	20	7/13/2017 11:57:41 AM	32783
Nitrogen, Nitrate (As N)	2.0	0.096	0.30		mg/Kg	1	7/13/2017 11:45:16 AM	32783
Sulfate	810	7.1	30		mg/Kg	20	7/13/2017 11:57:41 AM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	0.033	0.0066	0.033		mg/Kg	1	7/7/2017 12:22:11 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.3	12		mg/Kg	5	7/13/2017 11:38:20 AM	32636
Barium	280	0.34	0.48		mg/Kg	5	7/17/2017 11:19:22 AM	32636
Cadmium	ND	0.31	0.48		mg/Kg	5	7/13/2017 11:38:20 AM	32636
Chromium	19	0.46	1.4		mg/Kg	5	7/13/2017 11:38:20 AM	32636
Copper	3.5	0.59	1.4		mg/Kg	5	7/17/2017 11:19:22 AM	32636
Iron	21000	73	240		mg/Kg	100	7/13/2017 11:36:37 AM	32636
Lead	1.7	0.84	1.2		mg/Kg	5	7/13/2017 11:38:20 AM	32636
Manganese	330	0.26	0.48		mg/Kg	5	7/17/2017 11:19:22 AM	32636
Selenium	ND	8.8	12		mg/Kg	5	7/13/2017 11:38:20 AM	32636
Silver	ND	0.30	1.2		mg/Kg	5	7/13/2017 11:38:20 AM	32636
Uranium	ND	5.5	24		mg/Kg	5	7/13/2017 11:38:20 AM	32636
Zinc	27	1.7	12		mg/Kg	5	7/17/2017 11:19:22 AM	32636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:50:00 AM
Lab ID: 1706F97-003
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Aniline	ND	0.11	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Anthracene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Azobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Benzoic acid	ND	0.15	0.49		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Benzyl alcohol	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Bis(2-ethylhexyl)phthalate	0.30	0.19	0.49	J	mg/Kg	1	7/11/2017 3:02:13 PM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Carbazole	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
4-Chloro-3-methylphenol	ND	0.18	0.49		mg/Kg	1	7/11/2017 3:02:13 PM	32653
4-Chloroaniline	ND	0.15	0.49		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Chrysene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Di-n-butyl phthalate	0.26	0.11	0.40	J	mg/Kg	1	7/11/2017 3:02:13 PM	32653
Di-n-octyl phthalate	ND	0.15	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
3,3´-Dichlorobenzidine	ND	0.14	0.25		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Diethyl phthalate	0.22	0.17	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Dimethyl phthalate	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2,4-Dichlorophenol	ND	0.15	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2,4-Dimethylphenol	ND	0.087	0.30		mg/Kg	1	7/11/2017 3:02:13 PM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2,4-Dinitrophenol	ND	0.12	0.49		mg/Kg	1	7/11/2017 3:02:13 PM	32653

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:50:00 AM
Lab ID: 1706F97-003
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.18	0.49		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2,6-Dinitrotoluene	ND	0.17	0.49		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Fluoranthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Fluorene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Isophorone	ND	0.19	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2-Methylnaphthalene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2-Methylphenol	ND	0.15	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
N-Nitrosodi-n-propylamine	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Naphthalene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
4-Nitroaniline	ND	0.17	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Nitrobenzene	ND	0.16	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2-Nitrophenol	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Pentachlorophenol	ND	0.17	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Phenanthrene	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Phenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Pyrene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Pyridine	ND	0.13	0.40		mg/Kg	1	7/11/2017 3:02:13 PM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
2,4,6-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:02:13 PM	32653
Surr: 2-Fluorophenol	52.5	0	21.4-101		%Rec	1	7/11/2017 3:02:13 PM	32653
Surr: Phenol-d5	63.0	0	32-110		%Rec	1	7/11/2017 3:02:13 PM	32653
Surr: 2,4,6-Tribromophenol	65.5	0	38.7-115		%Rec	1	7/11/2017 3:02:13 PM	32653
Surr: Nitrobenzene-d5	69.0		26.2-120		%Rec	1	7/11/2017 3:02:13 PM	32653
Surr: 2-Fluorobiphenyl	74.5		36.2-124		%Rec	1	7/11/2017 3:02:13 PM	32653
Surr: 4-Terphenyl-d14	61.6		15-114		%Rec	1	7/11/2017 3:02:13 PM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0048	0.025		mg/Kg	1	7/5/2017 8:58:03 PM	32616

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:50:00 AM
Lab ID: 1706F97-003
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0040	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Ethylbenzene	ND	0.0034	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0075	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2,4-Trimethylbenzene	ND	0.0043	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,3,5-Trimethylbenzene	ND	0.0031	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2-Dichloroethane (EDC)	ND	0.0051	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2-Dibromoethane (EDB)	ND	0.0063	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Naphthalene	ND	0.0050	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1-Methylnaphthalene	ND	0.0035	0.20		mg/Kg	1	7/5/2017 8:58:03 PM	32616
2-Methylnaphthalene	ND	0.0040	0.20		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Acetone	ND	0.053	0.74		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Bromobenzene	ND	0.0036	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Bromodichloromethane	ND	0.0064	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Bromoform	ND	0.012	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Bromomethane	ND	0.0085	0.15		mg/Kg	1	7/5/2017 8:58:03 PM	32616
2-Butanone	0.18	0.029	0.49	J	mg/Kg	1	7/5/2017 8:58:03 PM	32616
Carbon disulfide	ND	0.0058	0.49		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Carbon tetrachloride	ND	0.0049	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Chlorobenzene	ND	0.0029	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Chloroethane	ND	0.016	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Chloroform	ND	0.0030	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Chloromethane	ND	0.010	0.15		mg/Kg	1	7/5/2017 8:58:03 PM	32616
2-Chlorotoluene	ND	0.0038	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
4-Chlorotoluene	ND	0.0044	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
cis-1,2-DCE	ND	0.0063	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
cis-1,3-Dichloropropene	ND	0.0037	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2-Dibromo-3-chloropropane	ND	0.0068	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Dibromochloromethane	ND	0.0041	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Dibromomethane	ND	0.0024	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2-Dichlorobenzene	ND	0.0025	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,3-Dichlorobenzene	ND	0.0043	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,4-Dichlorobenzene	ND	0.0055	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Dichlorodifluoromethane	ND	0.020	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,1-Dichloroethane	ND	0.020	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,1-Dichloroethene	ND	0.020	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2-Dichloropropane	ND	0.0030	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,3-Dichloropropane	ND	0.012	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
2,2-Dichloropropane	ND	0.0056	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,1-Dichloropropene	ND	0.0056	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 9:50:00 AM
Lab ID: 1706F97-003
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
2-Hexanone	ND	0.0096	0.49		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Isopropylbenzene	ND	0.0033	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
4-Isopropyltoluene	ND	0.0037	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
4-Methyl-2-pentanone	ND	0.010	0.49		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Methylene chloride	ND	0.020	0.15		mg/Kg	1	7/5/2017 8:58:03 PM	32616
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	7/5/2017 8:58:03 PM	32616
n-Propylbenzene	ND	0.0031	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
sec-Butylbenzene	ND	0.0051	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Styrene	ND	0.0085	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
tert-Butylbenzene	ND	0.0040	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,1,1,2-Tetrachloroethane	ND	0.0055	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Tetrachloroethene (PCE)	ND	0.0039	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
trans-1,2-DCE	ND	0.020	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
trans-1,3-Dichloropropene	ND	0.0059	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2,3-Trichlorobenzene	ND	0.0045	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2,4-Trichlorobenzene	ND	0.0050	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,1,1-Trichloroethane	ND	0.0064	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,1,2-Trichloroethane	ND	0.0052	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Trichloroethene (TCE)	ND	0.0059	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Trichlorofluoromethane	ND	0.0074	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
1,2,3-Trichloropropane	ND	0.025	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Vinyl chloride	ND	0.0041	0.049		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Xylenes, Total	ND	0.015	0.098		mg/Kg	1	7/5/2017 8:58:03 PM	32616
Surr: Dibromofluoromethane	103		70-130		%Rec	1	7/5/2017 8:58:03 PM	32616
Surr: 1,2-Dichloroethane-d4	101		70-130		%Rec	1	7/5/2017 8:58:03 PM	32616
Surr: Toluene-d8	99.4		70-130		%Rec	1	7/5/2017 8:58:03 PM	32616
Surr: 4-Bromofluorobenzene	89.0		70-130		%Rec	1	7/5/2017 8:58:03 PM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	59	3.3	20		mg/Kg	1	7/10/2017	32597

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706F97-004
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 11:00:00 AM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 11:00:00 AM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 11:00:00 AM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 11:00:00 AM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 11:00:00 AM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 11:00:00 AM	32629
Aroclor 1260	ND	0.0090	0.019		mg/Kg	1	7/11/2017 11:00:00 AM	32629
Surr: Decachlorobiphenyl	114	0	26.3-128		%Rec	1	7/11/2017 11:00:00 AM	32629
Surr: Tetrachloro-m-xylene	129	0	20.7-151		%Rec	1	7/11/2017 11:00:00 AM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.6	9.9		mg/Kg	1	7/5/2017 5:03:02 PM	32588
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	7/5/2017 5:03:02 PM	32588
Surr: DNOP	107	0	70-130		%Rec	1	7/5/2017 5:03:02 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.8		mg/Kg	1	7/5/2017 5:17:30 PM	32616
Surr: BFB	96.2	0	54-150		%Rec	1	7/5/2017 5:17:30 PM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	4.4	0.10	0.30		mg/Kg	1	7/13/2017 12:10:06 PM	32783
Chloride	300	3.6	30		mg/Kg	20	7/13/2017 12:22:31 PM	32783
Nitrogen, Nitrate (As N)	0.31	0.096	0.30		mg/Kg	1	7/13/2017 12:10:06 PM	32783
Sulfate	450	7.1	30		mg/Kg	20	7/13/2017 12:22:31 PM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	0.022	0.0063	0.031	J	mg/Kg	1	7/7/2017 12:23:54 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	7/13/2017 11:41:39 AM	32636
Barium	320	0.35	0.49		mg/Kg	5	7/17/2017 11:20:51 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 11:41:39 AM	32636
Chromium	21	0.47	1.5		mg/Kg	5	7/13/2017 11:41:39 AM	32636
Copper	4.2	0.60	1.5		mg/Kg	5	7/17/2017 11:20:51 AM	32636
Iron	22000	75	250		mg/Kg	100	7/13/2017 11:39:58 AM	32636
Lead	1.2	0.86	1.2	J	mg/Kg	5	7/13/2017 11:41:39 AM	32636
Manganese	380	0.26	0.49		mg/Kg	5	7/17/2017 11:20:51 AM	32636
Selenium	ND	9.0	12		mg/Kg	5	7/13/2017 11:41:39 AM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 11:41:39 AM	32636
Uranium	ND	5.7	25		mg/Kg	5	7/13/2017 11:41:39 AM	32636
Zinc	26	1.7	12		mg/Kg	5	7/17/2017 11:20:51 AM	32636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706F97-004
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Aniline	ND	0.11	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Anthracene	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Azobenzene	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Benzoic acid	ND	0.15	0.50		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Bis(2-ethylhexyl)phthalate	0.26	0.19	0.50	J	mg/Kg	1	7/10/2017 5:42:45 PM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Carbazole	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
4-Chloro-3-methylphenol	ND	0.18	0.50		mg/Kg	1	7/10/2017 5:42:45 PM	32653
4-Chloroaniline	ND	0.15	0.50		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Chrysene	ND	0.15	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Di-n-butyl phthalate	0.16	0.11	0.40	J	mg/Kg	1	7/10/2017 5:42:45 PM	32653
Di-n-octyl phthalate	ND	0.15	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
3,3´-Dichlorobenzidine	ND	0.15	0.25		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Diethyl phthalate	0.20	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Dimethyl phthalate	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2,4-Dichlorophenol	ND	0.16	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2,4-Dimethylphenol	ND	0.088	0.30		mg/Kg	1	7/10/2017 5:42:45 PM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2,4-Dinitrophenol	ND	0.12	0.50		mg/Kg	1	7/10/2017 5:42:45 PM	32653

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706F97-004
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.18	0.50		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2,6-Dinitrotoluene	ND	0.17	0.50		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Fluoranthene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Fluorene	ND	0.15	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Isophorone	ND	0.19	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2-Methylphenol	ND	0.15	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
N-Nitrosodi-n-propylamine	ND	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Naphthalene	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
4-Nitroaniline	ND	0.17	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Nitrobenzene	ND	0.16	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Pentachlorophenol	ND	0.17	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Phenanthrene	ND	0.17	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Phenol	ND	0.14	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Pyrene	ND	0.15	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Pyridine	ND	0.13	0.40		mg/Kg	1	7/10/2017 5:42:45 PM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	7/10/2017 5:42:45 PM	32653
Surr: 2-Fluorophenol	49.9	0	21.4-101		%Rec	1	7/10/2017 5:42:45 PM	32653
Surr: Phenol-d5	56.3	0	32-110		%Rec	1	7/10/2017 5:42:45 PM	32653
Surr: 2,4,6-Tribromophenol	57.4	0	38.7-115		%Rec	1	7/10/2017 5:42:45 PM	32653
Surr: Nitrobenzene-d5	68.8		26.2-120		%Rec	1	7/10/2017 5:42:45 PM	32653
Surr: 2-Fluorobiphenyl	71.9		36.2-124		%Rec	1	7/10/2017 5:42:45 PM	32653
Surr: 4-Terphenyl-d14	63.3		15-114		%Rec	1	7/10/2017 5:42:45 PM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0047	0.024		mg/Kg	1	7/5/2017 10:52:09 PM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706F97-004
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0074	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,3,5-Trimethylbenzene	ND	0.0031	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Naphthalene	ND	0.0049	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/5/2017 10:52:09 PM	32616
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Acetone	ND	0.052	0.72		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Bromodichloromethane	ND	0.0063	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Bromoform	ND	0.012	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Bromomethane	ND	0.0083	0.14		mg/Kg	1	7/5/2017 10:52:09 PM	32616
2-Butanone	0.16	0.029	0.48	J	mg/Kg	1	7/5/2017 10:52:09 PM	32616
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Carbon tetrachloride	ND	0.0048	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Chloroethane	ND	0.016	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Chloroform	ND	0.0029	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Chloromethane	ND	0.010	0.14		mg/Kg	1	7/5/2017 10:52:09 PM	32616
2-Chlorotoluene	ND	0.0038	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
4-Chlorotoluene	ND	0.0044	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
cis-1,2-DCE	ND	0.0062	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
cis-1,3-Dichloropropene	ND	0.0037	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2-Dibromo-3-chloropropane	ND	0.0066	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Dibromochloromethane	ND	0.0041	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Dibromomethane	ND	0.0024	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,3-Dichlorobenzene	ND	0.0043	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,4-Dichlorobenzene	ND	0.0054	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
2,2-Dichloropropane	ND	0.0055	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,1-Dichloropropene	ND	0.0055	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706F97-004
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
2-Hexanone	ND	0.0094	0.48		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
4-Isopropyltoluene	ND	0.0037	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/5/2017 10:52:09 PM	32616
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	7/5/2017 10:52:09 PM	32616
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
sec-Butylbenzene	ND	0.0050	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Styrene	ND	0.0084	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Tetrachloroethene (PCE)	ND	0.0039	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
trans-1,3-Dichloropropene	ND	0.0058	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2,3-Trichlorobenzene	ND	0.0044	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,1,1-Trichloroethane	ND	0.0063	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
1,2,3-Trichloropropane	ND	0.024	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Xylenes, Total	ND	0.015	0.097		mg/Kg	1	7/5/2017 10:52:09 PM	32616
Surr: Dibromofluoromethane	104		70-130		%Rec	1	7/5/2017 10:52:09 PM	32616
Surr: 1,2-Dichloroethane-d4	103		70-130		%Rec	1	7/5/2017 10:52:09 PM	32616
Surr: Toluene-d8	100		70-130		%Rec	1	7/5/2017 10:52:09 PM	32616
Surr: 4-Bromofluorobenzene	89.3		70-130		%Rec	1	7/5/2017 10:52:09 PM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	41	3.1	19		mg/Kg	1	7/10/2017	32597

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:45:00 AM
Lab ID: 1706F97-005 **Matrix:** SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.011	0.020		mg/Kg	1	7/11/2017 11:33:00 AM	32629
Aroclor 1221	ND	0.020	0.020		mg/Kg	1	7/11/2017 11:33:00 AM	32629
Aroclor 1232	ND	0.020	0.020		mg/Kg	1	7/11/2017 11:33:00 AM	32629
Aroclor 1242	ND	0.020	0.020		mg/Kg	1	7/11/2017 11:33:00 AM	32629
Aroclor 1248	ND	0.020	0.020		mg/Kg	1	7/11/2017 11:33:00 AM	32629
Aroclor 1254	ND	0.020	0.020		mg/Kg	1	7/11/2017 11:33:00 AM	32629
Aroclor 1260	ND	0.0092	0.020		mg/Kg	1	7/11/2017 11:33:00 AM	32629
Surr: Decachlorobiphenyl	104	0	26.3-128		%Rec	1	7/11/2017 11:33:00 AM	32629
Surr: Tetrachloro-m-xylene	114	0	20.7-151		%Rec	1	7/11/2017 11:33:00 AM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.6	9.9		mg/Kg	1	7/5/2017 5:25:34 PM	32588
Motor Oil Range Organics (MRO)	ND	50	50		mg/Kg	1	7/5/2017 5:25:34 PM	32588
Surr: DNOP	109	0	70-130		%Rec	1	7/5/2017 5:25:34 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.9		mg/Kg	1	7/6/2017 2:28:24 AM	32616
Surr: BFB	104	0	54-150		%Rec	1	7/6/2017 2:28:24 AM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	2.9	0.10	0.30		mg/Kg	1	7/13/2017 12:34:56 PM	32783
Chloride	120	3.6	30		mg/Kg	20	7/13/2017 12:47:20 PM	32783
Nitrogen, Nitrate (As N)	7.3	0.096	0.30		mg/Kg	1	7/13/2017 12:34:56 PM	32783
Sulfate	480	7.1	30		mg/Kg	20	7/13/2017 12:47:20 PM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	0.028	0.0065	0.032	J	mg/Kg	1	7/7/2017 12:25:36 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	7/13/2017 12:12:57 PM	32636
Barium	390	0.35	0.49		mg/Kg	5	7/17/2017 11:22:21 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 12:12:57 PM	32636
Chromium	15	0.47	1.5		mg/Kg	5	7/13/2017 12:12:57 PM	32636
Copper	4.2	0.60	1.5		mg/Kg	5	7/17/2017 11:22:21 AM	32636
Iron	17000	74	250		mg/Kg	100	7/13/2017 12:11:17 PM	32636
Lead	3.3	0.86	1.2		mg/Kg	5	7/13/2017 12:12:57 PM	32636
Manganese	400	0.26	0.49		mg/Kg	5	7/17/2017 11:22:21 AM	32636
Selenium	ND	9.0	12		mg/Kg	5	7/13/2017 12:12:57 PM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 12:12:57 PM	32636
Uranium	ND	5.7	25		mg/Kg	5	7/13/2017 12:12:57 PM	32636
Zinc	19	1.7	12		mg/Kg	5	7/17/2017 11:22:21 AM	32636

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:45:00 AM
Lab ID: 1706F97-005
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Aniline	ND	0.11	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Anthracene	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Azobenzene	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Benz(a)anthracene	ND	0.17	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Benzo(a)pyrene	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Benzo(b)fluoranthene	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Benzo(g,h,i)perylene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Benzo(k)fluoranthene	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Benzoic acid	ND	0.15	0.49		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Benzyl alcohol	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Bis(2-chloroethoxy)methane	ND	0.17	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Bis(2-chloroethyl)ether	ND	0.12	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Bis(2-chloroisopropyl)ether	ND	0.19	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Bis(2-ethylhexyl)phthalate	0.22	0.19	0.49	J	mg/Kg	1	7/11/2017 9:25:11 AM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Butyl benzyl phthalate	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Carbazole	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
4-Chloro-3-methylphenol	ND	0.18	0.49		mg/Kg	1	7/11/2017 9:25:11 AM	32653
4-Chloroaniline	ND	0.15	0.49		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2-Chlorophenol	ND	0.14	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Chrysene	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Di-n-butyl phthalate	0.16	0.11	0.39	J	mg/Kg	1	7/11/2017 9:25:11 AM	32653
Di-n-octyl phthalate	ND	0.14	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Dibenz(a,h)anthracene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Dibenzofuran	ND	0.17	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
1,2-Dichlorobenzene	ND	0.14	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
1,3-Dichlorobenzene	ND	0.13	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
1,4-Dichlorobenzene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
3,3´-Dichlorobenzidine	ND	0.14	0.24		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Diethyl phthalate	0.17	0.16	0.19	J	mg/Kg	1	7/11/2017 9:25:11 AM	32653
Dimethyl phthalate	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2,4-Dichlorophenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2,4-Dimethylphenol	ND	0.086	0.29		mg/Kg	1	7/11/2017 9:25:11 AM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2,4-Dinitrophenol	ND	0.11	0.49		mg/Kg	1	7/11/2017 9:25:11 AM	32653

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:45:00 AM
Lab ID: 1706F97-005
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.18	0.49		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2,6-Dinitrotoluene	ND	0.17	0.49		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Fluoranthene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Fluorene	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Hexachlorobenzene	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Hexachlorobutadiene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Hexachlorocyclopentadiene	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Hexachloroethane	ND	0.14	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Isophorone	ND	0.18	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
1-Methylnaphthalene	ND	0.19	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2-Methylnaphthalene	ND	0.16	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2-Methylphenol	ND	0.14	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
3+4-Methylphenol	ND	0.13	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
N-Nitrosodi-n-propylamine	ND	0.17	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
N-Nitrosodiphenylamine	ND	0.19	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Naphthalene	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2-Nitroaniline	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
3-Nitroaniline	ND	0.17	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
4-Nitroaniline	ND	0.16	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Nitrobenzene	ND	0.16	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2-Nitrophenol	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
4-Nitrophenol	ND	0.15	0.24		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Pentachlorophenol	ND	0.17	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Phenanthrene	ND	0.17	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Phenol	ND	0.13	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Pyrene	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Pyridine	ND	0.13	0.39		mg/Kg	1	7/11/2017 9:25:11 AM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2,4,5-Trichlorophenol	ND	0.14	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
2,4,6-Trichlorophenol	ND	0.15	0.19		mg/Kg	1	7/11/2017 9:25:11 AM	32653
Surr: 2-Fluorophenol	42.3	0	21.4-101		%Rec	1	7/11/2017 9:25:11 AM	32653
Surr: Phenol-d5	46.2	0	32-110		%Rec	1	7/11/2017 9:25:11 AM	32653
Surr: 2,4,6-Tribromophenol	49.6	0	38.7-115		%Rec	1	7/11/2017 9:25:11 AM	32653
Surr: Nitrobenzene-d5	54.5		26.2-120		%Rec	1	7/11/2017 9:25:11 AM	32653
Surr: 2-Fluorobiphenyl	54.3		36.2-124		%Rec	1	7/11/2017 9:25:11 AM	32653
Surr: 4-Terphenyl-d14	45.9		15-114		%Rec	1	7/11/2017 9:25:11 AM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0048	0.024		mg/Kg	1	7/5/2017 11:20:37 PM	32616

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Collection Date: 6/29/2017 10:45:00 AM
Lab ID: 1706F97-005
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Ethylbenzene	ND	0.0034	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0075	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2,4-Trimethylbenzene	ND	0.0042	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,3,5-Trimethylbenzene	ND	0.0031	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2-Dichloroethane (EDC)	ND	0.0051	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2-Dibromoethane (EDB)	ND	0.0062	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Naphthalene	ND	0.0049	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/5/2017 11:20:37 PM	32616
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Acetone	ND	0.053	0.73		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Bromobenzene	ND	0.0036	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Bromodichloromethane	ND	0.0063	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Bromoform	ND	0.012	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Bromomethane	ND	0.0084	0.15		mg/Kg	1	7/5/2017 11:20:37 PM	32616
2-Butanone	0.17	0.029	0.49	J	mg/Kg	1	7/5/2017 11:20:37 PM	32616
Carbon disulfide	ND	0.0058	0.49		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Carbon tetrachloride	ND	0.0048	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Chlorobenzene	ND	0.0029	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Chloroethane	ND	0.016	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Chloroform	ND	0.0029	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Chloromethane	ND	0.010	0.15		mg/Kg	1	7/5/2017 11:20:37 PM	32616
2-Chlorotoluene	ND	0.0038	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
4-Chlorotoluene	ND	0.0044	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
cis-1,2-DCE	ND	0.0062	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
cis-1,3-Dichloropropene	ND	0.0037	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2-Dibromo-3-chloropropane	ND	0.0067	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Dibromochloromethane	ND	0.0041	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Dibromomethane	ND	0.0024	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2-Dichlorobenzene	ND	0.0025	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,3-Dichlorobenzene	ND	0.0043	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,4-Dichlorobenzene	ND	0.0054	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Dichlorodifluoromethane	ND	0.020	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,1-Dichloroethane	ND	0.019	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,1-Dichloroethene	ND	0.019	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2-Dichloropropane	ND	0.0030	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,3-Dichloropropane	ND	0.012	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
2,2-Dichloropropane	ND	0.0055	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,1-Dichloropropene	ND	0.0055	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
2-Hexanone	ND	0.0095	0.49		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Isopropylbenzene	ND	0.0033	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
4-Isopropyltoluene	ND	0.0037	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
4-Methyl-2-pentanone	ND	0.010	0.49		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Methylene chloride	ND	0.019	0.15		mg/Kg	1	7/5/2017 11:20:37 PM	32616
n-Butylbenzene	ND	0.0043	0.15		mg/Kg	1	7/5/2017 11:20:37 PM	32616
n-Propylbenzene	ND	0.0030	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
sec-Butylbenzene	ND	0.0050	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Styrene	ND	0.0084	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
tert-Butylbenzene	ND	0.0039	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,1,1,2-Tetrachloroethane	ND	0.0055	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Tetrachloroethene (PCE)	ND	0.0039	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
trans-1,2-DCE	ND	0.019	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
trans-1,3-Dichloropropene	ND	0.0058	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2,3-Trichlorobenzene	ND	0.0044	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2,4-Trichlorobenzene	ND	0.0049	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,1,1-Trichloroethane	ND	0.0063	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,1,2-Trichloroethane	ND	0.0052	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Trichloroethene (TCE)	ND	0.0059	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Trichlorofluoromethane	ND	0.0073	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
1,2,3-Trichloropropane	ND	0.024	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Vinyl chloride	ND	0.0041	0.049		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Xylenes, Total	ND	0.015	0.097		mg/Kg	1	7/5/2017 11:20:37 PM	32616
Surr: Dibromofluoromethane	103		70-130		%Rec	1	7/5/2017 11:20:37 PM	32616
Surr: 1,2-Dichloroethane-d4	100		70-130		%Rec	1	7/5/2017 11:20:37 PM	32616
Surr: Toluene-d8	101		70-130		%Rec	1	7/5/2017 11:20:37 PM	32616
Surr: 4-Bromofluorobenzene	90.3		70-130		%Rec	1	7/5/2017 11:20:37 PM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	13	3.1	19	J	mg/Kg	1	7/10/2017	32597

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:50:00 AM
Lab ID: 1706F97-006
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 12:06:00 PM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 12:06:00 PM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 12:06:00 PM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 12:06:00 PM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 12:06:00 PM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 12:06:00 PM	32629
Aroclor 1260	ND	0.0090	0.019		mg/Kg	1	7/11/2017 12:06:00 PM	32629
Surr: Decachlorobiphenyl	71.6	0	26.3-128		%Rec	1	7/11/2017 12:06:00 PM	32629
Surr: Tetrachloro-m-xylene	82.0	0	20.7-151		%Rec	1	7/11/2017 12:06:00 PM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.5	9.2		mg/Kg	1	7/5/2017 5:47:52 PM	32588
Motor Oil Range Organics (MRO)	ND	46	46		mg/Kg	1	7/5/2017 5:47:52 PM	32588
Surr: DNOP	104	0	70-130		%Rec	1	7/5/2017 5:47:52 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.0	4.6		mg/Kg	1	7/6/2017 2:52:17 AM	32616
Surr: BFB	102	0	54-150		%Rec	1	7/6/2017 2:52:17 AM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	4.2	0.10	0.30		mg/Kg	1	7/13/2017 12:59:45 PM	32783
Chloride	170	3.7	30		mg/Kg	20	7/13/2017 1:12:10 PM	32783
Nitrogen, Nitrate (As N)	26	0.096	0.30		mg/Kg	1	7/13/2017 12:59:45 PM	32783
Sulfate	550	7.1	30		mg/Kg	20	7/13/2017 1:12:10 PM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	ND	0.0066	0.033		mg/Kg	1	7/7/2017 12:27:21 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	7/13/2017 12:16:18 PM	32636
Barium	310	0.35	0.49		mg/Kg	5	7/17/2017 11:23:51 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 12:16:18 PM	32636
Chromium	16	0.46	1.5		mg/Kg	5	7/13/2017 12:16:18 PM	32636
Copper	3.7	0.60	1.5		mg/Kg	5	7/17/2017 11:23:51 AM	32636
Iron	19000	74	250		mg/Kg	100	7/13/2017 12:14:37 PM	32636
Lead	4.2	0.85	1.2		mg/Kg	5	7/13/2017 12:16:18 PM	32636
Manganese	370	0.26	0.49		mg/Kg	5	7/17/2017 11:23:51 AM	32636
Selenium	ND	8.9	12		mg/Kg	5	7/13/2017 12:16:18 PM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 12:16:18 PM	32636
Uranium	ND	5.6	25		mg/Kg	5	7/13/2017 12:16:18 PM	32636
Zinc	22	1.7	12		mg/Kg	5	7/17/2017 11:23:51 AM	32636

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Hall Environmental Analysis Laboratory, Inc.

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Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:50:00 AM
Lab ID: 1706F97-006
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Aniline	ND	0.11	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Anthracene	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Azobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Benzo(a)pyrene	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Benzoic acid	ND	0.15	0.49		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Benzyl alcohol	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Bis(2-chloroisopropyl)ether	ND	0.19	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Bis(2-ethylhexyl)phthalate	0.31	0.19	0.49	J	mg/Kg	1	7/11/2017 9:53:11 AM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Carbazole	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
4-Chloro-3-methylphenol	ND	0.18	0.49		mg/Kg	1	7/11/2017 9:53:11 AM	32653
4-Chloroaniline	ND	0.15	0.49		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2-Chloronaphthalene	ND	0.17	0.25		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Chrysene	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Di-n-butyl phthalate	0.35	0.11	0.39	J	mg/Kg	1	7/11/2017 9:53:11 AM	32653
Di-n-octyl phthalate	ND	0.15	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
3,3´-Dichlorobenzidine	ND	0.14	0.25		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Diethyl phthalate	0.18	0.17	0.20	J	mg/Kg	1	7/11/2017 9:53:11 AM	32653
Dimethyl phthalate	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2,4-Dichlorophenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2,4-Dimethylphenol	ND	0.087	0.29		mg/Kg	1	7/11/2017 9:53:11 AM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2,4-Dinitrophenol	ND	0.12	0.49		mg/Kg	1	7/11/2017 9:53:11 AM	32653

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: CENTRAL OCD LF VZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:50:00 AM
Lab ID: 1706F97-006
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.18	0.49		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2,6-Dinitrotoluene	ND	0.17	0.49		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Fluoranthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Fluorene	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Isophorone	ND	0.19	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2-Methylnaphthalene	ND	0.16	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2-Methylphenol	ND	0.14	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
N-Nitrosodi-n-propylamine	ND	0.17	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Naphthalene	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
3-Nitroaniline	ND	0.17	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
4-Nitroaniline	ND	0.17	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Nitrobenzene	ND	0.16	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2-Nitrophenol	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Pentachlorophenol	ND	0.17	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Phenanthrene	ND	0.17	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Phenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Pyrene	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Pyridine	ND	0.13	0.39		mg/Kg	1	7/11/2017 9:53:11 AM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2,4,5-Trichlorophenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
2,4,6-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/11/2017 9:53:11 AM	32653
Surr: 2-Fluorophenol	54.0	0	21.4-101		%Rec	1	7/11/2017 9:53:11 AM	32653
Surr: Phenol-d5	60.8	0	32-110		%Rec	1	7/11/2017 9:53:11 AM	32653
Surr: 2,4,6-Tribromophenol	56.4	0	38.7-115		%Rec	1	7/11/2017 9:53:11 AM	32653
Surr: Nitrobenzene-d5	72.0		26.2-120		%Rec	1	7/11/2017 9:53:11 AM	32653
Surr: 2-Fluorobiphenyl	68.5		36.2-124		%Rec	1	7/11/2017 9:53:11 AM	32653
Surr: 4-Terphenyl-d14	57.2		15-114		%Rec	1	7/11/2017 9:53:11 AM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0045	0.023		mg/Kg	1	7/5/2017 11:49:05 PM	32616

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 6/29/2017 10:50:00 AM
Lab ID: 1706F97-006
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0037	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Ethylbenzene	ND	0.0032	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0070	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2,4-Trimethylbenzene	ND	0.0040	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,3,5-Trimethylbenzene	ND	0.0029	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2-Dichloroethane (EDC)	ND	0.0048	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2-Dibromoethane (EDB)	ND	0.0058	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Naphthalene	ND	0.0047	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1-Methylnaphthalene	ND	0.0033	0.18		mg/Kg	1	7/5/2017 11:49:05 PM	32616
2-Methylnaphthalene	ND	0.0037	0.18		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Acetone	ND	0.050	0.69		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Bromobenzene	ND	0.0034	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Bromodichloromethane	ND	0.0060	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Bromoform	ND	0.011	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Bromomethane	ND	0.0079	0.14		mg/Kg	1	7/5/2017 11:49:05 PM	32616
2-Butanone	0.15	0.027	0.46	J	mg/Kg	1	7/5/2017 11:49:05 PM	32616
Carbon disulfide	ND	0.0055	0.46		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Carbon tetrachloride	ND	0.0045	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Chlorobenzene	ND	0.0027	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Chloroethane	ND	0.015	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Chloroform	ND	0.0028	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Chloromethane	ND	0.0096	0.14		mg/Kg	1	7/5/2017 11:49:05 PM	32616
2-Chlorotoluene	ND	0.0036	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
4-Chlorotoluene	ND	0.0042	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
cis-1,2-DCE	ND	0.0059	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
cis-1,3-Dichloropropene	ND	0.0035	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2-Dibromo-3-chloropropane	ND	0.0063	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Dibromochloromethane	ND	0.0039	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Dibromomethane	ND	0.0022	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2-Dichlorobenzene	ND	0.0023	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,3-Dichlorobenzene	ND	0.0040	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,4-Dichlorobenzene	ND	0.0051	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Dichlorodifluoromethane	ND	0.019	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,1-Dichloroethane	ND	0.018	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,1-Dichloroethene	ND	0.018	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2-Dichloropropane	ND	0.0028	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,3-Dichloropropane	ND	0.011	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
2,2-Dichloropropane	ND	0.0052	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,1-Dichloropropene	ND	0.0052	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616

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Collection Date: 6/29/2017 10:50:00 AM
Lab ID: 1706F97-006
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.011	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
2-Hexanone	ND	0.0090	0.46		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Isopropylbenzene	ND	0.0031	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
4-Isopropyltoluene	ND	0.0035	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
4-Methyl-2-pentanone	ND	0.0098	0.46		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Methylene chloride	ND	0.018	0.14		mg/Kg	1	7/5/2017 11:49:05 PM	32616
n-Butylbenzene	ND	0.0041	0.14		mg/Kg	1	7/5/2017 11:49:05 PM	32616
n-Propylbenzene	ND	0.0029	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
sec-Butylbenzene	ND	0.0047	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Styrene	ND	0.0080	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
tert-Butylbenzene	ND	0.0037	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,1,1,2-Tetrachloroethane	ND	0.0052	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,1,2,2-Tetrachloroethane	ND	0.013	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Tetrachloroethene (PCE)	ND	0.0037	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
trans-1,2-DCE	ND	0.018	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
trans-1,3-Dichloropropene	ND	0.0055	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2,3-Trichlorobenzene	ND	0.0042	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2,4-Trichlorobenzene	ND	0.0047	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,1,1-Trichloroethane	ND	0.0060	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,1,2-Trichloroethane	ND	0.0049	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Trichloroethene (TCE)	ND	0.0056	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Trichlorofluoromethane	ND	0.0069	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
1,2,3-Trichloropropane	ND	0.023	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Vinyl chloride	ND	0.0038	0.046		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Xylenes, Total	ND	0.014	0.092		mg/Kg	1	7/5/2017 11:49:05 PM	32616
Surr: Dibromofluoromethane	107		70-130		%Rec	1	7/5/2017 11:49:05 PM	32616
Surr: 1,2-Dichloroethane-d4	101		70-130		%Rec	1	7/5/2017 11:49:05 PM	32616
Surr: Toluene-d8	96.6		70-130		%Rec	1	7/5/2017 11:49:05 PM	32616
Surr: 4-Bromofluorobenzene	92.1		70-130		%Rec	1	7/5/2017 11:49:05 PM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	12	3.1	19	J	mg/Kg	1	7/10/2017	32597

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:10:00 AM
Lab ID: 1706F97-007
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 1:12:00 PM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:12:00 PM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:12:00 PM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:12:00 PM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:12:00 PM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:12:00 PM	32629
Aroclor 1260	ND	0.0091	0.019		mg/Kg	1	7/11/2017 1:12:00 PM	32629
Surr: Decachlorobiphenyl	136	0	26.3-128	S	%Rec	1	7/11/2017 1:12:00 PM	32629
Surr: Tetrachloro-m-xylene	154	0	20.7-151	S	%Rec	1	7/11/2017 1:12:00 PM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.5	9.6		mg/Kg	1	7/5/2017 6:10:17 PM	32588
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	7/5/2017 6:10:17 PM	32588
Surr: DNOP	107	0	70-130		%Rec	1	7/5/2017 6:10:17 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	5.0		mg/Kg	1	7/6/2017 3:16:17 AM	32616
Surr: BFB	100	0	54-150		%Rec	1	7/6/2017 3:16:17 AM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	3.3	0.10	0.30		mg/Kg	1	7/13/2017 1:24:34 PM	32783
Chloride	190	3.6	30		mg/Kg	20	7/13/2017 1:36:59 PM	32783
Nitrogen, Nitrate (As N)	20	0.095	0.30		mg/Kg	1	7/13/2017 1:24:34 PM	32783
Sulfate	450	7.1	30		mg/Kg	20	7/13/2017 1:36:59 PM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	ND	0.0062	0.031		mg/Kg	1	7/7/2017 12:32:39 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.3	12		mg/Kg	5	7/13/2017 12:19:38 PM	32636
Barium	320	0.35	0.49		mg/Kg	5	7/17/2017 11:25:20 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 12:19:38 PM	32636
Chromium	15	0.46	1.5		mg/Kg	5	7/13/2017 12:19:38 PM	32636
Copper	2.5	0.59	1.5		mg/Kg	5	7/17/2017 11:25:20 AM	32636
Iron	18000	73	240		mg/Kg	100	7/13/2017 12:17:56 PM	32636
Lead	4.1	0.85	1.2		mg/Kg	5	7/13/2017 12:19:38 PM	32636
Manganese	430	0.26	0.49		mg/Kg	5	7/17/2017 11:25:20 AM	32636
Selenium	ND	8.8	12		mg/Kg	5	7/13/2017 12:19:38 PM	32636
Silver	ND	0.30	1.2		mg/Kg	5	7/13/2017 12:19:38 PM	32636
Uranium	ND	5.6	24		mg/Kg	5	7/13/2017 12:19:38 PM	32636
Zinc	20	1.7	12		mg/Kg	5	7/17/2017 11:25:20 AM	32636

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:10:00 AM
Lab ID: 1706F97-007
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Aniline	ND	0.11	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Anthracene	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Azobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Benzo(a)pyrene	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Benzo(b)fluoranthene	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Benzoic acid	ND	0.15	0.49		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Benzyl alcohol	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Bis(2-chloroethyl)ether	ND	0.12	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Bis(2-chloroisopropyl)ether	ND	0.19	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Bis(2-ethylhexyl)phthalate	0.37	0.19	0.49	J	mg/Kg	1	7/11/2017 10:21:22 AM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Carbazole	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
4-Chloro-3-methylphenol	ND	0.18	0.49		mg/Kg	1	7/11/2017 10:21:22 AM	32653
4-Chloroaniline	ND	0.15	0.49		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Chrysene	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Di-n-butyl phthalate	0.27	0.11	0.39	J	mg/Kg	1	7/11/2017 10:21:22 AM	32653
Di-n-octyl phthalate	ND	0.15	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
1,3-Dichlorobenzene	ND	0.13	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
3,3´-Dichlorobenzidine	ND	0.14	0.24		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Diethyl phthalate	0.21	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Dimethyl phthalate	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2,4-Dichlorophenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2,4-Dimethylphenol	ND	0.086	0.29		mg/Kg	1	7/11/2017 10:21:22 AM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2,4-Dinitrophenol	ND	0.12	0.49		mg/Kg	1	7/11/2017 10:21:22 AM	32653

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:10:00 AM
Lab ID: 1706F97-007
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.18	0.49		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2,6-Dinitrotoluene	ND	0.17	0.49		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Fluoranthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Fluorene	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Hexachlorocyclopentadiene	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Isophorone	ND	0.19	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2-Methylnaphthalene	ND	0.16	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2-Methylphenol	ND	0.14	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
N-Nitrosodi-n-propylamine	ND	0.17	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Naphthalene	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
3-Nitroaniline	ND	0.17	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
4-Nitroaniline	ND	0.16	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Nitrobenzene	ND	0.16	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2-Nitrophenol	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
4-Nitrophenol	ND	0.15	0.24		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Pentachlorophenol	ND	0.17	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Phenanthrene	ND	0.17	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Phenol	ND	0.13	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Pyrene	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Pyridine	ND	0.13	0.39		mg/Kg	1	7/11/2017 10:21:22 AM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2,4,5-Trichlorophenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
2,4,6-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/11/2017 10:21:22 AM	32653
Surr: 2-Fluorophenol	66.7	0	21.4-101		%Rec	1	7/11/2017 10:21:22 AM	32653
Surr: Phenol-d5	74.1	0	32-110		%Rec	1	7/11/2017 10:21:22 AM	32653
Surr: 2,4,6-Tribromophenol	69.9	0	38.7-115		%Rec	1	7/11/2017 10:21:22 AM	32653
Surr: Nitrobenzene-d5	82.9		26.2-120		%Rec	1	7/11/2017 10:21:22 AM	32653
Surr: 2-Fluorobiphenyl	80.0		36.2-124		%Rec	1	7/11/2017 10:21:22 AM	32653
Surr: 4-Terphenyl-d14	67.0		15-114		%Rec	1	7/11/2017 10:21:22 AM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0049	0.025		mg/Kg	1	7/6/2017 12:17:27 AM	32616

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:10:00 AM
Lab ID: 1706F97-007
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0040	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Ethylbenzene	ND	0.0035	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0076	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2,4-Trimethylbenzene	ND	0.0043	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,3,5-Trimethylbenzene	ND	0.0031	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2-Dichloroethane (EDC)	ND	0.0052	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2-Dibromoethane (EDB)	ND	0.0063	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Naphthalene	ND	0.0050	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1-Methylnaphthalene	ND	0.0035	0.20		mg/Kg	1	7/6/2017 12:17:27 AM	32616
2-Methylnaphthalene	ND	0.0040	0.20		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Acetone	ND	0.054	0.74		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Bromobenzene	ND	0.0036	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Bromodichloromethane	ND	0.0065	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Bromoform	ND	0.012	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Bromomethane	ND	0.0086	0.15		mg/Kg	1	7/6/2017 12:17:27 AM	32616
2-Butanone	0.18	0.029	0.50	J	mg/Kg	1	7/6/2017 12:17:27 AM	32616
Carbon disulfide	ND	0.0059	0.50		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Carbon tetrachloride	ND	0.0049	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Chlorobenzene	ND	0.0030	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Chloroethane	ND	0.016	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Chloroform	ND	0.0030	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Chloromethane	ND	0.010	0.15		mg/Kg	1	7/6/2017 12:17:27 AM	32616
2-Chlorotoluene	ND	0.0039	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
4-Chlorotoluene	ND	0.0045	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
cis-1,2-DCE	ND	0.0063	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
cis-1,3-Dichloropropene	ND	0.0038	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2-Dibromo-3-chloropropane	ND	0.0068	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Dibromochloromethane	ND	0.0042	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Dibromomethane	ND	0.0024	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2-Dichlorobenzene	ND	0.0025	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,3-Dichlorobenzene	ND	0.0044	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,4-Dichlorobenzene	ND	0.0055	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Dichlorodifluoromethane	ND	0.020	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,1-Dichloroethane	ND	0.020	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,1-Dichloroethene	ND	0.020	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2-Dichloropropane	ND	0.0031	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,3-Dichloropropane	ND	0.012	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
2,2-Dichloropropane	ND	0.0056	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,1-Dichloropropene	ND	0.0056	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:10:00 AM
Lab ID: 1706F97-007
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
2-Hexanone	ND	0.0097	0.50		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Isopropylbenzene	ND	0.0033	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
4-Isopropyltoluene	ND	0.0038	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
4-Methyl-2-pentanone	ND	0.011	0.50		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Methylene chloride	ND	0.020	0.15		mg/Kg	1	7/6/2017 12:17:27 AM	32616
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	7/6/2017 12:17:27 AM	32616
n-Propylbenzene	ND	0.0031	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
sec-Butylbenzene	ND	0.0051	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Styrene	ND	0.0086	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
tert-Butylbenzene	ND	0.0040	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,1,1,2-Tetrachloroethane	ND	0.0056	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Tetrachloroethene (PCE)	ND	0.0040	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
trans-1,2-DCE	ND	0.020	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
trans-1,3-Dichloropropene	ND	0.0059	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2,3-Trichlorobenzene	ND	0.0045	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2,4-Trichlorobenzene	ND	0.0050	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,1,1-Trichloroethane	ND	0.0064	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,1,2-Trichloroethane	ND	0.0053	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Trichloroethene (TCE)	ND	0.0060	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Trichlorofluoromethane	ND	0.0074	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
1,2,3-Trichloropropane	ND	0.025	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Vinyl chloride	ND	0.0041	0.050		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Xylenes, Total	ND	0.015	0.099		mg/Kg	1	7/6/2017 12:17:27 AM	32616
Surr: Dibromofluoromethane	103		70-130		%Rec	1	7/6/2017 12:17:27 AM	32616
Surr: 1,2-Dichloroethane-d4	99.2		70-130		%Rec	1	7/6/2017 12:17:27 AM	32616
Surr: Toluene-d8	100		70-130		%Rec	1	7/6/2017 12:17:27 AM	32616
Surr: 4-Bromofluorobenzene	87.2		70-130		%Rec	1	7/6/2017 12:17:27 AM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	13	3.2	20	J	mg/Kg	1	7/10/2017	32597

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:20:00 AM
Lab ID: 1706F97-008
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 1:45:00 PM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:45:00 PM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:45:00 PM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:45:00 PM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:45:00 PM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 1:45:00 PM	32629
Aroclor 1260	ND	0.0090	0.019		mg/Kg	1	7/11/2017 1:45:00 PM	32629
Surr: Decachlorobiphenyl	139	0	26.3-128	S	%Rec	1	7/11/2017 1:45:00 PM	32629
Surr: Tetrachloro-m-xylene	157	0	20.7-151	S	%Rec	1	7/11/2017 1:45:00 PM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.5	9.4		mg/Kg	1	7/5/2017 6:32:51 PM	32588
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	7/5/2017 6:32:51 PM	32588
Surr: DNOP	105	0	70-130		%Rec	1	7/5/2017 6:32:51 PM	32588
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.7		mg/Kg	1	7/6/2017 3:40:21 AM	32616
Surr: BFB	101	0	54-150		%Rec	1	7/6/2017 3:40:21 AM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.9	0.10	0.30		mg/Kg	1	7/13/2017 2:14:13 PM	32783
Chloride	200	3.6	30		mg/Kg	20	7/13/2017 2:26:37 PM	32783
Nitrogen, Nitrate (As N)	25	0.095	0.30		mg/Kg	1	7/13/2017 2:14:13 PM	32783
Sulfate	400	7.1	30		mg/Kg	20	7/13/2017 2:26:37 PM	32783
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	ND	0.0065	0.032		mg/Kg	1	7/7/2017 12:34:23 PM	32673
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	7/13/2017 12:22:58 PM	32636
Barium	250	0.35	0.49		mg/Kg	5	7/17/2017 11:26:49 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 12:22:58 PM	32636
Chromium	18	0.47	1.5		mg/Kg	5	7/13/2017 12:22:58 PM	32636
Copper	4.2	0.60	1.5		mg/Kg	5	7/17/2017 11:26:49 AM	32636
Iron	21000	75	250		mg/Kg	100	7/13/2017 12:21:17 PM	32636
Lead	3.4	0.86	1.2		mg/Kg	5	7/13/2017 12:22:58 PM	32636
Manganese	420	0.26	0.49		mg/Kg	5	7/17/2017 11:26:49 AM	32636
Selenium	ND	9.0	12		mg/Kg	5	7/13/2017 12:22:58 PM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 12:22:58 PM	32636
Uranium	ND	5.7	25		mg/Kg	5	7/13/2017 12:22:58 PM	32636
Zinc	23	1.7	12		mg/Kg	5	7/17/2017 11:26:49 AM	32636

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:20:00 AM
Lab ID: 1706F97-008 **Matrix:** SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Acenaphthylene	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Aniline	ND	0.11	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Anthracene	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Azobenzene	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Benz(a)anthracene	ND	0.17	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Benzo(a)pyrene	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Benzo(b)fluoranthene	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Benzo(g,h,i)perylene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Benzo(k)fluoranthene	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Benzoic acid	ND	0.15	0.49		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Benzyl alcohol	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Bis(2-chloroethoxy)methane	ND	0.17	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Bis(2-chloroethyl)ether	ND	0.12	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Bis(2-chloroisopropyl)ether	ND	0.19	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Bis(2-ethylhexyl)phthalate	0.20	0.19	0.49	J	mg/Kg	1	7/11/2017 10:49:18 AM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Butyl benzyl phthalate	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Carbazole	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
4-Chloro-3-methylphenol	ND	0.18	0.49		mg/Kg	1	7/11/2017 10:49:18 AM	32653
4-Chloroaniline	ND	0.15	0.49		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2-Chloronaphthalene	ND	0.17	0.24		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2-Chlorophenol	ND	0.14	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Chrysene	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Di-n-butyl phthalate	0.20	0.11	0.39	J	mg/Kg	1	7/11/2017 10:49:18 AM	32653
Di-n-octyl phthalate	ND	0.14	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Dibenz(a,h)anthracene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Dibenzofuran	ND	0.17	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
1,2-Dichlorobenzene	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
1,3-Dichlorobenzene	ND	0.13	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
1,4-Dichlorobenzene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
3,3´-Dichlorobenzidine	ND	0.14	0.24		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Diethyl phthalate	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Dimethyl phthalate	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2,4-Dichlorophenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2,4-Dimethylphenol	ND	0.086	0.29		mg/Kg	1	7/11/2017 10:49:18 AM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2,4-Dinitrophenol	ND	0.11	0.49		mg/Kg	1	7/11/2017 10:49:18 AM	32653

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:20:00 AM
Lab ID: 1706F97-008
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.18	0.49		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2,6-Dinitrotoluene	ND	0.17	0.49		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Fluoranthene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Fluorene	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Hexachlorobenzene	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Hexachlorobutadiene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Hexachlorocyclopentadiene	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Hexachloroethane	ND	0.14	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Isophorone	ND	0.18	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
1-Methylnaphthalene	ND	0.19	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2-Methylnaphthalene	ND	0.16	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2-Methylphenol	ND	0.14	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
3+4-Methylphenol	ND	0.13	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
N-Nitrosodi-n-propylamine	ND	0.17	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
N-Nitrosodiphenylamine	ND	0.19	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Naphthalene	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2-Nitroaniline	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
3-Nitroaniline	ND	0.17	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
4-Nitroaniline	ND	0.16	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Nitrobenzene	ND	0.16	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2-Nitrophenol	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
4-Nitrophenol	ND	0.15	0.24		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Pentachlorophenol	ND	0.17	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Phenanthrene	ND	0.17	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Phenol	ND	0.13	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Pyrene	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Pyridine	ND	0.13	0.39		mg/Kg	1	7/11/2017 10:49:18 AM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2,4,5-Trichlorophenol	ND	0.14	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
2,4,6-Trichlorophenol	ND	0.15	0.19		mg/Kg	1	7/11/2017 10:49:18 AM	32653
Surr: 2-Fluorophenol	38.2	0	21.4-101		%Rec	1	7/11/2017 10:49:18 AM	32653
Surr: Phenol-d5	44.4	0	32-110		%Rec	1	7/11/2017 10:49:18 AM	32653
Surr: 2,4,6-Tribromophenol	47.2	0	38.7-115		%Rec	1	7/11/2017 10:49:18 AM	32653
Surr: Nitrobenzene-d5	50.7		26.2-120		%Rec	1	7/11/2017 10:49:18 AM	32653
Surr: 2-Fluorobiphenyl	49.5		36.2-124		%Rec	1	7/11/2017 10:49:18 AM	32653
Surr: 4-Terphenyl-d14	45.6		15-114		%Rec	1	7/11/2017 10:49:18 AM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0046	0.024		mg/Kg	1	7/6/2017 12:45:47 AM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:20:00 AM
Lab ID: 1706F97-008
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0038	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Ethylbenzene	ND	0.0033	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0072	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2,4-Trimethylbenzene	ND	0.0041	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,3,5-Trimethylbenzene	ND	0.0030	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2-Dichloroethane (EDC)	ND	0.0049	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2-Dibromoethane (EDB)	ND	0.0060	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Naphthalene	ND	0.0048	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1-Methylnaphthalene	ND	0.0033	0.19		mg/Kg	1	7/6/2017 12:45:47 AM	32616
2-Methylnaphthalene	ND	0.0038	0.19		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Acetone	ND	0.051	0.71		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Bromobenzene	ND	0.0035	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Bromodichloromethane	ND	0.0061	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Bromoform	ND	0.012	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Bromomethane	ND	0.0081	0.14		mg/Kg	1	7/6/2017 12:45:47 AM	32616
2-Butanone	0.15	0.028	0.47	J	mg/Kg	1	7/6/2017 12:45:47 AM	32616
Carbon disulfide	ND	0.0056	0.47		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Carbon tetrachloride	ND	0.0047	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Chlorobenzene	ND	0.0028	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Chloroethane	ND	0.015	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Chloroform	ND	0.0028	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Chloromethane	ND	0.0099	0.14		mg/Kg	1	7/6/2017 12:45:47 AM	32616
2-Chlorotoluene	ND	0.0037	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
4-Chlorotoluene	ND	0.0043	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
cis-1,2-DCE	ND	0.0060	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
cis-1,3-Dichloropropene	ND	0.0036	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2-Dibromo-3-chloropropane	ND	0.0065	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Dibromochloromethane	ND	0.0040	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Dibromomethane	ND	0.0023	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2-Dichlorobenzene	ND	0.0024	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,3-Dichlorobenzene	ND	0.0041	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,4-Dichlorobenzene	ND	0.0052	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Dichlorodifluoromethane	ND	0.019	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,1-Dichloroethane	ND	0.019	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,1-Dichloroethene	ND	0.019	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2-Dichloropropane	ND	0.0029	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,3-Dichloropropane	ND	0.012	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
2,2-Dichloropropane	ND	0.0054	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,1-Dichloropropene	ND	0.0053	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:20:00 AM
Lab ID: 1706F97-008
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
2-Hexanone	ND	0.0092	0.47		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Isopropylbenzene	ND	0.0032	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
4-Isopropyltoluene	ND	0.0036	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
4-Methyl-2-pentanone	ND	0.010	0.47		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/6/2017 12:45:47 AM	32616
n-Butylbenzene	ND	0.0042	0.14		mg/Kg	1	7/6/2017 12:45:47 AM	32616
n-Propylbenzene	ND	0.0029	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
sec-Butylbenzene	ND	0.0049	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Styrene	ND	0.0082	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
tert-Butylbenzene	ND	0.0038	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,1,1,2-Tetrachloroethane	ND	0.0053	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Tetrachloroethene (PCE)	ND	0.0038	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
trans-1,2-DCE	ND	0.019	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
trans-1,3-Dichloropropene	ND	0.0056	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2,3-Trichlorobenzene	ND	0.0043	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2,4-Trichlorobenzene	ND	0.0048	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,1,1-Trichloroethane	ND	0.0061	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,1,2-Trichloroethane	ND	0.0050	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Trichloroethene (TCE)	ND	0.0057	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Trichlorofluoromethane	ND	0.0071	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
1,2,3-Trichloropropane	ND	0.024	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Vinyl chloride	ND	0.0039	0.047		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Xylenes, Total	ND	0.015	0.094		mg/Kg	1	7/6/2017 12:45:47 AM	32616
Surr: Dibromofluoromethane	103		70-130		%Rec	1	7/6/2017 12:45:47 AM	32616
Surr: 1,2-Dichloroethane-d4	101		70-130		%Rec	1	7/6/2017 12:45:47 AM	32616
Surr: Toluene-d8	99.2		70-130		%Rec	1	7/6/2017 12:45:47 AM	32616
Surr: 4-Bromofluorobenzene	89.5		70-130		%Rec	1	7/6/2017 12:45:47 AM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	17	3.3	20	J	mg/Kg	1	7/10/2017	32597

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1706F97-009
Matrix: AQUEOUS
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	7/5/2017 2:33:00 PM	SL4401
Toluene	ND	0.064	1.0		µg/L	1	7/5/2017 2:33:00 PM	SL4401
Ethylbenzene	ND	0.093	1.0		µg/L	1	7/5/2017 2:33:00 PM	SL4401
Xylenes, Total	ND	0.32	1.5		µg/L	1	7/5/2017 2:33:00 PM	SL4401
Surr: 1,2-Dichloroethane-d4	113	0	70-130		%Rec	1	7/5/2017 2:33:00 PM	SL4401
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	7/5/2017 2:33:00 PM	SL4401
Surr: Dibromofluoromethane	116	0	70-130		%Rec	1	7/5/2017 2:33:00 PM	SL4401
Surr: Toluene-d8	103	0	70-130		%Rec	1	7/5/2017 2:33:00 PM	SL4401

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:34	WG996634

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:38	WG996634

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:39	WG996634

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:40	WG996634

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:41	WG996634

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:42	WG996634

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:43	WG996634

Wet Chemistry by Method 9012B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Cyanide	ND		0.250	1	07/07/2017 17:44	WG996634

Method Blank (MB)

(MB) R3231754-1 07/07/17 17:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Cyanide	U		0.039	0.250

L920659-01 Original Sample (OS) • Duplicate (DUP)

(OS) L920659-01 07/07/17 17:34 • (DUP) R3231754-4 07/07/17 17:37

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	0.000	1	0		20

L920668-01 Original Sample (OS) • Duplicate (DUP)

(OS) L920668-01 07/07/17 17:45 • (DUP) R3231754-5 07/07/17 17:46

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3231754-2 07/07/17 17:26 • (LCSD) R3231754-3 07/07/17 17:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Cyanide	2.50	2.63	2.43	105	97	50-150			8	20

L920668-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L920668-02 07/07/17 17:49 • (MS) R3231754-6 07/07/17 17:50 • (MSD) R3231754-7 07/07/17 17:51

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	3.33	ND	1.50	1.49	45	45	1	75-125	J6	J6	1	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1706F97
Pace Project No.: 30223577

Sample: 1706F97-001D Central OCD LF TZ **Lab ID: 30223577001** Collected: 06/29/17 09:10 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**10.362 ± 3.098 (2.023) C:NA T:NA**	pCi/g	08/01/17 09:24	13966-00-2	
Radium-226	EPA 901.1	**1.750 ± 0.355 (0.167) C:NA T:NA**	pCi/g	08/01/17 09:24	13982-63-3	Ra
Radium-228	EPA 901.1	**2.205 ± 0.537 (0.365) C:NA T:NA**	pCi/g	08/01/17 09:24	15262-20-1	

Sample: 1706F97-002D Central OCD LF VZ **Lab ID: 30223577002** Collected: 06/29/17 09:30 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**11.421 ± 2.363 (0.880) C:NA T:NA**	pCi/g	08/01/17 09:41	13966-00-2	
Radium-226	EPA 901.1	**1.485 ± 0.350 (0.196) C:NA T:NA**	pCi/g	08/01/17 09:41	13982-63-3	Ra
Radium-228	EPA 901.1	**2.506 ± 0.509 (0.241) C:NA T:NA**	pCi/g	08/01/17 09:41	15262-20-1	

Sample: 1706F97-003D Central OCD LF TZ **Lab ID: 30223577003** Collected: 06/29/17 09:50 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**14.001 ± 3.266 (1.325) C:NA T:NA**	pCi/g	08/01/17 09:42	13966-00-2	
Radium-226	EPA 901.1	**1.510 ± 0.372 (0.295) C:NA T:NA**	pCi/g	08/01/17 09:42	13982-63-3	Ra
Radium-228	EPA 901.1	**2.046 ± 0.515 (0.362) C:NA T:NA**	pCi/g	08/01/17 09:42	15262-20-1	

Sample: 1706F97-004D Central OCD LF VZ **Lab ID: 30223577004** Collected: 06/29/17 10:15 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**13.439 ± 2.570 (0.792) C:NA T:NA**	pCi/g	08/01/17 09:57	13966-00-2	
Radium-226	EPA 901.1	**1.347 ± 0.306 (0.202) C:NA T:NA**	pCi/g	08/01/17 09:57	13982-63-3	Ra
Radium-228	EPA 901.1	**1.732 ± 0.394 (0.294) C:NA T:NA**	pCi/g	08/01/17 09:57	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1706F97
Pace Project No.: 30223577

Sample: 1706F97-005D Central OCD LF TZ **Lab ID: 30223577005** Collected: 06/29/17 10:45 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**13.267 ± 3.125 (1.290) C:NA T:NA**	pCi/g	08/01/17 09:58	13966-00-2	
Radium-226	EPA 901.1	**1.297 ± 0.304 (0.290) C:NA T:NA**	pCi/g	08/01/17 09:58	13982-63-3	Ra
Radium-228	EPA 901.1	**1.511 ± 0.525 (0.352) C:NA T:NA**	pCi/g	08/01/17 09:58	15262-20-1	

Sample: 1706F97-006D Central OCD LF VZ **Lab ID: 30223577006** Collected: 06/29/17 10:50 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**13.365 ± 2.662 (0.909) C:NA T:NA**	pCi/g	08/01/17 10:17	13966-00-2	
Radium-226	EPA 901.1	**1.465 ± 0.301 (0.283) C:NA T:NA**	pCi/g	08/01/17 10:17	13982-63-3	Ra
Radium-228	EPA 901.1	**2.138 ± 0.497 (0.249) C:NA T:NA**	pCi/g	08/01/17 10:17	15262-20-1	

Sample: 1706F97-007D Central OCD LF TZ **Lab ID: 30223577007** Collected: 06/29/17 11:10 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**12.719 ± 3.006 (1.248) C:NA T:NA**	pCi/g	08/01/17 10:17	13966-00-2	
Radium-226	EPA 901.1	**1.636 ± 0.342 (0.239) C:NA T:NA**	pCi/g	08/01/17 10:17	13982-63-3	Ra
Radium-228	EPA 901.1	**2.197 ± 0.509 (0.340) C:NA T:NA**	pCi/g	08/01/17 10:17	15262-20-1	

Sample: 1706F97-008D Central OCD LF VZ **Lab ID: 30223577008** Collected: 06/29/17 11:20 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**10.745 ± 2.493 (1.360) C:NA T:NA**	pCi/g	08/01/17 10:33	13966-00-2	
Radium-226	EPA 901.1	**1.222 ± 0.279 (0.203) C:NA T:NA**	pCi/g	08/01/17 10:33	13982-63-3	Ra
Radium-228	EPA 901.1	**1.607 ± 0.411 (0.294) C:NA T:NA**	pCi/g	08/01/17 10:33	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1706F97
Pace Project No.: 30223577

QC Batch: 265119 Analysis Method: EPA 901.1
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec Ingrowth
Associated Lab Samples: 30223577001, 30223577002, 30223577003, 30223577004, 30223577005, 30223577006, 30223577007, 30223577008

METHOD BLANK: 1306431 Matrix: Solid
Associated Lab Samples: 30223577001, 30223577002, 30223577003, 30223577004, 30223577005, 30223577006, 30223577007, 30223577008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Potassium-40	0.016 ± 0.332 (0.664) C:NA T:NA	pCi/g	08/01/17 09:06	
Radium-226	0.037 ± 0.049 (0.180) C:NA T:NA	pCi/g	08/01/17 09:06	Ra
Radium-228	0.016 ± 0.263 (0.312) C:NA T:NA	pCi/g	08/01/17 09:06	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 1706F97
Pace Project No.: 30223577

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Ra The reported Ra-226 results were determined by hermetically sealing the dried, processed sample in an appropriate-sized can. Each sample was stored for a minimum of 21 days to ensure that equilibrium between Ra-226 and daughters Bi-214 and Pb-214 was achieved. Reported Ra-226 results were inferred from gamma peaks attributable to Bi-214 and Pb-214.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32783**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **32783**	RunNo: **44189**
Prep Date: **7/13/2017**	Analysis Date: **7/13/2017**	SeqNo: **1396388** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-32783**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **32783**	RunNo: **44189**
Prep Date: **7/13/2017**	Analysis Date: **7/13/2017**	SeqNo: **1396389** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.6	0.30	1.500	0	104	90	110			
Chloride	15	1.5	15.00	0	97.4	90	110			
Nitrogen, Nitrate (As N)	7.8	0.30	7.500	0	104	90	110			
Sulfate	30	1.5	30.00	0	101	90	110			

Sample ID **1706F97-001AMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **CENTRAL OCD LF T**	Batch ID: **32783**	RunNo: **44189**
Prep Date: **7/13/2017**	Analysis Date: **7/13/2017**	SeqNo: **1396393** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.9	0.30	1.500	2.478	26.8	15	119			

Sample ID **1706F97-001AMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **CENTRAL OCD LF T**	Batch ID: **32783**	RunNo: **44189**
Prep Date: **7/13/2017**	Analysis Date: **7/13/2017**	SeqNo: **1396394** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.5	0.30	1.500	2.478	3.63	15	119	12.9	20	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32597**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **PBS**	Batch ID: **32597**	RunNo: **44086**							
Prep Date: **7/1/2017**	Analysis Date: **7/10/2017**	SeqNo: **1391064**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	8.5	20								J

Sample ID **LCS-32597**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS**	Batch ID: **32597**	RunNo: **44086**							
Prep Date: **7/1/2017**	Analysis Date: **7/10/2017**	SeqNo: **1391065**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	91	20	100.0	0	91.3	61.7	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32588**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **32588**	RunNo: **43983**
Prep Date: **6/30/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387024** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.9		10.00		99.3	70	130			

Sample ID **LCS-32588**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **32588**	RunNo: **43983**
Prep Date: **6/30/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387357** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.5	73.2	114			
Surr: DNOP	4.7		5.000		93.8	70	130			

Sample ID **1706F97-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CENTRAL OCD LF T**	Batch ID: **32588**	RunNo: **43982**
Prep Date: **6/30/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387555** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	49.95	0	94.0	55.8	122			
Surr: DNOP	5.0		4.995		100	70	130			

Sample ID **1706F97-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CENTRAL OCD LF T**	Batch ID: **32588**	RunNo: **43982**
Prep Date: **6/30/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387556** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.9	49.46	0	101	55.8	122	6.12	20	
Surr: DNOP	5.0		4.946		102	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32616**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **32616**	RunNo: **43994**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387418** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.8	54	150			

Sample ID **LCS-32616**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **32616**	RunNo: **43994**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387419** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.0	76.4	125			
Surr: BFB	1100		1000		108	54	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32629**	SampType: **MBLK**	TestCode: **EPA Method 8082: PCB's**
Client ID: **PBS**	Batch ID: **32629**	RunNo: **44110**
Prep Date: **7/5/2017**	Analysis Date: **7/11/2017**	SeqNo: **1392041** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.068		0.06250		108	26.3	128			
Surr: Tetrachloro-m-xylene	0.083		0.06250		133	20.7	151			

Sample ID **LCS-32629**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **32629**	RunNo: **44110**
Prep Date: **7/5/2017**	Analysis Date: **7/11/2017**	SeqNo: **1392042** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.18	0.020	0.1250	0	140	15	195			
Aroclor 1260	0.14	0.020	0.1250	0	110	24	140			
Surr: Decachlorobiphenyl	0.056		0.06250		88.8	26.3	128			
Surr: Tetrachloro-m-xylene	0.066		0.06250		106	20.7	151			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32616**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	0.012	0.20								J
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	0.011	0.15								J
2-Butanone	0.19	0.50								J
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32616**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	0.042	0.50								J
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.6	70	130			

Sample ID **lcs-32616**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387600** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	0.95	0.050	1.000	0	94.6	70	130			
Chlorobenzene	1.0	0.050	1.000	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-32616**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387600** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.4	0.050	1.000	0	139	68.8	161			
Trichloroethene (TCE)	1.0	0.050	1.000	0	101	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.6	70	130			

Sample ID **1706f97-002ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387603** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9881	0	110	61.9	146			
Toluene	1.0	0.049	0.9881	0	101	70	130			
Chlorobenzene	1.0	0.049	0.9881	0	105	70	130			
1,1-Dichloroethene	1.3	0.049	0.9881	0	127	37.1	170			
Trichloroethene (TCE)	1.1	0.049	0.9881	0	106	49.8	150			
Surr: Dibromofluoromethane	0.52		0.4941		105	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.4941		102	70	130			
Surr: Toluene-d8	0.50		0.4941		101	70	130			
Surr: 4-Bromofluorobenzene	0.45		0.4941		90.1	70	130			

Sample ID **1706f97-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387604** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.023	0.9302	0	109	61.9	146	7.21	20	
Toluene	0.94	0.047	0.9302	0	101	70	130	6.57	20	
Chlorobenzene	0.97	0.047	0.9302	0	104	70	130	7.11	20	
1,1-Dichloroethene	1.2	0.047	0.9302	0	124	37.1	170	8.26	20	
Trichloroethene (TCE)	0.93	0.047	0.9302	0	100	49.8	150	12.0	20	
Surr: Dibromofluoromethane	0.49		0.4651		106	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.48		0.4651		103	70	130	0	0	
Surr: Toluene-d8	0.47		0.4651		102	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.42		0.4651		90.0	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL44015**	RunNo: **44015**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387912** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL44015**	RunNo: **44015**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387913** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32653**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390660** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	0.20	0.50								J
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	0.13	0.40								J
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3´-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.40								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32653**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390660** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.40								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	1.7		3.330		50.9	21.4	101			
Surr: Phenol-d5	1.9		3.330		55.9	32	110			
Surr: 2,4,6-Tribromophenol	1.7		3.330		51.1	38.7	115			
Surr: Nitrobenzene-d5	1.0		1.670		61.0	26.2	120			
Surr: 2-Fluorobiphenyl	1.0		1.670		61.8	36.2	124			
Surr: 4-Terphenyl-d14	0.84		1.670		50.2	15	114			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-32653**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390661** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.1	0.20	1.670	0	67.2	39.4	110			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	66.9	41.6	108			
2-Chlorophenol	2.0	0.20	3.330	0	58.7	35	107			
1,4-Dichlorobenzene	1.0	0.20	1.670	0	62.2	31	105			
2,4-Dinitrotoluene	0.93	0.50	1.670	0	55.5	35.6	101			
N-Nitrosodi-n-propylamine	0.88	0.20	1.670	0	52.4	26	100			
4-Nitrophenol	2.0	0.25	3.330	0	61.1	34.1	106			
Pentachlorophenol	1.8	0.40	3.330	0	55.1	35.3	95.4			
Phenol	2.1	0.20	3.330	0	62.6	39.3	96.5			
Pyrene	1.3	0.20	1.670	0	80.5	47.8	95.7			
1,2,4-Trichlorobenzene	1.2	0.20	1.670	0	73.0	36.6	117			
Surr: 2-Fluorophenol	1.9		3.330		55.6	21.4	101			
Surr: Phenol-d5	2.2		3.330		65.8	32	110			
Surr: 2,4,6-Tribromophenol	2.2		3.330		66.8	38.7	115			
Surr: Nitrobenzene-d5	1.2		1.670		74.0	26.2	120			
Surr: 2-Fluorobiphenyl	1.3		1.670		76.1	36.2	124			
Surr: 4-Terphenyl-d14	1.0		1.670		59.7	15	114			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**MB-32673**	SampType:	**MBLK**	TestCode:	**EPA Method 7471: Mercury**					
Client ID:	**PBS**	Batch ID:	**32673**	RunNo:	**44057**					
Prep Date:	**7/7/2017**	Analysis Date:	**7/7/2017**	SeqNo:	**1389728**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	**LCS-32673**	SampType:	**LCS**	TestCode:	**EPA Method 7471: Mercury**					
Client ID:	**LCSS**	Batch ID:	**32673**	RunNo:	**44057**					
Prep Date:	**7/7/2017**	Analysis Date:	**7/7/2017**	SeqNo:	**1389729**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	98.2	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32636**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **32636**	RunNo: **44191**
Prep Date: **7/5/2017**	Analysis Date: **7/13/2017**	SeqNo: **1394937** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Iron	1.1	2.5								J
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								

Sample ID **LCS-32636**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **32636**	RunNo: **44191**
Prep Date: **7/5/2017**	Analysis Date: **7/13/2017**	SeqNo: **1394938** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	99.7	80	120			
Cadmium	25	0.10	25.00	0	99.5	80	120			
Chromium	24	0.30	25.00	0	97.9	80	120			
Iron	27	2.5	25.00	0	107	80	120			
Lead	24	0.25	25.00	0	97.6	80	120			
Selenium	23	2.5	25.00	0	92.6	80	120			
Silver	5.2	0.25	5.000	0	103	80	120			
Uranium	22	5.0	25.00	0	87.6	80	120			

Sample ID **MB-32636**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **32636**	RunNo: **44254**
Prep Date: **7/5/2017**	Analysis Date: **7/17/2017**	SeqNo: **1397801** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Copper	ND	0.30								
Manganese	0.087	0.10								J
Zinc	ND	2.5								

Sample ID **LCS-32636**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **32636**	RunNo: **44254**
Prep Date: **7/5/2017**	Analysis Date: **7/17/2017**	SeqNo: **1397802** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	25	0.10	25.00	0	98.7	80	120			
Copper	25	0.30	25.00	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706F97**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**LCS-32636**	SampType:	**LCS**	TestCode:	**EPA Method 6010B: Soil Metals**					
Client ID:	**LCSS**	Batch ID:	**32636**	RunNo:	**44254**					
Prep Date:	**7/5/2017**	Analysis Date:	**7/17/2017**	SeqNo:	**1397802**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	24	0.10	25.00	0	97.3	80	120			
Zinc	23	2.5	25.00	0	93.9	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1706F97 RcptNo: 1

Received By: Anne Thorne 6/30/2017 7:06:00 AM Anne Thorne
Completed By: Anne Thorne 6/30/2017 9:15:34 AM Anne Thorne
Reviewed By: ENM 7/3/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☒ KT 06/30/17	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
2	1.0	Good	Yes			

Chain-of-Custody Record

Client: WESTERN REFINING SW, INC.

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING RD

GALLUP NM 87301

Phone #: 505-722-0231

email or Fax#: CHERYL.JOHNSON@WNR.COM

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☒ EDD (Type) EXCEL

Turn-Around Time:

☒ Standard ☐ Rush _____

Project Name: CENTRAL OCD LANDFARM

Project #: SEMIANNUAL SAMPLING

Project Manager: CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0 @ 3dC

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1606E97	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	VADOSE ZONE LIST (SEE ATTACHED)	NMAC LIST (SEE ATTACHED)	BTEX		Air Bubbles (Y or N)
6/29/17	0910	SOIL	CENTRAL OCD LF TZ01	8 oz-3 4 oz-1	NONE	001			✓									✓	✓			
	0930		CENTRAL OCD LF VZ01			002												✓	✓			
	0950		CENTRAL OCD LF TZ02			003			✓									✓	✓			
	1015		CENTRAL OCD LF VZ02			004												✓	✓			
	1045		CENTRAL OCD LF TZ03			005			✓									✓	✓			
	1050		CENTRAL OCD LF VZ03			006												✓	✓			
	1110		CENTRAL OCD LF TZ04			007			✓									✓	✓			
	1120		CENTRAL OCD LF VZ04			008			✓									✓	✓			
↓	—	WATER	TRIP BLANK	40 mL VOA-3	HCL	009														✓		

Date	Time	Relinquished by:	Received by:	Date	Time
6/29/17	1430			6/29/17	1430
6/30/17	0700			06/30/17	0706

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW6010A	mg/kg	2.5000
Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg	0.1000
Chromium	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg	0.6000
Iron	SW6010A	mg/kg	500.0000
Lead	SW6010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0.2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 05, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling OrderNo.: 1706G44

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/30/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017
Lab ID: 1706G44-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 5:37:00 PM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 5:37:00 PM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 5:37:00 PM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 5:37:00 PM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 5:37:00 PM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 5:37:00 PM	32629
Aroclor 1260	ND	0.0089	0.019		mg/Kg	1	7/11/2017 5:37:00 PM	32629
Surr: Decachlorobiphenyl	132	0	26.3-128	S	%Rec	1	7/11/2017 5:37:00 PM	32629
Surr: Tetrachloro-m-xylene	129	0	20.7-151		%Rec	1	7/11/2017 5:37:00 PM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.0	1.6	9.6	J	mg/Kg	1	7/5/2017 11:07:33 AM	32609
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	7/5/2017 11:07:33 AM	32609
Surr: DNOP	114	0	70-130		%Rec	1	7/5/2017 11:07:33 AM	32609
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.8		mg/Kg	1	7/6/2017 4:04:23 AM	32616
Surr: BFB	102	0	54-150		%Rec	1	7/6/2017 4:04:23 AM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.6	0.10	0.30		mg/Kg	1	7/14/2017 11:19:02 AM	32801
Chloride	2700	18	150		mg/Kg	100	7/18/2017 4:30:49 PM	32801
Nitrogen, Nitrate (As N)	6.0	0.096	0.30		mg/Kg	1	7/14/2017 11:19:02 AM	32801
Sulfate	530	7.1	30		mg/Kg	20	7/14/2017 11:31:26 AM	32801
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	0.0073	0.0063	0.031	J	mg/Kg	1	7/18/2017 11:27:18 AM	32826
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	7/13/2017 12:49:56 PM	32636
Barium	310	0.35	0.50		mg/Kg	5	7/17/2017 11:47:48 AM	32636
Cadmium	ND	0.31	0.50		mg/Kg	5	7/13/2017 12:49:56 PM	32636
Chromium	18	0.47	1.5		mg/Kg	5	7/13/2017 12:49:56 PM	32636
Copper	4.1	0.60	1.5		mg/Kg	5	7/17/2017 11:47:48 AM	32636
Iron	20000	75	250		mg/Kg	100	7/19/2017 9:28:29 AM	32636
Lead	2.7	0.86	1.2		mg/Kg	5	7/13/2017 12:49:56 PM	32636
Manganese	400	0.27	0.50		mg/Kg	5	7/17/2017 11:47:48 AM	32636
Selenium	ND	9.0	12		mg/Kg	5	7/13/2017 12:49:56 PM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 12:49:56 PM	32636
Uranium	ND	5.7	25		mg/Kg	5	7/13/2017 12:49:56 PM	32636
Zinc	22	1.7	12		mg/Kg	5	7/17/2017 11:47:48 AM	32636

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017
Lab ID: 1706G44-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.32	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Acenaphthylene	ND	0.35	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Aniline	ND	0.22	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Anthracene	ND	0.35	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Azobenzene	ND	0.36	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Benz(a)anthracene	ND	0.33	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Benzo(a)pyrene	ND	0.30	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Benzo(b)fluoranthene	ND	0.37	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Benzo(g,h,i)perylene	ND	0.31	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Benzo(k)fluoranthene	ND	0.29	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Benzoic acid	ND	0.29	0.97	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Benzyl alcohol	ND	0.32	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Bis(2-chloroethoxy)methane	ND	0.35	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Bis(2-chloroethyl)ether	ND	0.25	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Bis(2-chloroisopropyl)ether	ND	0.38	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Bis(2-ethylhexyl)phthalate	0.37	0.37	0.97	JD	mg/Kg	1	7/11/2017 3:30:33 PM	32653
4-Bromophenyl phenyl ether	ND	0.31	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Butyl benzyl phthalate	ND	0.32	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Carbazole	ND	0.31	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
4-Chloro-3-methylphenol	ND	0.35	0.97	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
4-Chloroaniline	ND	0.30	0.97	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2-Chloronaphthalene	ND	0.35	0.48	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2-Chlorophenol	ND	0.28	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
4-Chlorophenyl phenyl ether	ND	0.30	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Chrysene	ND	0.29	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Di-n-butyl phthalate	0.46	0.22	0.78	JD	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Di-n-octyl phthalate	ND	0.29	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Dibenz(a,h)anthracene	ND	0.31	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Dibenzofuran	ND	0.33	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
1,2-Dichlorobenzene	ND	0.29	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
1,3-Dichlorobenzene	ND	0.27	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
1,4-Dichlorobenzene	ND	0.31	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
3,3´-Dichlorobenzidine	ND	0.28	0.48	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Diethyl phthalate	ND	0.33	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Dimethyl phthalate	ND	0.36	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2,4-Dichlorophenol	ND	0.30	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2,4-Dimethylphenol	ND	0.17	0.58	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
4,6-Dinitro-2-methylphenol	ND	0.29	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2,4-Dinitrophenol	ND	0.23	0.97	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017
Lab ID: 1706G44-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.36	0.97	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2,6-Dinitrotoluene	ND	0.34	0.97	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Fluoranthene	ND	0.32	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Fluorene	ND	0.29	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Hexachlorobenzene	ND	0.36	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Hexachlorobutadiene	ND	0.33	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Hexachlorocyclopentadiene	ND	0.31	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Hexachloroethane	ND	0.28	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Indeno(1,2,3-cd)pyrene	ND	0.32	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Isophorone	ND	0.37	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
1-Methylnaphthalene	ND	0.37	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2-Methylnaphthalene	ND	0.32	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2-Methylphenol	ND	0.29	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
3+4-Methylphenol	ND	0.26	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
N-Nitrosodi-n-propylamine	ND	0.34	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
N-Nitrosodiphenylamine	ND	0.37	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Naphthalene	ND	0.36	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2-Nitroaniline	ND	0.35	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
3-Nitroaniline	ND	0.34	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
4-Nitroaniline	ND	0.33	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Nitrobenzene	ND	0.32	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2-Nitrophenol	ND	0.36	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
4-Nitrophenol	ND	0.30	0.48	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Pentachlorophenol	ND	0.33	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Phenanthrene	ND	0.34	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Phenol	ND	0.27	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Pyrene	ND	0.29	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Pyridine	ND	0.26	0.78	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
1,2,4-Trichlorobenzene	ND	0.36	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2,4,5-Trichlorophenol	ND	0.29	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
2,4,6-Trichlorophenol	ND	0.30	0.39	D	mg/Kg	1	7/11/2017 3:30:33 PM	32653
Surr: 2-Fluorophenol	61.6	0	21.4-101	D	%Rec	1	7/11/2017 3:30:33 PM	32653
Surr: Phenol-d5	63.1	0	32-110	D	%Rec	1	7/11/2017 3:30:33 PM	32653
Surr: 2,4,6-Tribromophenol	66.0	0	38.7-115	D	%Rec	1	7/11/2017 3:30:33 PM	32653
Surr: Nitrobenzene-d5	75.3		26.2-120	D	%Rec	1	7/11/2017 3:30:33 PM	32653
Surr: 2-Fluorobiphenyl	73.5		36.2-124	D	%Rec	1	7/11/2017 3:30:33 PM	32653
Surr: 4-Terphenyl-d14	67.7		15-114	D	%Rec	1	7/11/2017 3:30:33 PM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0047	0.024		mg/Kg	1	7/6/2017 1:14:07 AM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0074	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,3,5-Trimethylbenzene	ND	0.0030	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Naphthalene	ND	0.0049	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/6/2017 1:14:07 AM	32616
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Acetone	ND	0.052	0.72		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Bromodichloromethane	ND	0.0062	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Bromoform	ND	0.012	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Bromomethane	ND	0.0083	0.14		mg/Kg	1	7/6/2017 1:14:07 AM	32616
2-Butanone	0.16	0.028	0.48	J	mg/Kg	1	7/6/2017 1:14:07 AM	32616
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Carbon tetrachloride	ND	0.0047	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Chloroethane	ND	0.016	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Chloroform	ND	0.0029	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Chloromethane	ND	0.010	0.14		mg/Kg	1	7/6/2017 1:14:07 AM	32616
2-Chlorotoluene	ND	0.0037	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
4-Chlorotoluene	ND	0.0043	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
cis-1,2-DCE	ND	0.0061	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
cis-1,3-Dichloropropene	ND	0.0036	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2-Dibromo-3-chloropropane	ND	0.0066	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Dibromochloromethane	ND	0.0040	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Dibromomethane	ND	0.0023	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,3-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,4-Dichlorobenzene	ND	0.0053	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
2,2-Dichloropropane	ND	0.0054	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,1-Dichloropropene	ND	0.0054	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017
Lab ID: 1706G44-001
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
2-Hexanone	ND	0.0094	0.48		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
4-Isopropyltoluene	ND	0.0037	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Methylene chloride	ND	0.019	0.14		mg/Kg	1	7/6/2017 1:14:07 AM	32616
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	7/6/2017 1:14:07 AM	32616
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
sec-Butylbenzene	ND	0.0049	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Styrene	ND	0.0083	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
trans-1,3-Dichloropropene	ND	0.0057	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2,3-Trichlorobenzene	ND	0.0044	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,1,1-Trichloroethane	ND	0.0062	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
1,2,3-Trichloropropane	ND	0.024	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Xylenes, Total	ND	0.015	0.096		mg/Kg	1	7/6/2017 1:14:07 AM	32616
Surr: Dibromofluoromethane	104		70-130		%Rec	1	7/6/2017 1:14:07 AM	32616
Surr: 1,2-Dichloroethane-d4	102		70-130		%Rec	1	7/6/2017 1:14:07 AM	32616
Surr: Toluene-d8	100		70-130		%Rec	1	7/6/2017 1:14:07 AM	32616
Surr: 4-Bromofluorobenzene	90.7		70-130		%Rec	1	7/6/2017 1:14:07 AM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	18	3.1	19	J	mg/Kg	1	7/10/2017	32597

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706G44-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	7/11/2017 6:10:00 PM	32629
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	7/11/2017 6:10:00 PM	32629
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	7/11/2017 6:10:00 PM	32629
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	7/11/2017 6:10:00 PM	32629
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	7/11/2017 6:10:00 PM	32629
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	7/11/2017 6:10:00 PM	32629
Aroclor 1260	ND	0.0091	0.019		mg/Kg	1	7/11/2017 6:10:00 PM	32629
Surr: Decachlorobiphenyl	132	0	26.3-128	S	%Rec	1	7/11/2017 6:10:00 PM	32629
Surr: Tetrachloro-m-xylene	113	0	20.7-151		%Rec	1	7/11/2017 6:10:00 PM	32629
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.6	9.7		mg/Kg	1	7/5/2017 11:29:38 AM	32609
Motor Oil Range Organics (MRO)	ND	49	49		mg/Kg	1	7/5/2017 11:29:38 AM	32609
Surr: DNOP	109	0	70-130		%Rec	1	7/5/2017 11:29:38 AM	32609
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.8		mg/Kg	1	7/6/2017 4:28:23 AM	32616
Surr: BFB	102	0	54-150		%Rec	1	7/6/2017 4:28:23 AM	32616
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	3.0	0.10	0.30		mg/Kg	1	7/14/2017 11:43:50 AM	32801
Chloride	320	3.7	30		mg/Kg	20	7/14/2017 11:56:15 AM	32801
Nitrogen, Nitrate (As N)	0.11	0.096	0.30	J	mg/Kg	1	7/14/2017 11:43:50 AM	32801
Sulfate	560	7.1	30		mg/Kg	20	7/14/2017 11:56:15 AM	32801
EPA METHOD 7471: MERCURY							Analyst: **ELS**	
Mercury	ND	0.0065	0.032		mg/Kg	1	7/18/2017 11:29:04 AM	32826
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	7/13/2017 12:57:53 PM	32636
Barium	320	0.35	0.49		mg/Kg	5	7/17/2017 11:49:17 AM	32636
Cadmium	ND	0.31	0.49		mg/Kg	5	7/13/2017 12:57:53 PM	32636
Chromium	18	0.47	1.5		mg/Kg	5	7/13/2017 12:57:53 PM	32636
Copper	4.6	0.60	1.5		mg/Kg	5	7/17/2017 11:49:17 AM	32636
Iron	20000	74	250		mg/Kg	100	7/19/2017 9:29:50 AM	32636
Lead	3.6	0.86	1.2		mg/Kg	5	7/13/2017 12:57:53 PM	32636
Manganese	370	0.26	0.49		mg/Kg	5	7/17/2017 11:49:17 AM	32636
Selenium	ND	9.0	12		mg/Kg	5	7/13/2017 12:57:53 PM	32636
Silver	ND	0.31	1.2		mg/Kg	5	7/13/2017 12:57:53 PM	32636
Uranium	ND	5.7	25		mg/Kg	5	7/13/2017 12:57:53 PM	32636
Zinc	22	1.7	12		mg/Kg	5	7/17/2017 11:49:17 AM	32636

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706G44-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Aniline	ND	0.11	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Anthracene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Azobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Benzoic acid	ND	0.15	0.50		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Bis(2-ethylhexyl)phthalate	0.27	0.19	0.50	J	mg/Kg	1	7/11/2017 3:58:51 PM	32653
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Carbazole	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
4-Chloro-3-methylphenol	ND	0.18	0.50		mg/Kg	1	7/11/2017 3:58:51 PM	32653
4-Chloroaniline	ND	0.15	0.50		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Chrysene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Di-n-butyl phthalate	0.15	0.11	0.40	J	mg/Kg	1	7/11/2017 3:58:51 PM	32653
Di-n-octyl phthalate	ND	0.15	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
3,3´-Dichlorobenzidine	ND	0.15	0.25		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Diethyl phthalate	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Dimethyl phthalate	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2,4-Dichlorophenol	ND	0.16	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2,4-Dimethylphenol	ND	0.088	0.30		mg/Kg	1	7/11/2017 3:58:51 PM	32653
4,6-Dinitro-2-methylphenol	ND	0.15	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2,4-Dinitrophenol	ND	0.12	0.50		mg/Kg	1	7/11/2017 3:58:51 PM	32653

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706G44-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	0.19	0.50		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2,6-Dinitrotoluene	ND	0.17	0.50		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Fluoranthene	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Fluorene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Isophorone	ND	0.19	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2-Methylphenol	ND	0.15	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
N-Nitrosodi-n-propylamine	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Naphthalene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
4-Nitroaniline	ND	0.17	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Nitrobenzene	ND	0.17	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Pentachlorophenol	ND	0.17	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Phenanthrene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Phenol	ND	0.14	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Pyrene	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Pyridine	ND	0.13	0.40		mg/Kg	1	7/11/2017 3:58:51 PM	32653
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	7/11/2017 3:58:51 PM	32653
Surr: 2-Fluorophenol	33.2	0	21.4-101		%Rec	1	7/11/2017 3:58:51 PM	32653
Surr: Phenol-d5	32.2	0	32-110		%Rec	1	7/11/2017 3:58:51 PM	32653
Surr: 2,4,6-Tribromophenol	35.6	0	38.7-115	S	%Rec	1	7/11/2017 3:58:51 PM	32653
Surr: Nitrobenzene-d5	34.6		26.2-120		%Rec	1	7/11/2017 3:58:51 PM	32653
Surr: 2-Fluorobiphenyl	37.3		36.2-124		%Rec	1	7/11/2017 3:58:51 PM	32653
Surr: 4-Terphenyl-d14	50.6		15-114		%Rec	1	7/11/2017 3:58:51 PM	32653
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0048	0.024		mg/Kg	1	7/6/2017 1:42:34 AM	32616

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706G44-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Methyl tert-butyl ether (MTBE)	ND	0.0074	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,3,5-Trimethylbenzene	ND	0.0031	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2-Dichloroethane (EDC)	ND	0.0051	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2-Dibromoethane (EDB)	ND	0.0062	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Naphthalene	ND	0.0049	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	7/6/2017 1:42:34 AM	32616
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Acetone	ND	0.053	0.73		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Bromobenzene	ND	0.0036	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Bromodichloromethane	ND	0.0063	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Bromoform	ND	0.012	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Bromomethane	ND	0.0084	0.15		mg/Kg	1	7/6/2017 1:42:34 AM	32616
2-Butanone	0.16	0.029	0.48	J	mg/Kg	1	7/6/2017 1:42:34 AM	32616
Carbon disulfide	ND	0.0058	0.48		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Carbon tetrachloride	ND	0.0048	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Chloroethane	ND	0.016	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Chloroform	ND	0.0029	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Chloromethane	ND	0.010	0.15		mg/Kg	1	7/6/2017 1:42:34 AM	32616
2-Chlorotoluene	ND	0.0038	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
4-Chlorotoluene	ND	0.0044	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
cis-1,2-DCE	ND	0.0062	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
cis-1,3-Dichloropropene	ND	0.0037	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2-Dibromo-3-chloropropane	ND	0.0067	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Dibromochloromethane	ND	0.0041	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Dibromomethane	ND	0.0024	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2-Dichlorobenzene	ND	0.0025	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,3-Dichlorobenzene	ND	0.0043	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,4-Dichlorobenzene	ND	0.0054	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
2,2-Dichloropropane	ND	0.0055	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,1-Dichloropropene	ND	0.0055	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 10:15:00 AM
Lab ID: 1706G44-002
Matrix: SOIL
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
2-Hexanone	ND	0.0095	0.48		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Isopropylbenzene	ND	0.0033	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
4-Isopropyltoluene	ND	0.0037	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Methylene chloride	ND	0.019	0.15		mg/Kg	1	7/6/2017 1:42:34 AM	32616
n-Butylbenzene	ND	0.0043	0.15		mg/Kg	1	7/6/2017 1:42:34 AM	32616
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
sec-Butylbenzene	ND	0.0050	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Styrene	ND	0.0084	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,1,1,2-Tetrachloroethane	ND	0.0055	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Tetrachloroethene (PCE)	ND	0.0039	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
trans-1,3-Dichloropropene	ND	0.0058	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2,3-Trichlorobenzene	ND	0.0044	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,1,1-Trichloroethane	ND	0.0063	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Trichloroethene (TCE)	ND	0.0059	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Trichlorofluoromethane	ND	0.0073	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
1,2,3-Trichloropropane	ND	0.024	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Xylenes, Total	ND	0.015	0.097		mg/Kg	1	7/6/2017 1:42:34 AM	32616
Surr: Dibromofluoromethane	104		70-130		%Rec	1	7/6/2017 1:42:34 AM	32616
Surr: 1,2-Dichloroethane-d4	99.7		70-130		%Rec	1	7/6/2017 1:42:34 AM	32616
Surr: Toluene-d8	98.1		70-130		%Rec	1	7/6/2017 1:42:34 AM	32616
Surr: 4-Bromofluorobenzene	90.6		70-130		%Rec	1	7/6/2017 1:42:34 AM	32616
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	14	3.3	20	J	mg/Kg	1	7/10/2017	32597

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF FB01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:35:00 AM
Lab ID: 1706G44-003
Matrix: AQUEOUS
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.070	0.062	1.0	J	µg/L	1	7/5/2017 4:59:00 PM	R44015
Toluene	0.13	0.064	1.0	J	µg/L	1	7/5/2017 4:59:00 PM	R44015
Ethylbenzene	ND	0.093	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Naphthalene	ND	0.11	2.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Acetone	7.7	0.82	10	J	µg/L	1	7/5/2017 4:59:00 PM	R44015
Bromobenzene	ND	0.14	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Bromodichloromethane	ND	0.18	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Bromoform	ND	0.21	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Bromomethane	ND	0.26	3.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
2-Butanone	ND	1.1	10		µg/L	1	7/5/2017 4:59:00 PM	R44015
Carbon disulfide	ND	0.40	10		µg/L	1	7/5/2017 4:59:00 PM	R44015
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Chlorobenzene	ND	0.11	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Chloroethane	ND	0.23	2.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Chloroform	ND	0.40	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Chloromethane	ND	0.29	3.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Dibromochloromethane	ND	0.072	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Dibromomethane	ND	0.091	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	7/5/2017 4:59:00 PM	R44015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF FB01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:35:00 AM
Lab ID: 1706G44-003
Matrix: AQUEOUS
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
2-Hexanone	ND	0.66	10		µg/L	1	7/5/2017 4:59:00 PM	R44015
Isopropylbenzene	ND	0.051	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	7/5/2017 4:59:00 PM	R44015
Methylene Chloride	ND	0.11	3.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
n-Butylbenzene	ND	0.13	3.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
n-Propylbenzene	ND	0.074	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Styrene	ND	0.16	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Vinyl chloride	ND	0.18	1.0		µg/L	1	7/5/2017 4:59:00 PM	R44015
Xylenes, Total	ND	0.32	1.5		µg/L	1	7/5/2017 4:59:00 PM	R44015
Surr: 1,2-Dichloroethane-d4	113	0	70-130		%Rec	1	7/5/2017 4:59:00 PM	R44015
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	7/5/2017 4:59:00 PM	R44015
Surr: Dibromofluoromethane	115	0	70-130		%Rec	1	7/5/2017 4:59:00 PM	R44015
Surr: Toluene-d8	102	0	70-130		%Rec	1	7/5/2017 4:59:00 PM	R44015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF EB01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:40:00 AM
Lab ID: 1706G44-004
Matrix: AQUEOUS
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Toluene	0.11	0.064	1.0	J	µg/L	1	7/5/2017 5:23:00 PM	R44015
Ethylbenzene	ND	0.093	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Naphthalene	ND	0.11	2.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Acetone	11	0.82	10		µg/L	1	7/5/2017 5:23:00 PM	R44015
Bromobenzene	ND	0.14	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Bromodichloromethane	ND	0.18	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Bromoform	ND	0.21	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Bromomethane	ND	0.26	3.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
2-Butanone	ND	1.1	10		µg/L	1	7/5/2017 5:23:00 PM	R44015
Carbon disulfide	ND	0.40	10		µg/L	1	7/5/2017 5:23:00 PM	R44015
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Chlorobenzene	ND	0.11	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Chloroethane	ND	0.23	2.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Chloroform	ND	0.40	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Chloromethane	ND	0.29	3.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Dibromochloromethane	ND	0.072	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Dibromomethane	ND	0.091	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	7/5/2017 5:23:00 PM	R44015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF EB01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 6/29/2017 11:40:00 AM
Lab ID: 1706G44-004
Matrix: AQUEOUS
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
2-Hexanone	ND	0.66	10		µg/L	1	7/5/2017 5:23:00 PM	R44015
Isopropylbenzene	ND	0.051	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	7/5/2017 5:23:00 PM	R44015
Methylene Chloride	ND	0.11	3.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
n-Butylbenzene	ND	0.13	3.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
n-Propylbenzene	ND	0.074	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Styrene	ND	0.16	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Vinyl chloride	ND	0.18	1.0		µg/L	1	7/5/2017 5:23:00 PM	R44015
Xylenes, Total	ND	0.32	1.5		µg/L	1	7/5/2017 5:23:00 PM	R44015
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	1	7/5/2017 5:23:00 PM	R44015
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	7/5/2017 5:23:00 PM	R44015
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	7/5/2017 5:23:00 PM	R44015
Surr: Toluene-d8	104	0	70-130		%Rec	1	7/5/2017 5:23:00 PM	R44015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1706G44-005
Matrix: AQUEOUS
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Toluene	ND	0.064	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Ethylbenzene	ND	0.093	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Naphthalene	ND	0.11	2.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Acetone	1.8	0.82	10	J	µg/L	1	7/5/2017 5:47:00 PM	R44015
Bromobenzene	ND	0.14	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Bromodichloromethane	ND	0.18	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Bromoform	ND	0.21	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Bromomethane	ND	0.26	3.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
2-Butanone	ND	1.1	10		µg/L	1	7/5/2017 5:47:00 PM	R44015
Carbon disulfide	ND	0.40	10		µg/L	1	7/5/2017 5:47:00 PM	R44015
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Chlorobenzene	ND	0.11	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Chloroethane	ND	0.23	2.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Chloroform	ND	0.40	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Chloromethane	ND	0.29	3.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Dibromochloromethane	ND	0.072	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Dibromomethane	ND	0.091	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	7/5/2017 5:47:00 PM	R44015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1706G44-005
Matrix: AQUEOUS
Received Date: 6/30/2017 7:06:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
2-Hexanone	ND	0.66	10		µg/L	1	7/5/2017 5:47:00 PM	R44015
Isopropylbenzene	ND	0.051	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	7/5/2017 5:47:00 PM	R44015
Methylene Chloride	ND	0.11	3.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
n-Butylbenzene	ND	0.13	3.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
n-Propylbenzene	ND	0.074	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Styrene	ND	0.16	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Vinyl chloride	ND	0.18	1.0		µg/L	1	7/5/2017 5:47:00 PM	R44015
Xylenes, Total	ND	0.32	1.5		µg/L	1	7/5/2017 5:47:00 PM	R44015
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	7/5/2017 5:47:00 PM	R44015
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	7/5/2017 5:47:00 PM	R44015
Surr: Dibromofluoromethane	111	0	70-130		%Rec	1	7/5/2017 5:47:00 PM	R44015
Surr: Toluene-d8	103	0	70-130		%Rec	1	7/5/2017 5:47:00 PM	R44015

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	07/07/2017 17:45	WG996634

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND	J6	0.250	1	07/07/2017 17:49	WG996634

Method Blank (MB)

(MB) R3231754-1 07/07/17 17:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
Cyanide	U		0.039	0.250

L920659-01 Original Sample (OS) • Duplicate (DUP)

(OS) L920659-01 07/07/17 17:34 • (DUP) R3231754-4 07/07/17 17:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/kg	mg/kg		%		%
Cyanide	ND	0.000	1	0		20

L920668-01 Original Sample (OS) • Duplicate (DUP)

(OS) L920668-01 07/07/17 17:45 • (DUP) R3231754-5 07/07/17 17:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/kg	mg/kg		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3231754-2 07/07/17 17:26 • (LCSD) R3231754-3 07/07/17 17:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
Cyanide	2.50	2.63	2.43	105	97	50-150			8	20

L920668-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L920668-02 07/07/17 17:49 • (MS) R3231754-6 07/07/17 17:50 • (MSD) R3231754-7 07/07/17 17:51

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Cyanide	3.33	ND	1.50	1.49	45	45	1	75-125	J6	J6	1	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1706G44
Pace Project No.: 30223578

Sample: 1706G44-001D Central OCD LF DU **Lab ID: 30223578001** Collected: 06/29/17 00:00 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**13.464 ± 3.112 (1.242) C:NA T:NA**	pCi/g	08/01/17 10:34	13966-00-2	
Radium-226	EPA 901.1	**1.411 ± 0.346 (0.155) C:NA T:NA**	pCi/g	08/01/17 10:34	13982-63-3	Ra
Radium-228	EPA 901.1	**2.069 ± 0.531 (0.339) C:NA T:NA**	pCi/g	08/01/17 10:34	15262-20-1	

Sample: 1706G44-002D Central OCD LF VZ **Lab ID: 30223578002** Collected: 06/29/17 10:15 Received: 07/07/17 09:30 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Potassium-40	EPA 901.1	**14.769 ± 2.755 (0.794) C:NA T:NA**	pCi/g	08/01/17 11:07	13966-00-2	
Radium-226	EPA 901.1	**1.546 ± 0.336 (0.177) C:NA T:NA**	pCi/g	08/01/17 11:07	13982-63-3	Ra
Radium-228	EPA 901.1	**1.712 ± 0.417 (0.369) C:NA T:NA**	pCi/g	08/01/17 11:07	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1706G44
Pace Project No.: 30223578

QC Batch: 265119 Analysis Method: EPA 901.1
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec Ingrowth
Associated Lab Samples: 30223578001, 30223578002

METHOD BLANK: 1306431 Matrix: Solid
Associated Lab Samples: 30223578001, 30223578002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Potassium-40	0.016 ± 0.332 (0.664) C:NA T:NA	pCi/g	08/01/17 09:06	
Radium-226	0.037 ± 0.049 (0.180) C:NA T:NA	pCi/g	08/01/17 09:06	Ra
Radium-228	0.016 ± 0.263 (0.312) C:NA T:NA	pCi/g	08/01/17 09:06	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1706G44
Pace Project No.: 30223578

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

Ra	The reported Ra-226 results were determined by hermetically sealing the dried, processed sample in an appropriate-sized can. Each sample was stored for a minimum of 21 days to ensure that equilibrium between Ra-226 and daughters Bi-214 and Pb-214 was achieved. Reported Ra-226 results were inferred from gamma peaks attributable to Bi-214 and Pb-214.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32801**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **32801**	RunNo: **44224**
Prep Date: **7/14/2017**	Analysis Date: **7/14/2017**	SeqNo: **1397449** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-32801**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **32801**	RunNo: **44224**
Prep Date: **7/14/2017**	Analysis Date: **7/14/2017**	SeqNo: **1397450** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	100	90	110			
Chloride	14	1.5	15.00	0	96.0	90	110			
Nitrogen, Nitrate (As N)	7.7	0.30	7.500	0	102	90	110			
Sulfate	30	1.5	30.00	0	99.2	90	110			

Sample ID **1706G44-002AMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32801**	RunNo: **44224**
Prep Date: **7/14/2017**	Analysis Date: **7/14/2017**	SeqNo: **1397461** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	7.5	0.30	7.500	0.1145	99.1	61.8	142			

Sample ID **1706G44-002AMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32801**	RunNo: **44224**
Prep Date: **7/14/2017**	Analysis Date: **7/14/2017**	SeqNo: **1397462** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	7.7	0.30	7.500	0.1145	102	61.8	142	2.37	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32597**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**
Client ID: **PBS**	Batch ID: **32597**	RunNo: **44086**
Prep Date: **7/1/2017**	Analysis Date: **7/10/2017**	SeqNo: **1391064** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	8.5	20								J

Sample ID **LCS-32597**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**
Client ID: **LCSS**	Batch ID: **32597**	RunNo: **44086**
Prep Date: **7/1/2017**	Analysis Date: **7/10/2017**	SeqNo: **1391065** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	91	20	100.0	0	91.3	61.7	138			

Sample ID **1706G44-002AMS**	SampType: **MS**	TestCode: **EPA Method 418.1: TPH**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32597**	RunNo: **44086**
Prep Date: **7/1/2017**	Analysis Date: **7/10/2017**	SeqNo: **1391067** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	99.60	13.83	86.3	80	120			

Sample ID **1706G44-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 418.1: TPH**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32597**	RunNo: **44086**
Prep Date: **7/1/2017**	Analysis Date: **7/10/2017**	SeqNo: **1391068** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	97	19	95.88	13.83	86.8	80	120	2.71	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **LCS-32609**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **32609**	RunNo: **43982**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1386463** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.8	73.2	114			
Surr: DNOP	4.7		5.000		93.7	70	130			

Sample ID **MB-32609**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **32609**	RunNo: **43982**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1386464** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		106	70	130			

Sample ID **1706G44-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32609**	RunNo: **43982**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1386869** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	9.6	48.22	0	90.7	55.8	122			
Surr: DNOP	4.8		4.822		100	70	130			

Sample ID **1706G44-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32609**	RunNo: **43982**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1386870** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	9.9	49.65	0	90.0	55.8	122	2.19	20	
Surr: DNOP	4.9		4.965		99.3	70	130	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32616**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **32616**	RunNo: **43994**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387418** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	970		1000		96.8	54	150			

Sample ID **LCS-32616**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **32616**	RunNo: **43994**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387419** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.0	76.4	125			
Surr: BFB	1100		1000		108	54	150			

Sample ID **1706G44-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32616**	RunNo: **43994**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387430** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.79	0	90.6	77.8	128			
Surr: BFB	1000		951.5		107	54	150			

Sample ID **1706G44-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32616**	RunNo: **43994**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387431** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.9	24.30	0	108	77.8	128	19.5	20	
Surr: BFB	1100		971.8		114	54	150	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32629**	SampType: **MBLK**	TestCode: **EPA Method 8082: PCB's**
Client ID: **PBS**	Batch ID: **32629**	RunNo: **44110**
Prep Date: **7/5/2017**	Analysis Date: **7/11/2017**	SeqNo: **1392041** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.068		0.06250		108	26.3	128			
Surr: Tetrachloro-m-xylene	0.083		0.06250		133	20.7	151			

Sample ID **LCS-32629**	SampType: **LCS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **LCSS**	Batch ID: **32629**	RunNo: **44110**
Prep Date: **7/5/2017**	Analysis Date: **7/11/2017**	SeqNo: **1392042** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.18	0.020	0.1250	0	140	15	195			
Aroclor 1260	0.14	0.020	0.1250	0	110	24	140			
Surr: Decachlorobiphenyl	0.056		0.06250		88.8	26.3	128			
Surr: Tetrachloro-m-xylene	0.066		0.06250		106	20.7	151			

Sample ID **1706G44-002AMS**	SampType: **MS**	TestCode: **EPA Method 8082: PCB's**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32629**	RunNo: **44110**
Prep Date: **7/5/2017**	Analysis Date: **7/11/2017**	SeqNo: **1393127** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.16	0.020	0.1233	0	131	15	153			
Aroclor 1260	0.21	0.020	0.1233	0	172	15	180			
Surr: Decachlorobiphenyl	0.094		0.06164		152	26.3	128			S
Surr: Tetrachloro-m-xylene	0.080		0.06164		130	20.7	151			

Sample ID **1706G44-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8082: PCB's**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32629**	RunNo: **44110**
Prep Date: **7/5/2017**	Analysis Date: **7/11/2017**	SeqNo: **1393128** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.16	0.020	0.1247	0	129	15	153	0.861	32.9	
Aroclor 1260	0.20	0.020	0.1247	0	159	15	180	6.60	31.1	
Surr: Decachlorobiphenyl	0.088		0.06234		142	26.3	128	0	0	S
Surr: Tetrachloro-m-xylene	0.077		0.06234		123	20.7	151	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32616**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	0.012	0.20								J
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	0.011	0.15								J
2-Butanone	0.19	0.50								J
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32616**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387599** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	0.042	0.50								J
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.51		0.5000		102	70	130			
Surr: 1,2-Dichloroethane-d4	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.6	70	130			

Sample ID **lcs-32616**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **32616**	RunNo: **44000**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387600** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	70	130			
Toluene	0.95	0.050	1.000	0	94.6	70	130			
Chlorobenzene	1.0	0.050	1.000	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**lcs-32616**	SampType:	**LCS**	TestCode:	**EPA Method 8260B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**32616**	RunNo:	**44000**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/5/2017**	SeqNo:	**1387600**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.4	0.050	1.000	0	139	68.8	161			
Trichloroethene (TCE)	1.0	0.050	1.000	0	101	70	130			
Surr: Dibromofluoromethane	0.53		0.5000		106	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R44015**	RunNo: **44015**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387911** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Ethylbenzene	20	1.0	20.00	0	99.5	70	130			
Methyl tert-butyl ether (MTBE)	42	1.0	40.00	0	104	70	130			
1,2,4-Trimethylbenzene	21	1.0	20.00	0	103	70	130			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	101	70	130			
1,2-Dichloroethane (EDC)	21	1.0	20.00	0	103	62.2	143			
1,2-Dibromoethane (EDB)	20	1.0	20.00	0	99.1	70	130			
Naphthalene	19	2.0	20.00	0	92.6	70	130			
1-Methylnaphthalene	19	4.0	20.00	0	95.0	60	140			
2-Methylnaphthalene	14	4.0	20.00	0	71.6	60	140			
Acetone	43	10	40.00	0	107	60	140			
Bromobenzene	21	1.0	20.00	0	104	70	130			
Bromodichloromethane	21	1.0	20.00	0	107	70	130			
Bromoform	20	1.0	20.00	0	99.3	70	130			
Bromomethane	17	3.0	20.00	0	87.2	60	140			
2-Butanone	47	10	40.00	0	117	60	140			
Carbon disulfide	38	10	40.00	0	94.3	60	140			
Carbon Tetrachloride	21	1.0	20.00	0	104	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
Chloroethane	20	2.0	20.00	0	99.2	60	140			
Chloroform	21	1.0	20.00	0	107	70	130			
Chloromethane	17	3.0	20.00	0	87.0	60	140			
2-Chlorotoluene	20	1.0	20.00	0	102	70	130			
4-Chlorotoluene	20	1.0	20.00	0	102	70	130			
cis-1,2-DCE	21	1.0	20.00	0	107	70	130			
cis-1,3-Dichloropropene	19	1.0	20.00	0	96.8	70	130			
1,2-Dibromo-3-chloropropane	20	2.0	20.00	0	102	70	130			
Dibromochloromethane	19	1.0	20.00	0	95.4	70	130			
Dibromomethane	22	1.0	20.00	0	108	70	130			
1,2-Dichlorobenzene	20	1.0	20.00	0	101	70	130			
1,3-Dichlorobenzene	21	1.0	20.00	0	103	70	130			
1,4-Dichlorobenzene	21	1.0	20.00	0	103	67.2	141			
Dichlorodifluoromethane	17	1.0	20.00	0	85.6	60	140			
1,1-Dichloroethane	21	1.0	20.00	0	103	52.6	157			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
1,2-Dichloropropane	21	1.0	20.00	0	103	63.7	138			
1,3-Dichloropropane	20	1.0	20.00	0	98.1	70	130			
2,2-Dichloropropane	21	2.0	20.00	0	107	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R44015**	RunNo: **44015**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387911** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	20	1.0	20.00	0	102	70	130			
Hexachlorobutadiene	18	1.0	20.00	0	87.6	70	130			
2-Hexanone	38	10	40.00	0	95.4	60	140			
Isopropylbenzene	20	1.0	20.00	0	100	70	130			
4-Isopropyltoluene	21	1.0	20.00	0	104	70	130			
4-Methyl-2-pentanone	41	10	40.00	0	102	60	140			
Methylene Chloride	21	3.0	20.00	0	103	70	130			
n-Butylbenzene	19	3.0	20.00	0	97.4	70	130			
n-Propylbenzene	20	1.0	20.00	0	100	70	130			
sec-Butylbenzene	20	1.0	20.00	0	98.3	70	130			
Styrene	20	1.0	20.00	0	101	70	130			
tert-Butylbenzene	20	1.0	20.00	0	101	70	130			
1,1,1,2-Tetrachloroethane	20	1.0	20.00	0	98.5	70	130			
1,1,2,2-Tetrachloroethane	21	2.0	20.00	0	105	65.9	133			
Tetrachloroethene (PCE)	21	1.0	20.00	0	103	70	130			
trans-1,2-DCE	20	1.0	20.00	0	99.9	70	130			
trans-1,3-Dichloropropene	19	1.0	20.00	0	92.8	70	130			
1,2,3-Trichlorobenzene	19	1.0	20.00	0	92.9	70	130			
1,2,4-Trichlorobenzene	18	1.0	20.00	0	92.3	70	130			
1,1,1-Trichloroethane	21	1.0	20.00	0	104	70	130			
1,1,2-Trichloroethane	20	1.0	20.00	0	99.1	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Trichlorofluoromethane	20	1.0	20.00	0	102	70	130			
1,2,3-Trichloropropane	21	2.0	20.00	0	103	69.7	129			
Vinyl chloride	19	1.0	20.00	0	93.5	70	130			
Xylenes, Total	61	1.5	60.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R44015**	RunNo: **44015**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387914** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R44015**	RunNo: **44015**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387914** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R44015**	RunNo: **44015**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387914** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32653**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390660** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	0.20	0.50								J
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	0.13	0.40								J
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3´-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.40								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-32653**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390660** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.40								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	1.7		3.330		50.9	21.4	101			
Surr: Phenol-d5	1.9		3.330		55.9	32	110			
Surr: 2,4,6-Tribromophenol	1.7		3.330		51.1	38.7	115			
Surr: Nitrobenzene-d5	1.0		1.670		61.0	26.2	120			
Surr: 2-Fluorobiphenyl	1.0		1.670		61.8	36.2	124			
Surr: 4-Terphenyl-d14	0.84		1.670		50.2	15	114			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-32653**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390661** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.1	0.20	1.670	0	67.2	39.4	110			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	66.9	41.6	108			
2-Chlorophenol	2.0	0.20	3.330	0	58.7	35	107			
1,4-Dichlorobenzene	1.0	0.20	1.670	0	62.2	31	105			
2,4-Dinitrotoluene	0.93	0.50	1.670	0	55.5	35.6	101			
N-Nitrosodi-n-propylamine	0.88	0.20	1.670	0	52.4	26	100			
4-Nitrophenol	2.0	0.25	3.330	0	61.1	34.1	106			
Pentachlorophenol	1.8	0.40	3.330	0	55.1	35.3	95.4			
Phenol	2.1	0.20	3.330	0	62.6	39.3	96.5			
Pyrene	1.3	0.20	1.670	0	80.5	47.8	95.7			
1,2,4-Trichlorobenzene	1.2	0.20	1.670	0	73.0	36.6	117			
Surr: 2-Fluorophenol	1.9		3.330		55.6	21.4	101			
Surr: Phenol-d5	2.2		3.330		65.8	32	110			
Surr: 2,4,6-Tribromophenol	2.2		3.330		66.8	38.7	115			
Surr: Nitrobenzene-d5	1.2		1.670		74.0	26.2	120			
Surr: 2-Fluorobiphenyl	1.3		1.670		76.1	36.2	124			
Surr: 4-Terphenyl-d14	1.0		1.670		59.7	15	114			

Sample ID **1706G44-002Ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.62	0.20	1.661	0	37.3	24.7	111			
4-Chloro-3-methylphenol	1.1	0.50	3.312	0	34.4	21.7	108			
2-Chlorophenol	1.3	0.20	3.312	0	38.9	21.9	103			
1,4-Dichlorobenzene	0.67	0.20	1.661	0	40.0	15.8	93.9			
2,4-Dinitrotoluene	0.56	0.50	1.661	0	33.9	19.9	101			
N-Nitrosodi-n-propylamine	0.59	0.20	1.661	0	35.7	17.7	100			
4-Nitrophenol	1.4	0.25	3.312	0	42.2	19.3	112			
Pentachlorophenol	1.3	0.40	3.312	0	38.3	20.5	105			
Phenol	1.3	0.20	3.312	0	40.0	23.1	101			
Pyrene	1.0	0.20	1.661	0	60.3	18.3	113			
1,2,4-Trichlorobenzene	0.71	0.20	1.661	0	42.6	21.8	108			
Surr: 2-Fluorophenol	1.3		3.312		38.8	21.4	101			
Surr: Phenol-d5	1.3		3.312		38.0	32	110			
Surr: 2,4,6-Tribromophenol	1.4		3.312		41.1	38.7	115			
Surr: Nitrobenzene-d5	0.71		1.661		42.5	26.2	120			
Surr: 2-Fluorobiphenyl	0.70		1.661		41.9	36.2	124			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1706G44-002Ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390662** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	0.85		1.661		51.3	15	114			

Sample ID **1706G44-002Amsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32653**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/8/2017**	SeqNo: **1390663** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.60	0.20	1.667	0	36.3	24.7	111	2.40	30.2	
4-Chloro-3-methylphenol	1.2	0.50	3.324	0	34.8	21.7	108	1.52	37.2	
2-Chlorophenol	1.3	0.20	3.324	0	38.9	21.9	103	0.288	48	
1,4-Dichlorobenzene	0.66	0.20	1.667	0	39.3	15.8	93.9	1.39	40.6	
2,4-Dinitrotoluene	0.59	0.50	1.667	0	35.4	19.9	101	4.63	47.7	
N-Nitrosodi-n-propylamine	0.59	0.20	1.667	0	35.2	17.7	100	0.985	52.5	
4-Nitrophenol	1.5	0.25	3.324	0	45.9	19.3	112	8.79	36.6	
Pentachlorophenol	1.3	0.40	3.324	0	40.3	20.5	105	5.41	65.5	
Phenol	1.3	0.20	3.324	0	39.5	23.1	101	0.792	44	
Pyrene	0.97	0.20	1.667	0	58.4	18.3	113	2.73	42.1	
1,2,4-Trichlorobenzene	0.69	0.20	1.667	0	41.3	21.8	108	2.82	31.5	
Surr: 2-Fluorophenol	1.3		3.324		39.6	21.4	101	0	0	
Surr: Phenol-d5	1.3		3.324		37.7	32	110	0	0	
Surr: 2,4,6-Tribromophenol	1.4		3.324		42.4	38.7	115	0	0	
Surr: Nitrobenzene-d5	0.67		1.667		40.1	26.2	120	0	0	
Surr: 2-Fluorobiphenyl	0.66		1.667		39.9	36.2	124	0	0	
Surr: 4-Terphenyl-d14	0.88		1.667		52.8	15	114	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**MB-32826**	SampType:	**MBLK**		TestCode:	**EPA Method 7471: Mercury**				
Client ID:	**PBS**	Batch ID:	**32826**		RunNo:	**44299**				
Prep Date:	**7/17/2017**	Analysis Date:	**7/18/2017**		SeqNo:	**1398895**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	**LCS-32826**	SampType:	**LCS**		TestCode:	**EPA Method 7471: Mercury**				
Client ID:	**LCSS**	Batch ID:	**32826**		RunNo:	**44299**				
Prep Date:	**7/17/2017**	Analysis Date:	**7/18/2017**		SeqNo:	**1398896**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	97.3	80	120			

Sample ID	**1706G44-002BMS**	SampType:	**MS**		TestCode:	**EPA Method 7471: Mercury**				
Client ID:	**CENTRAL OCD LF V**	Batch ID:	**32826**		RunNo:	**44299**				
Prep Date:	**7/17/2017**	Analysis Date:	**7/18/2017**		SeqNo:	**1398910**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1657	0	102	75	125			

Sample ID	**1706G44-002BMSD**	SampType:	**MSD**		TestCode:	**EPA Method 7471: Mercury**				
Client ID:	**CENTRAL OCD LF V**	Batch ID:	**32826**		RunNo:	**44299**				
Prep Date:	**7/17/2017**	Analysis Date:	**7/18/2017**		SeqNo:	**1398911**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.032	0.1623	0	101	75	125	2.35	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-32636**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **32636**	RunNo: **44191**
Prep Date: **7/5/2017**	Analysis Date: **7/13/2017**	SeqNo: **1394937** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Iron	1.1	2.5								J
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								

Sample ID **LCS-32636**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **32636**	RunNo: **44191**
Prep Date: **7/5/2017**	Analysis Date: **7/13/2017**	SeqNo: **1394938** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	99.7	80	120			
Cadmium	25	0.10	25.00	0	99.5	80	120			
Chromium	24	0.30	25.00	0	97.9	80	120			
Iron	27	2.5	25.00	0	107	80	120			
Lead	24	0.25	25.00	0	97.6	80	120			
Selenium	23	2.5	25.00	0	92.6	80	120			
Silver	5.2	0.25	5.000	0	103	80	120			
Uranium	22	5.0	25.00	0	87.6	80	120			

Sample ID **1706G44-002BMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V**	Batch ID: **32636**	RunNo: **44191**
Prep Date: **7/5/2017**	Analysis Date: **7/13/2017**	SeqNo: **1395262** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	12	24.57	0	103	75	125			
Cadmium	24	0.49	24.57	0	98.9	75	125			
Chromium	45	1.5	24.57	17.89	111	75	125			
Lead	25	1.2	24.57	3.613	86.4	75	125			
Selenium	ND	12	24.57	0	0	75	125			S
Silver	4.7	1.2	4.914	0	96.2	75	125			
Uranium	9.2	25	24.57	0	37.6	75	125			SJ

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**

05-Aug-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**1706G44-002BMSD**	SampType:	**MSD**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**CENTRAL OCD LF V**	Batch ID:	**32636**		RunNo:	**44191**				
Prep Date:	**7/5/2017**	Analysis Date:	**7/13/2017**		SeqNo:	**1395263**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	12	24.25	0	103	75	125	1.40	20	
Cadmium	24	0.48	24.25	0	99.6	75	125	0.663	20	
Chromium	46	1.5	24.25	17.89	116	75	125	2.36	20	
Lead	25	1.2	24.25	3.613	86.8	75	125	0.667	20	
Selenium	ND	12	24.25	0	0	75	125	0	20	S
Silver	4.6	1.2	4.850	0	95.2	75	125	2.31	20	
Uranium	12	24	24.25	0	47.7	75	125	22.3	20	SJR

Sample ID	**1706G44-002BPS**	SampType:	**PS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**CENTRAL OCD LF V**	Batch ID:	**32636**		RunNo:	**44191**				
Prep Date:		Analysis Date:	**7/13/2017**		SeqNo:	**1395264**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	100	12	123.1	0	83.4	80	120			
Uranium	94	25	123.1	0	76.2	80	120			S

Sample ID	**MB-32636**	SampType:	**MBLK**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**PBS**	Batch ID:	**32636**		RunNo:	**44254**				
Prep Date:	**7/5/2017**	Analysis Date:	**7/17/2017**		SeqNo:	**1397801**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.10								
Copper	ND	0.30								
Manganese	0.087	0.10								J
Zinc	ND	2.5								

Sample ID	**LCS-32636**	SampType:	**LCS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**LCSS**	Batch ID:	**32636**		RunNo:	**44254**				
Prep Date:	**7/5/2017**	Analysis Date:	**7/17/2017**		SeqNo:	**1397802**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	25	0.10	25.00	0	98.7	80	120			
Copper	25	0.30	25.00	0	101	80	120			
Manganese	24	0.10	25.00	0	97.3	80	120			
Zinc	23	2.5	25.00	0	93.9	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706G44**
05-Aug-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1706G44-002BMS** SampType: **MS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V** Batch ID: **32636** RunNo: **44254**
Prep Date: **7/5/2017** Analysis Date: **7/17/2017** SeqNo: **1397814** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	310	0.49	24.57	315.8	-26.6	75	125			S
Copper	29	1.5	24.57	4.647	98.0	75	125			
Manganese	440	0.49	24.57	373.3	259	75	125			S
Zinc	48	12	24.57	22.42	104	75	125			

Sample ID **1706G44-002BMSD** SampType: **MSD** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V** Batch ID: **32636** RunNo: **44254**
Prep Date: **7/5/2017** Analysis Date: **7/17/2017** SeqNo: **1397815** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	310	0.48	24.25	315.8	-39.0	75	125	0.953	20	S
Copper	28	1.5	24.25	4.647	95.2	75	125	3.47	20	
Manganese	430	0.48	24.25	373.3	229	75	125	1.85	20	S
Zinc	48	12	24.25	22.42	103	75	125	0.934	20	

Sample ID **1706G44-002BPS** SampType: **PS** TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V** Batch ID: **32636** RunNo: **44254**
Prep Date: Analysis Date: **7/17/2017** SeqNo: **1397816** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	420	0.49	123.1	315.8	80.7	80	120			
Manganese	470	0.49	123.1	373.3	75.5	80	120			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1706G44 RcptNo: 1

Received By: Anne Thorne 6/30/2017 7:06:00 AM Anne Thorne
Completed By: Anne Thorne 6/30/2017 2:27:36 PM Anne Thorne
Reviewed By: 7/3/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: WESTERN REFINING SW, INC
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.JOHNSON@WNR.COM
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: CENTRAL OCD LANDFARM SEMIANNUAL SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706644	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	VADOSE ZONE LIST (SEE ATTACHED)	NMAC LIST (SEE ATTACHED)	BTEX		Air Bubbles (Y or N)
6/29/17	—	SOIL	CENTRAL OCD LF DUP01	8oz-3 4oz-1	NONE	-001												✓	✓			
	1015	SOIL	CENTRAL OCD LF VZ02 MS	8oz-3 4oz-1	NONE	002												✓	✓			
	1015	SOIL	CENTRAL OCD LF VZ02 MSD	8oz-3 4oz-1	NONE	-002 003												✓	✓			
	1135	WATER	CENTRAL OCD LF FB01	40 mL VOA-3	HCL	003 004														✓		
	1140	WATER	CENTRAL OCD LF EB01	40 mL VOA-3	HCL	004 005														✓		
↓	—	WATER	TRIP BLANK	40 mL VOA-3	HCL	005 006														✓		
						AT 6/30/17																

Date	Time	Relinquished by:	Received by:	Date	Time
6/29/17	1430			6/29/17	1430
6/30/17	0706			06/30/17	0706

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.6000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW6010A	mg/kg	2.5000
Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg	0.1000
Chromium	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg	0.6000
Iron	SW6010A	mg/kg	500.0000
Lead	SW6010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0.2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 27, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling OrderNo.: 1711977

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 11/17/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1711977**
Date Reported: **12/27/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 11:35:00 AM
Lab ID: 1711977-001 **Matrix:** SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.10	0.19	D	mg/Kg	1	11/28/2017 11:04:00 AM	35096
Aroclor 1221	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 11:04:00 AM	35096
Aroclor 1232	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 11:04:00 AM	35096
Aroclor 1242	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 11:04:00 AM	35096
Aroclor 1248	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 11:04:00 AM	35096
Aroclor 1254	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 11:04:00 AM	35096
Aroclor 1260	ND	0.090	0.19	D	mg/Kg	1	11/28/2017 11:04:00 AM	35096
Surr: Decachlorobiphenyl	0	0	26.3-128	SD	%Rec	1	11/28/2017 11:04:00 AM	35096
Surr: Tetrachloro-m-xylene	0	0	20.7-151	SD	%Rec	1	11/28/2017 11:04:00 AM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	480	15	95		mg/Kg	10	11/22/2017 11:08:17 AM	35083
Motor Oil Range Organics (MRO)	520	470	470		mg/Kg	10	11/22/2017 11:08:17 AM	35083
Surr: DNOP	0	0	70-130	S	%Rec	10	11/22/2017 11:08:17 AM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.9		mg/Kg	1	11/21/2017 4:34:35 PM	35071
Surr: BFB	117	0	15-316		%Rec	1	11/21/2017 4:34:35 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	10	2.0	6.0		mg/Kg	20	12/1/2017 1:03:01 PM	35263
Chloride	840	3.7	30		mg/Kg	20	12/1/2017 1:03:01 PM	35263
Nitrogen, Nitrate (As N)	5.4	0.096	0.30		mg/Kg	1	12/1/2017 12:50:37 PM	35263
Sulfate	1500	7.1	30		mg/Kg	20	12/1/2017 1:03:01 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	0.36	0.034	0.17		mg/Kg	5	12/4/2017 4:09:24 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.3	12		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Barium	380	0.34	0.48		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Cadmium	ND	0.31	0.48		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Chromium	26	0.46	1.4		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Copper	11	0.59	1.4		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Iron	16000	2400	2400		mg/Kg	1000	12/15/2017 5:46:06 PM	35142
Lead	290	1.7	2.4		mg/Kg	10	11/30/2017 12:19:51 PM	35142
Manganese	360	0.26	0.48		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Selenium	ND	8.8	12		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Silver	ND	0.30	1.2		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Uranium	ND	5.5	24		mg/Kg	5	11/30/2017 11:58:11 AM	35142
Zinc	140	1.7	12		mg/Kg	5	11/30/2017 11:58:11 AM	35142

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 11:35:00 AM
Lab ID: 1711977-001 **Matrix:** SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Aniline	ND	1.1	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Anthracene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Azobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Benz(a)anthracene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Benzo(a)pyrene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Benzo(b)fluoranthene	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Benzo(g,h,i)perylene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Benzo(k)fluoranthene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Benzoic acid	ND	1.5	5.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Benzyl alcohol	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Bis(2-chloroethoxy)methane	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Bis(2-chloroethyl)ether	ND	1.3	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Bis(2-chloroisopropyl)ether	ND	2.0	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Bis(2-ethylhexyl)phthalate	ND	1.9	5.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
4-Bromophenyl phenyl ether	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Butyl benzyl phthalate	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Carbazole	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
4-Chloro-3-methylphenol	ND	1.8	5.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
4-Chloroaniline	ND	1.5	5.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2-Chlorophenol	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
4-Chlorophenyl phenyl ether	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Chrysene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Di-n-butyl phthalate	ND	1.1	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Di-n-octyl phthalate	ND	1.5	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Dibenz(a,h)anthracene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Dibenzofuran	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
1,2-Dichlorobenzene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
1,3-Dichlorobenzene	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
1,4-Dichlorobenzene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
3,3´-Dichlorobenzidine	ND	1.5	2.5	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Diethyl phthalate	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Dimethyl phthalate	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2,4-Dichlorophenol	ND	1.6	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2,4-Dimethylphenol	ND	0.89	3.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
4,6-Dinitro-2-methylphenol	ND	1.5	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2,4-Dinitrophenol	ND	1.2	5.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 11:35:00 AM
Lab ID: 1711977-001 **Matrix:** SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	1.9	5.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2,6-Dinitrotoluene	ND	1.8	5.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Fluoranthene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Fluorene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Hexachlorobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Hexachlorobutadiene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Hexachlorocyclopentadiene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Hexachloroethane	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Indeno(1,2,3-cd)pyrene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Isophorone	ND	1.9	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
1-Methylnaphthalene	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2-Methylnaphthalene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2-Methylphenol	ND	1.5	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
3+4-Methylphenol	ND	1.3	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
N-Nitrosodi-n-propylamine	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
N-Nitrosodiphenylamine	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Naphthalene	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2-Nitroaniline	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
3-Nitroaniline	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
4-Nitroaniline	ND	1.7	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Nitrobenzene	ND	1.7	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2-Nitrophenol	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
4-Nitrophenol	ND	1.5	2.5	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Pentachlorophenol	ND	1.7	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Phenanthrene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Phenol	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Pyrene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Pyridine	ND	1.3	4.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
1,2,4-Trichlorobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2,4,5-Trichlorophenol	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
2,4,6-Trichlorophenol	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:00:43 PM	35082
Surr: 2-Fluorophenol	0	0	23.3-81	SD	%Rec	1	11/21/2017 5:00:43 PM	35082
Surr: Phenol-d5	0	0	19.4-93.6	SD	%Rec	1	11/21/2017 5:00:43 PM	35082
Surr: 2,4,6-Tribromophenol	0	0	31.1-88.7	SD	%Rec	1	11/21/2017 5:00:43 PM	35082
Surr: Nitrobenzene-d5	0		23.7-106	SD	%Rec	1	11/21/2017 5:00:43 PM	35082
Surr: 2-Fluorobiphenyl	0		26.3-107	SD	%Rec	1	11/21/2017 5:00:43 PM	35082
Surr: 4-Terphenyl-d14	0		32.5-80.1	SD	%Rec	1	11/21/2017 5:00:43 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0048	0.025		mg/Kg	1	11/21/2017 2:35:47 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 11:35:00 AM
Lab ID: 1711977-001
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0040	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Ethylbenzene	ND	0.0034	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0075	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2,4-Trimethylbenzene	ND	0.0043	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,3,5-Trimethylbenzene	ND	0.0031	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0051	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0062	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Naphthalene	ND	0.0050	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1-Methylnaphthalene	0.012	0.0035	0.20	J	mg/Kg	1	11/21/2017 2:35:47 PM	35071
2-Methylnaphthalene	ND	0.0040	0.20		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Acetone	ND	0.053	0.74		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Bromobenzene	ND	0.0036	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Bromodichloromethane	ND	0.0064	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Bromoform	ND	0.012	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Bromomethane	0.035	0.0085	0.15	J	mg/Kg	1	11/21/2017 2:35:47 PM	35071
2-Butanone	0.083	0.029	0.49	J	mg/Kg	1	11/21/2017 2:35:47 PM	35071
Carbon disulfide	ND	0.0058	0.49		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Carbon tetrachloride	ND	0.0048	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Chlorobenzene	ND	0.0029	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Chloroethane	ND	0.016	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Chloroform	ND	0.0030	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Chloromethane	ND	0.010	0.15		mg/Kg	1	11/21/2017 2:35:47 PM	35071
2-Chlorotoluene	ND	0.0038	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
4-Chlorotoluene	ND	0.0044	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
cis-1,2-DCE	ND	0.0063	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
cis-1,3-Dichloropropene	ND	0.0037	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0067	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Dibromochloromethane	ND	0.0041	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Dibromomethane	ND	0.0024	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2-Dichlorobenzene	ND	0.0025	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,3-Dichlorobenzene	ND	0.0043	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,4-Dichlorobenzene	ND	0.0054	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Dichlorodifluoromethane	ND	0.020	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,1-Dichloroethane	ND	0.020	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,1-Dichloroethene	ND	0.020	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2-Dichloropropane	ND	0.0030	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,3-Dichloropropane	ND	0.012	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
2,2-Dichloropropane	ND	0.0056	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,1-Dichloropropene	ND	0.0055	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 11:35:00 AM
Lab ID: 1711977-001
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
2-Hexanone	ND	0.0096	0.49		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Isopropylbenzene	ND	0.0033	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
4-Isopropyltoluene	ND	0.0037	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
4-Methyl-2-pentanone	ND	0.010	0.49		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Methylene chloride	ND	0.020	0.15		mg/Kg	1	11/21/2017 2:35:47 PM	35071
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	11/21/2017 2:35:47 PM	35071
n-Propylbenzene	ND	0.0030	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
sec-Butylbenzene	ND	0.0051	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Styrene	ND	0.0085	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
tert-Butylbenzene	ND	0.0040	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0055	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.014	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Tetrachloroethene (PCE)	ND	0.0039	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
trans-1,2-DCE	ND	0.020	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
trans-1,3-Dichloropropene	ND	0.0058	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2,3-Trichlorobenzene	ND	0.0045	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2,4-Trichlorobenzene	ND	0.0050	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,1,1-Trichloroethane	ND	0.0064	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,1,2-Trichloroethane	ND	0.0052	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Trichloroethene (TCE)	ND	0.0059	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Trichlorofluoromethane	ND	0.0074	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
1,2,3-Trichloropropane	ND	0.025	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Vinyl chloride	ND	0.0041	0.049		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Xylenes, Total	ND	0.015	0.098		mg/Kg	1	11/21/2017 2:35:47 PM	35071
Surr: Dibromofluoromethane	108		70-130		%Rec	1	11/21/2017 2:35:47 PM	35071
Surr: 1,2-Dichloroethane-d4	100		70-130		%Rec	1	11/21/2017 2:35:47 PM	35071
Surr: Toluene-d8	91.2		70-130		%Rec	1	11/21/2017 2:35:47 PM	35071
Surr: 4-Bromofluorobenzene	98.8		70-130		%Rec	1	11/21/2017 2:35:47 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	870	33	200		mg/Kg	10	11/29/2017 11:00:00 AM	35099

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:00:00 PM
Lab ID: 1711977-002
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.011	0.020		mg/Kg	1	11/28/2017 11:37:00 AM	35096
Aroclor 1221	ND	0.020	0.020		mg/Kg	1	11/28/2017 11:37:00 AM	35096
Aroclor 1232	ND	0.020	0.020		mg/Kg	1	11/28/2017 11:37:00 AM	35096
Aroclor 1242	ND	0.020	0.020		mg/Kg	1	11/28/2017 11:37:00 AM	35096
Aroclor 1248	ND	0.020	0.020		mg/Kg	1	11/28/2017 11:37:00 AM	35096
Aroclor 1254	ND	0.020	0.020		mg/Kg	1	11/28/2017 11:37:00 AM	35096
Aroclor 1260	ND	0.0094	0.020		mg/Kg	1	11/28/2017 11:37:00 AM	35096
Surr: Decachlorobiphenyl	80.8	0	26.3-128		%Rec	1	11/28/2017 11:37:00 AM	35096
Surr: Tetrachloro-m-xylene	78.8	0	20.7-151		%Rec	1	11/28/2017 11:37:00 AM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	58	1.5	9.5		mg/Kg	1	11/22/2017 11:52:07 AM	35083
Motor Oil Range Organics (MRO)	56	47	47		mg/Kg	1	11/22/2017 11:52:07 AM	35083
Surr: DNOP	95.4	0	70-130		%Rec	1	11/22/2017 11:52:07 AM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.8		mg/Kg	1	11/21/2017 4:58:01 PM	35071
Surr: BFB	119	0	15-316		%Rec	1	11/21/2017 4:58:01 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.8	0.10	0.30		mg/Kg	1	12/1/2017 1:15:25 PM	35263
Chloride	920	3.6	30		mg/Kg	20	12/1/2017 1:52:39 PM	35263
Nitrogen, Nitrate (As N)	3.3	0.096	0.30		mg/Kg	1	12/1/2017 1:15:25 PM	35263
Sulfate	290	7.1	30		mg/Kg	20	12/1/2017 1:52:39 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	ND	0.0064	0.032		mg/Kg	1	12/4/2017 3:48:28 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **TES**	
Arsenic	ND	4.3	12		mg/Kg	5	12/20/2017 10:49:05 AM	35142
Barium	290	0.34	0.48		mg/Kg	5	12/1/2017 9:21:32 AM	35142
Cadmium	ND	0.30	0.48		mg/Kg	5	11/30/2017 11:59:36 AM	35142
Chromium	18	0.45	1.4		mg/Kg	5	11/30/2017 11:59:36 AM	35142
Copper	3.9	0.58	1.4		mg/Kg	5	11/30/2017 11:59:36 AM	35142
Iron	17000	2400	2400		mg/Kg	1000	12/15/2017 5:55:27 PM	35142
Lead	2.9	0.83	1.2		mg/Kg	5	11/30/2017 11:59:36 AM	35142
Manganese	400	0.26	0.48		mg/Kg	5	12/1/2017 9:21:32 AM	35142
Selenium	ND	8.7	12		mg/Kg	5	12/1/2017 9:21:32 AM	35142
Silver	ND	0.30	1.2		mg/Kg	5	12/1/2017 9:21:32 AM	35142
Uranium	ND	5.5	24		mg/Kg	5	12/1/2017 9:21:32 AM	35142
Zinc	23	1.7	12		mg/Kg	5	12/1/2017 9:21:32 AM	35142

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:00:00 PM
Lab ID: 1711977-002
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.33	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Acenaphthylene	ND	0.37	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Aniline	ND	0.23	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Anthracene	ND	0.37	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Azobenzene	ND	0.37	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Benz(a)anthracene	ND	0.35	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Benzo(a)pyrene	ND	0.32	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Benzo(b)fluoranthene	ND	0.39	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Benzo(g,h,i)perylene	ND	0.33	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Benzo(k)fluoranthene	ND	0.31	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Benzoic acid	ND	0.31	1.0	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Benzyl alcohol	ND	0.34	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Bis(2-chloroethoxy)methane	ND	0.37	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Bis(2-chloroethyl)ether	ND	0.26	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Bis(2-chloroisopropyl)ether	ND	0.40	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Bis(2-ethylhexyl)phthalate	ND	0.39	1.0	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
4-Bromophenyl phenyl ether	ND	0.33	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Butyl benzyl phthalate	ND	0.34	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Carbazole	ND	0.32	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
4-Chloro-3-methylphenol	ND	0.37	1.0	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
4-Chloroaniline	ND	0.31	1.0	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2-Chloronaphthalene	ND	0.36	0.51	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2-Chlorophenol	ND	0.29	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
4-Chlorophenyl phenyl ether	ND	0.32	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Chrysene	ND	0.31	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Di-n-butyl phthalate	ND	0.23	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Di-n-octyl phthalate	ND	0.30	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Dibenz(a,h)anthracene	ND	0.33	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Dibenzofuran	ND	0.35	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
1,2-Dichlorobenzene	ND	0.30	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
1,3-Dichlorobenzene	ND	0.28	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
1,4-Dichlorobenzene	ND	0.33	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
3,3´-Dichlorobenzidine	ND	0.30	0.51	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Diethyl phthalate	ND	0.35	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Dimethyl phthalate	ND	0.38	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2,4-Dichlorophenol	ND	0.32	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2,4-Dimethylphenol	ND	0.18	0.61	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
4,6-Dinitro-2-methylphenol	ND	0.31	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2,4-Dinitrophenol	ND	0.24	1.0	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:00:00 PM
Lab ID: 1711977-002
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	0.38	1.0	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2,6-Dinitrotoluene	ND	0.36	1.0	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Fluoranthene	ND	0.34	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Fluorene	ND	0.31	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Hexachlorobenzene	ND	0.37	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Hexachlorobutadiene	ND	0.35	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Hexachlorocyclopentadiene	ND	0.32	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Hexachloroethane	ND	0.29	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Indeno(1,2,3-cd)pyrene	ND	0.33	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Isophorone	ND	0.39	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
1-Methylnaphthalene	ND	0.39	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2-Methylnaphthalene	ND	0.34	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2-Methylphenol	ND	0.30	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
3+4-Methylphenol	ND	0.27	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
N-Nitrosodi-n-propylamine	ND	0.36	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
N-Nitrosodiphenylamine	ND	0.39	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Naphthalene	ND	0.38	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2-Nitroaniline	ND	0.37	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
3-Nitroaniline	ND	0.36	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
4-Nitroaniline	ND	0.34	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Nitrobenzene	ND	0.34	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2-Nitrophenol	ND	0.38	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
4-Nitrophenol	ND	0.31	0.51	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Pentachlorophenol	ND	0.35	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Phenanthrene	ND	0.36	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Phenol	ND	0.28	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Pyrene	ND	0.30	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Pyridine	ND	0.27	0.82	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
1,2,4-Trichlorobenzene	ND	0.37	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2,4,5-Trichlorophenol	ND	0.30	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
2,4,6-Trichlorophenol	ND	0.32	0.41	D	mg/Kg	1	11/21/2017 1:44:45 PM	35082
Surr: 2-Fluorophenol	37.1	0	23.3-81	D	%Rec	1	11/21/2017 1:44:45 PM	35082
Surr: Phenol-d5	40.1	0	19.4-93.6	D	%Rec	1	11/21/2017 1:44:45 PM	35082
Surr: 2,4,6-Tribromophenol	48.0	0	31.1-88.7	D	%Rec	1	11/21/2017 1:44:45 PM	35082
Surr: Nitrobenzene-d5	43.1		23.7-106	D	%Rec	1	11/21/2017 1:44:45 PM	35082
Surr: 2-Fluorobiphenyl	43.0		26.3-107	D	%Rec	1	11/21/2017 1:44:45 PM	35082
Surr: 4-Terphenyl-d14	28.3		32.5-80.1	SD	%Rec	1	11/21/2017 1:44:45 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0047	0.024		mg/Kg	1	11/21/2017 3:05:16 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:00:00 PM
Lab ID: 1711977-002 **Matrix:** SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0074	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,3,5-Trimethylbenzene	ND	0.0030	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Naphthalene	ND	0.0049	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	11/21/2017 3:05:16 PM	35071
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Acetone	ND	0.052	0.72		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Bromodichloromethane	ND	0.0063	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Bromoform	ND	0.012	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Bromomethane	0.033	0.0083	0.14	J	mg/Kg	1	11/21/2017 3:05:16 PM	35071
2-Butanone	0.079	0.028	0.48	J	mg/Kg	1	11/21/2017 3:05:16 PM	35071
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Carbon tetrachloride	ND	0.0047	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Chloroethane	ND	0.016	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Chloroform	ND	0.0029	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Chloromethane	ND	0.010	0.14		mg/Kg	1	11/21/2017 3:05:16 PM	35071
2-Chlorotoluene	ND	0.0037	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
4-Chlorotoluene	ND	0.0043	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
cis-1,2-DCE	ND	0.0061	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
cis-1,3-Dichloropropene	ND	0.0036	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0066	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Dibromochloromethane	ND	0.0040	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Dibromomethane	ND	0.0023	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,3-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,4-Dichlorobenzene	ND	0.0053	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
2,2-Dichloropropane	ND	0.0055	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,1-Dichloropropene	ND	0.0054	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:00:00 PM
Lab ID: 1711977-002
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
2-Hexanone	ND	0.0094	0.48		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
4-Isopropyltoluene	ND	0.0037	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Methylene chloride	ND	0.019	0.14		mg/Kg	1	11/21/2017 3:05:16 PM	35071
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	11/21/2017 3:05:16 PM	35071
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
sec-Butylbenzene	ND	0.0050	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Styrene	ND	0.0084	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
trans-1,3-Dichloropropene	ND	0.0057	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2,3-Trichlorobenzene	ND	0.0044	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,1,1-Trichloroethane	ND	0.0062	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
1,2,3-Trichloropropane	ND	0.024	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Xylenes, Total	ND	0.015	0.096		mg/Kg	1	11/21/2017 3:05:16 PM	35071
Surr: Dibromofluoromethane	105		70-130		%Rec	1	11/21/2017 3:05:16 PM	35071
Surr: 1,2-Dichloroethane-d4	95.9		70-130		%Rec	1	11/21/2017 3:05:16 PM	35071
Surr: Toluene-d8	91.4		70-130		%Rec	1	11/21/2017 3:05:16 PM	35071
Surr: 4-Bromofluorobenzene	100		70-130		%Rec	1	11/21/2017 3:05:16 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	35	3.3	20		mg/Kg	1	11/29/2017 11:00:00 AM	35099

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:40:00 PM
Lab ID: 1711977-003
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.11	0.20	D	mg/Kg	1	11/28/2017 1:16:00 PM	35096
Aroclor 1221	ND	0.20	0.20	D	mg/Kg	1	11/28/2017 1:16:00 PM	35096
Aroclor 1232	ND	0.20	0.20	D	mg/Kg	1	11/28/2017 1:16:00 PM	35096
Aroclor 1242	ND	0.20	0.20	D	mg/Kg	1	11/28/2017 1:16:00 PM	35096
Aroclor 1248	ND	0.20	0.20	D	mg/Kg	1	11/28/2017 1:16:00 PM	35096
Aroclor 1254	ND	0.20	0.20	D	mg/Kg	1	11/28/2017 1:16:00 PM	35096
Aroclor 1260	ND	0.094	0.20	D	mg/Kg	1	11/28/2017 1:16:00 PM	35096
Surr: Decachlorobiphenyl	0	0	26.3-128	SD	%Rec	1	11/28/2017 1:16:00 PM	35096
Surr: Tetrachloro-m-xylene	0	0	20.7-151	SD	%Rec	1	11/28/2017 1:16:00 PM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	2800	16	100		mg/Kg	10	11/22/2017 12:36:19 PM	35083
Motor Oil Range Organics (MRO)	1800	500	500		mg/Kg	10	11/22/2017 12:36:19 PM	35083
Surr: DNOP	0	0	70-130	S	%Rec	10	11/22/2017 12:36:19 PM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.0	4.6		mg/Kg	1	11/21/2017 5:21:33 PM	35071
Surr: BFB	117	0	15-316		%Rec	1	11/21/2017 5:21:33 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	12	0.10	0.30		mg/Kg	1	12/1/2017 2:05:04 PM	35263
Chloride	850	3.6	30		mg/Kg	20	12/1/2017 2:17:28 PM	35263
Nitrogen, Nitrate (As N)	3.9	0.096	0.30		mg/Kg	1	12/1/2017 2:05:04 PM	35263
Sulfate	2800	7.1	30		mg/Kg	20	12/1/2017 2:17:28 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	0.22	0.0069	0.034		mg/Kg	1	12/4/2017 3:53:36 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Barium	340	0.35	0.49		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Cadmium	ND	0.31	0.49		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Chromium	18	0.47	1.5		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Copper	7.6	0.60	1.5		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Iron	14000	2500	2500		mg/Kg	1000	12/15/2017 6:02:30 PM	35142
Lead	100	0.86	1.2		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Manganese	410	0.26	0.49		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Selenium	ND	9.0	12		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Silver	ND	0.31	1.2		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Uranium	ND	5.7	25		mg/Kg	5	11/30/2017 12:03:45 PM	35142
Zinc	68	1.7	12		mg/Kg	5	11/30/2017 12:03:45 PM	35142

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:40:00 PM
Lab ID: 1711977-003 **Matrix:** SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Aniline	ND	1.1	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Anthracene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Azobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Benz(a)anthracene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Benzo(a)pyrene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Benzo(b)fluoranthene	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Benzo(g,h,i)perylene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Benzo(k)fluoranthene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Benzoic acid	ND	1.5	4.9	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Benzyl alcohol	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Bis(2-chloroethoxy)methane	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Bis(2-chloroethyl)ether	ND	1.3	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Bis(2-chloroisopropyl)ether	ND	2.0	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Bis(2-ethylhexyl)phthalate	ND	1.9	4.9	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
4-Bromophenyl phenyl ether	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Butyl benzyl phthalate	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Carbazole	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
4-Chloro-3-methylphenol	ND	1.8	4.9	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
4-Chloroaniline	ND	1.5	4.9	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2-Chloronaphthalene	ND	1.8	2.5	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2-Chlorophenol	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
4-Chlorophenyl phenyl ether	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Chrysene	1.5	1.5	2.0	JD	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Di-n-butyl phthalate	ND	1.1	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Di-n-octyl phthalate	ND	1.5	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Dibenz(a,h)anthracene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Dibenzofuran	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
1,2-Dichlorobenzene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
1,3-Dichlorobenzene	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
1,4-Dichlorobenzene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
3,3´-Dichlorobenzidine	ND	1.4	2.5	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Diethyl phthalate	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Dimethyl phthalate	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2,4-Dichlorophenol	ND	1.6	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2,4-Dimethylphenol	ND	0.87	3.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
4,6-Dinitro-2-methylphenol	ND	1.5	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2,4-Dinitrophenol	ND	1.2	4.9	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:40:00 PM
Lab ID: 1711977-003
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	1.8	4.9	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2,6-Dinitrotoluene	ND	1.7	4.9	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Fluoranthene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Fluorene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Hexachlorobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Hexachlorobutadiene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Hexachlorocyclopentadiene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Hexachloroethane	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Indeno(1,2,3-cd)pyrene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Isophorone	ND	1.9	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
1-Methylnaphthalene	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2-Methylnaphthalene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2-Methylphenol	ND	1.5	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
3+4-Methylphenol	ND	1.3	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
N-Nitrosodi-n-propylamine	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
N-Nitrosodiphenylamine	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Naphthalene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2-Nitroaniline	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
3-Nitroaniline	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
4-Nitroaniline	ND	1.7	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Nitrobenzene	ND	1.6	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2-Nitrophenol	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
4-Nitrophenol	ND	1.5	2.5	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Pentachlorophenol	ND	1.7	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Phenanthrene	2.9	1.7	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Phenol	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Pyrene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Pyridine	ND	1.3	4.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
1,2,4-Trichlorobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2,4,5-Trichlorophenol	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
2,4,6-Trichlorophenol	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:28:41 PM	35082
Surr: 2-Fluorophenol	0	0	23.3-81	SD	%Rec	1	11/21/2017 5:28:41 PM	35082
Surr: Phenol-d5	0	0	19.4-93.6	SD	%Rec	1	11/21/2017 5:28:41 PM	35082
Surr: 2,4,6-Tribromophenol	0	0	31.1-88.7	SD	%Rec	1	11/21/2017 5:28:41 PM	35082
Surr: Nitrobenzene-d5	0		23.7-106	SD	%Rec	1	11/21/2017 5:28:41 PM	35082
Surr: 2-Fluorobiphenyl	0		26.3-107	SD	%Rec	1	11/21/2017 5:28:41 PM	35082
Surr: 4-Terphenyl-d14	0		32.5-80.1	SD	%Rec	1	11/21/2017 5:28:41 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0045	0.023		mg/Kg	1	11/21/2017 4:33:04 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:40:00 PM
Lab ID: 1711977-003
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0037	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Ethylbenzene	ND	0.0032	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0071	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2,4-Trimethylbenzene	0.010	0.0040	0.046	J	mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,3,5-Trimethylbenzene	0.0051	0.0029	0.046	J	mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0048	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0059	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Naphthalene	0.035	0.0047	0.092	J	mg/Kg	1	11/21/2017 4:33:04 PM	35071
1-Methylnaphthalene	0.60	0.0033	0.18		mg/Kg	1	11/21/2017 4:33:04 PM	35071
2-Methylnaphthalene	0.35	0.0037	0.18		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Acetone	ND	0.050	0.69		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Bromobenzene	ND	0.0034	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Bromodichloromethane	ND	0.0060	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Bromoform	ND	0.011	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Bromomethane	ND	0.0079	0.14		mg/Kg	1	11/21/2017 4:33:04 PM	35071
2-Butanone	0.090	0.027	0.46	J	mg/Kg	1	11/21/2017 4:33:04 PM	35071
Carbon disulfide	ND	0.0055	0.46		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Carbon tetrachloride	ND	0.0046	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Chlorobenzene	ND	0.0027	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Chloroethane	ND	0.015	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Chloroform	ND	0.0028	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Chloromethane	ND	0.0097	0.14		mg/Kg	1	11/21/2017 4:33:04 PM	35071
2-Chlorotoluene	ND	0.0036	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
4-Chlorotoluene	ND	0.0042	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
cis-1,2-DCE	ND	0.0059	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
cis-1,3-Dichloropropene	ND	0.0035	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0063	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Dibromochloromethane	ND	0.0039	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Dibromomethane	ND	0.0022	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2-Dichlorobenzene	ND	0.0023	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,3-Dichlorobenzene	ND	0.0041	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,4-Dichlorobenzene	ND	0.0051	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Dichlorodifluoromethane	ND	0.019	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,1-Dichloroethane	ND	0.018	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,1-Dichloroethene	ND	0.018	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2-Dichloropropane	ND	0.0028	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,3-Dichloropropane	ND	0.011	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
2,2-Dichloropropane	ND	0.0052	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,1-Dichloropropene	ND	0.0052	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:40:00 PM
Lab ID: 1711977-003
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.011	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071
2-Hexanone	ND	0.0090	0.46		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Isopropylbenzene	ND	0.0031	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
4-Isopropyltoluene	ND	0.0035	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
4-Methyl-2-pentanone	ND	0.0098	0.46		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Methylene chloride	ND	0.018	0.14		mg/Kg	1	11/21/2017 4:33:04 PM	35071
n-Butylbenzene	ND	0.0041	0.14		mg/Kg	1	11/21/2017 4:33:04 PM	35071
n-Propylbenzene	ND	0.0029	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
sec-Butylbenzene	ND	0.0048	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Styrene	ND	0.0080	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
tert-Butylbenzene	ND	0.0037	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0052	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.013	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Tetrachloroethene (PCE)	ND	0.0037	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
trans-1,2-DCE	ND	0.018	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
trans-1,3-Dichloropropene	ND	0.0055	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2,3-Trichlorobenzene	ND	0.0042	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2,4-Trichlorobenzene	ND	0.0047	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,1,1-Trichloroethane	ND	0.0060	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,1,2-Trichloroethane	ND	0.0049	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Trichloroethene (TCE)	ND	0.0056	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Trichlorofluoromethane	ND	0.0069	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
1,2,3-Trichloropropane	ND	0.023	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Vinyl chloride	ND	0.0038	0.046		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Xylenes, Total	ND	0.014	0.092		mg/Kg	1	11/21/2017 4:33:04 PM	35071
Surr: Dibromofluoromethane	104		70-130		%Rec	1	11/21/2017 4:33:04 PM	35071
Surr: 1,2-Dichloroethane-d4	99.1		70-130		%Rec	1	11/21/2017 4:33:04 PM	35071
Surr: Toluene-d8	89.9		70-130		%Rec	1	11/21/2017 4:33:04 PM	35071
Surr: 4-Bromofluorobenzene	102		70-130		%Rec	1	11/21/2017 4:33:04 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	1800	31	190		mg/Kg	10	11/29/2017 11:00:00 AM	35099

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:50:00 PM
Lab ID: 1711977-004
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.011	0.020		mg/Kg	1	11/28/2017 1:49:00 PM	35096
Aroclor 1221	ND	0.020	0.020		mg/Kg	1	11/28/2017 1:49:00 PM	35096
Aroclor 1232	ND	0.020	0.020		mg/Kg	1	11/28/2017 1:49:00 PM	35096
Aroclor 1242	ND	0.020	0.020		mg/Kg	1	11/28/2017 1:49:00 PM	35096
Aroclor 1248	ND	0.020	0.020		mg/Kg	1	11/28/2017 1:49:00 PM	35096
Aroclor 1254	ND	0.020	0.020		mg/Kg	1	11/28/2017 1:49:00 PM	35096
Aroclor 1260	ND	0.0092	0.020		mg/Kg	1	11/28/2017 1:49:00 PM	35096
Surr: Decachlorobiphenyl	50.8	0	26.3-128		%Rec	1	11/28/2017 1:49:00 PM	35096
Surr: Tetrachloro-m-xylene	47.6	0	20.7-151		%Rec	1	11/28/2017 1:49:00 PM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.5	1.5	9.4	J	mg/Kg	1	11/22/2017 1:20:41 PM	35083
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/22/2017 1:20:41 PM	35083
Surr: DNOP	93.8	0	70-130		%Rec	1	11/22/2017 1:20:41 PM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.9		mg/Kg	1	11/21/2017 5:45:16 PM	35071
Surr: BFB	122	0	15-316		%Rec	1	11/21/2017 5:45:16 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	2.3	0.10	0.30		mg/Kg	1	12/1/2017 2:29:53 PM	35263
Chloride	900	3.7	30		mg/Kg	20	12/1/2017 2:42:18 PM	35263
Nitrogen, Nitrate (As N)	3.4	0.096	0.30		mg/Kg	1	12/1/2017 2:29:53 PM	35263
Sulfate	460	7.2	30		mg/Kg	20	12/1/2017 2:42:18 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	ND	0.0063	0.031		mg/Kg	1	12/4/2017 3:55:19 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.3	12		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Barium	290	0.34	0.48		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Cadmium	ND	0.31	0.48		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Chromium	17	0.46	1.5		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Copper	3.9	0.59	1.5		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Iron	16000	2400	2400		mg/Kg	1000	12/15/2017 6:04:06 PM	35142
Lead	3.6	0.84	1.2		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Manganese	380	0.26	0.48		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Selenium	ND	8.8	12		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Silver	ND	0.30	1.2		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Uranium	ND	5.6	24		mg/Kg	5	11/30/2017 12:11:40 PM	35142
Zinc	23	1.7	12		mg/Kg	5	11/30/2017 12:11:40 PM	35142

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:50:00 PM
Lab ID: 1711977-004
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Aniline	ND	0.11	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Anthracene	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Azobenzene	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Benzoic acid	ND	0.15	0.50		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Bis(2-ethylhexyl)phthalate	0.22	0.19	0.50	J	mg/Kg	1	11/21/2017 3:08:55 PM	35082
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Butyl benzyl phthalate	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Carbazole	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
4-Chloro-3-methylphenol	ND	0.18	0.50		mg/Kg	1	11/21/2017 3:08:55 PM	35082
4-Chloroaniline	ND	0.15	0.50		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
4-Chlorophenyl phenyl ether	ND	0.15	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Chrysene	ND	0.15	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Di-n-butyl phthalate	ND	0.11	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Di-n-octyl phthalate	ND	0.15	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
3,3´-Dichlorobenzidine	ND	0.15	0.25		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Diethyl phthalate	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Dimethyl phthalate	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2,4-Dichlorophenol	ND	0.16	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2,4-Dimethylphenol	ND	0.088	0.30		mg/Kg	1	11/21/2017 3:08:55 PM	35082
4,6-Dinitro-2-methylphenol	ND	0.15	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2,4-Dinitrophenol	ND	0.12	0.50		mg/Kg	1	11/21/2017 3:08:55 PM	35082

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:50:00 PM
Lab ID: 1711977-004
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	0.18	0.50		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2,6-Dinitrotoluene	ND	0.17	0.50		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Fluoranthene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Fluorene	ND	0.15	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Isophorone	ND	0.19	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2-Methylphenol	ND	0.15	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
N-Nitrosodi-n-propylamine	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Naphthalene	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
4-Nitroaniline	ND	0.17	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Nitrobenzene	ND	0.16	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Pentachlorophenol	ND	0.17	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Phenanthrene	ND	0.17	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Phenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Pyrene	ND	0.15	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Pyridine	ND	0.13	0.40		mg/Kg	1	11/21/2017 3:08:55 PM	35082
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	11/21/2017 3:08:55 PM	35082
Surr: 2-Fluorophenol	83.4	0	23.3-81	S	%Rec	1	11/21/2017 3:08:55 PM	35082
Surr: Phenol-d5	88.2	0	19.4-93.6		%Rec	1	11/21/2017 3:08:55 PM	35082
Surr: 2,4,6-Tribromophenol	87.9	0	31.1-88.7		%Rec	1	11/21/2017 3:08:55 PM	35082
Surr: Nitrobenzene-d5	77.7		23.7-106		%Rec	1	11/21/2017 3:08:55 PM	35082
Surr: 2-Fluorobiphenyl	71.9		26.3-107		%Rec	1	11/21/2017 3:08:55 PM	35082
Surr: 4-Terphenyl-d14	76.0		32.5-80.1		%Rec	1	11/21/2017 3:08:55 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0048	0.024		mg/Kg	1	11/21/2017 5:02:30 PM	35071

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:50:00 PM
Lab ID: 1711977-004
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Ethylbenzene	ND	0.0034	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0075	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2,4-Trimethylbenzene	ND	0.0042	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,3,5-Trimethylbenzene	ND	0.0031	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0051	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0062	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Naphthalene	ND	0.0049	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1-Methylnaphthalene	0.020	0.0035	0.19	J	mg/Kg	1	11/21/2017 5:02:30 PM	35071
2-Methylnaphthalene	0.012	0.0040	0.19	J	mg/Kg	1	11/21/2017 5:02:30 PM	35071
Acetone	ND	0.053	0.73		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Bromobenzene	ND	0.0036	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Bromodichloromethane	ND	0.0063	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Bromoform	ND	0.012	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Bromomethane	0.025	0.0084	0.15	J	mg/Kg	1	11/21/2017 5:02:30 PM	35071
2-Butanone	0.075	0.029	0.49	J	mg/Kg	1	11/21/2017 5:02:30 PM	35071
Carbon disulfide	ND	0.0058	0.49		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Carbon tetrachloride	ND	0.0048	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Chlorobenzene	ND	0.0029	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Chloroethane	ND	0.016	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Chloroform	ND	0.0029	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Chloromethane	ND	0.010	0.15		mg/Kg	1	11/21/2017 5:02:30 PM	35071
2-Chlorotoluene	ND	0.0038	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
4-Chlorotoluene	ND	0.0044	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
cis-1,2-DCE	ND	0.0062	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
cis-1,3-Dichloropropene	ND	0.0037	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0067	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Dibromochloromethane	ND	0.0041	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Dibromomethane	ND	0.0024	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2-Dichlorobenzene	ND	0.0025	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,3-Dichlorobenzene	ND	0.0043	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,4-Dichlorobenzene	ND	0.0054	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Dichlorodifluoromethane	ND	0.020	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,1-Dichloroethane	ND	0.019	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,1-Dichloroethene	ND	0.019	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2-Dichloropropane	ND	0.0030	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,3-Dichloropropane	ND	0.012	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
2,2-Dichloropropane	ND	0.0055	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,1-Dichloropropene	ND	0.0055	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ02
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 12:50:00 PM
Lab ID: 1711977-004
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
2-Hexanone	ND	0.0095	0.49		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Isopropylbenzene	ND	0.0033	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
4-Isopropyltoluene	ND	0.0037	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
4-Methyl-2-pentanone	ND	0.010	0.49		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Methylene chloride	ND	0.019	0.15		mg/Kg	1	11/21/2017 5:02:30 PM	35071
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	11/21/2017 5:02:30 PM	35071
n-Propylbenzene	ND	0.0030	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
sec-Butylbenzene	ND	0.0050	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Styrene	ND	0.0085	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
tert-Butylbenzene	ND	0.0039	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0055	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.014	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Tetrachloroethene (PCE)	ND	0.0039	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
trans-1,2-DCE	ND	0.019	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
trans-1,3-Dichloropropene	ND	0.0058	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2,3-Trichlorobenzene	ND	0.0045	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2,4-Trichlorobenzene	ND	0.0049	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,1,1-Trichloroethane	ND	0.0063	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,1,2-Trichloroethane	ND	0.0052	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Trichloroethene (TCE)	ND	0.0059	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Trichlorofluoromethane	ND	0.0073	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
1,2,3-Trichloropropane	ND	0.024	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Vinyl chloride	ND	0.0041	0.049		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Xylenes, Total	ND	0.015	0.097		mg/Kg	1	11/21/2017 5:02:30 PM	35071
Surr: Dibromofluoromethane	105		70-130		%Rec	1	11/21/2017 5:02:30 PM	35071
Surr: 1,2-Dichloroethane-d4	98.4		70-130		%Rec	1	11/21/2017 5:02:30 PM	35071
Surr: Toluene-d8	90.6		70-130		%Rec	1	11/21/2017 5:02:30 PM	35071
Surr: 4-Bromofluorobenzene	104		70-130		%Rec	1	11/21/2017 5:02:30 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	23	3.1	19		mg/Kg	1	11/29/2017 11:00:00 AM	35099

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:20:00 PM
Lab ID: 1711977-005
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.011	0.020		mg/Kg	1	11/28/2017 2:22:00 PM	35096
Aroclor 1221	ND	0.020	0.020		mg/Kg	1	11/28/2017 2:22:00 PM	35096
Aroclor 1232	ND	0.020	0.020		mg/Kg	1	11/28/2017 2:22:00 PM	35096
Aroclor 1242	ND	0.020	0.020		mg/Kg	1	11/28/2017 2:22:00 PM	35096
Aroclor 1248	ND	0.020	0.020		mg/Kg	1	11/28/2017 2:22:00 PM	35096
Aroclor 1254	ND	0.020	0.020		mg/Kg	1	11/28/2017 2:22:00 PM	35096
Aroclor 1260	ND	0.0094	0.020		mg/Kg	1	11/28/2017 2:22:00 PM	35096
Surr: Decachlorobiphenyl	85.2	0	26.3-128		%Rec	1	11/28/2017 2:22:00 PM	35096
Surr: Tetrachloro-m-xylene	82.4	0	20.7-151		%Rec	1	11/28/2017 2:22:00 PM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	7.0	1.5	9.5	J	mg/Kg	1	11/22/2017 2:04:57 PM	35083
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/22/2017 2:04:57 PM	35083
Surr: DNOP	93.5	0	70-130		%Rec	1	11/22/2017 2:04:57 PM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.0	4.6		mg/Kg	1	11/21/2017 6:08:59 PM	35071
Surr: BFB	122	0	15-316		%Rec	1	11/21/2017 6:08:59 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	5.5	0.51	1.5		mg/Kg	5	12/1/2017 3:19:31 PM	35263
Chloride	140	0.91	7.5		mg/Kg	5	12/1/2017 3:19:31 PM	35263
Nitrogen, Nitrate (As N)	2.1	0.48	1.5		mg/Kg	5	12/1/2017 3:19:31 PM	35263
Sulfate	360	1.8	7.5		mg/Kg	5	12/1/2017 3:19:31 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	0.071	0.0068	0.034		mg/Kg	1	12/4/2017 3:57:02 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	6.2	4.4	12	J	mg/Kg	5	11/30/2017 12:13:02 PM	35142
Barium	330	0.35	0.50		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Cadmium	ND	0.31	0.50		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Chromium	19	0.47	1.5		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Copper	7.0	0.60	1.5		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Iron	18000	2500	2500		mg/Kg	1000	12/15/2017 6:05:40 PM	35142
Lead	4.2	0.86	1.2		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Manganese	420	0.27	0.50		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Selenium	ND	9.0	12		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Silver	ND	0.31	1.2		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Uranium	ND	5.7	25		mg/Kg	5	11/30/2017 12:13:02 PM	35142
Zinc	35	1.7	12		mg/Kg	5	11/30/2017 12:13:02 PM	35142

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:20:00 PM
Lab ID: 1711977-005
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.33	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Acenaphthylene	ND	0.37	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Aniline	ND	0.23	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Anthracene	ND	0.36	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Azobenzene	ND	0.37	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Benz(a)anthracene	ND	0.34	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Benzo(a)pyrene	ND	0.32	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Benzo(b)fluoranthene	ND	0.38	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Benzo(g,h,i)perylene	ND	0.33	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Benzo(k)fluoranthene	ND	0.30	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Benzoic acid	ND	0.30	1.0	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Benzyl alcohol	ND	0.33	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Bis(2-chloroethoxy)methane	ND	0.36	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Bis(2-chloroethyl)ether	ND	0.26	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Bis(2-chloroisopropyl)ether	ND	0.40	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Bis(2-ethylhexyl)phthalate	0.43	0.39	1.0	JD	mg/Kg	1	11/21/2017 3:36:54 PM	35082
4-Bromophenyl phenyl ether	ND	0.33	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Butyl benzyl phthalate	ND	0.33	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Carbazole	ND	0.32	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
4-Chloro-3-methylphenol	ND	0.36	1.0	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
4-Chloroaniline	ND	0.31	1.0	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2-Chloronaphthalene	ND	0.36	0.50	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2-Chlorophenol	ND	0.29	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
4-Chlorophenyl phenyl ether	ND	0.31	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Chrysene	ND	0.30	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Di-n-butyl phthalate	0.24	0.23	0.80	JD	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Di-n-octyl phthalate	ND	0.30	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Dibenz(a,h)anthracene	ND	0.32	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Dibenzofuran	ND	0.34	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
1,2-Dichlorobenzene	ND	0.30	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
1,3-Dichlorobenzene	ND	0.28	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
1,4-Dichlorobenzene	ND	0.32	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
3,3´-Dichlorobenzidine	ND	0.29	0.50	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Diethyl phthalate	ND	0.34	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Dimethyl phthalate	ND	0.37	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2,4-Dichlorophenol	ND	0.31	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2,4-Dimethylphenol	ND	0.18	0.60	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
4,6-Dinitro-2-methylphenol	ND	0.30	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2,4-Dinitrophenol	ND	0.24	1.0	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:20:00 PM
Lab ID: 1711977-005
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	0.37	1.0	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2,6-Dinitrotoluene	ND	0.35	1.0	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Fluoranthene	ND	0.33	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Fluorene	ND	0.31	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Hexachlorobenzene	ND	0.37	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Hexachlorobutadiene	ND	0.34	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Hexachlorocyclopentadiene	ND	0.32	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Hexachloroethane	ND	0.29	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Indeno(1,2,3-cd)pyrene	ND	0.33	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Isophorone	ND	0.38	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
1-Methylnaphthalene	ND	0.39	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2-Methylnaphthalene	ND	0.34	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2-Methylphenol	ND	0.30	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
3+4-Methylphenol	ND	0.27	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
N-Nitrosodi-n-propylamine	ND	0.35	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
N-Nitrosodiphenylamine	ND	0.38	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Naphthalene	ND	0.37	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2-Nitroaniline	ND	0.37	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
3-Nitroaniline	ND	0.36	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
4-Nitroaniline	ND	0.34	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Nitrobenzene	ND	0.33	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2-Nitrophenol	ND	0.38	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
4-Nitrophenol	ND	0.31	0.50	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Pentachlorophenol	ND	0.34	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Phenanthrene	ND	0.35	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Phenol	ND	0.28	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Pyrene	ND	0.30	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Pyridine	ND	0.27	0.80	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
1,2,4-Trichlorobenzene	ND	0.37	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2,4,5-Trichlorophenol	ND	0.30	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
2,4,6-Trichlorophenol	ND	0.31	0.40	D	mg/Kg	1	11/21/2017 3:36:54 PM	35082
Surr: 2-Fluorophenol	88.8	0	23.3-81	SD	%Rec	1	11/21/2017 3:36:54 PM	35082
Surr: Phenol-d5	93.6	0	19.4-93.6	D	%Rec	1	11/21/2017 3:36:54 PM	35082
Surr: 2,4,6-Tribromophenol	110	0	31.1-88.7	SD	%Rec	1	11/21/2017 3:36:54 PM	35082
Surr: Nitrobenzene-d5	99.7		23.7-106	D	%Rec	1	11/21/2017 3:36:54 PM	35082
Surr: 2-Fluorobiphenyl	97.0		26.3-107	D	%Rec	1	11/21/2017 3:36:54 PM	35082
Surr: 4-Terphenyl-d14	70.9		32.5-80.1	D	%Rec	1	11/21/2017 3:36:54 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0046	0.023		mg/Kg	1	11/21/2017 5:31:28 PM	35071

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:20:00 PM
Lab ID: 1711977-005
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0038	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Ethylbenzene	ND	0.0033	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0071	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2,4-Trimethylbenzene	ND	0.0040	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,3,5-Trimethylbenzene	ND	0.0029	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0048	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0059	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Naphthalene	ND	0.0047	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1-Methylnaphthalene	ND	0.0033	0.19		mg/Kg	1	11/21/2017 5:31:28 PM	35071
2-Methylnaphthalene	ND	0.0038	0.19		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Acetone	ND	0.050	0.70		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Bromobenzene	ND	0.0034	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Bromodichloromethane	ND	0.0060	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Bromoform	ND	0.011	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Bromomethane	0.030	0.0080	0.14	J	mg/Kg	1	11/21/2017 5:31:28 PM	35071
2-Butanone	0.080	0.028	0.46	J	mg/Kg	1	11/21/2017 5:31:28 PM	35071
Carbon disulfide	ND	0.0055	0.46		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Carbon tetrachloride	ND	0.0046	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Chlorobenzene	ND	0.0028	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Chloroethane	ND	0.015	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Chloroform	ND	0.0028	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Chloromethane	ND	0.0097	0.14		mg/Kg	1	11/21/2017 5:31:28 PM	35071
2-Chlorotoluene	ND	0.0036	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
4-Chlorotoluene	ND	0.0042	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
cis-1,2-DCE	ND	0.0059	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
cis-1,3-Dichloropropene	ND	0.0035	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0064	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Dibromochloromethane	ND	0.0039	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Dibromomethane	ND	0.0023	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2-Dichlorobenzene	ND	0.0023	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,3-Dichlorobenzene	ND	0.0041	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,4-Dichlorobenzene	ND	0.0052	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Dichlorodifluoromethane	ND	0.019	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,1-Dichloroethane	ND	0.019	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,1-Dichloroethene	ND	0.019	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2-Dichloropropane	ND	0.0029	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,3-Dichloropropane	ND	0.011	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
2,2-Dichloropropane	ND	0.0053	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,1-Dichloropropene	ND	0.0052	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:20:00 PM
Lab ID: 1711977-005
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
2-Hexanone	ND	0.0091	0.46		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Isopropylbenzene	ND	0.0031	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
4-Isopropyltoluene	ND	0.0035	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
4-Methyl-2-pentanone	ND	0.0099	0.46		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Methylene chloride	ND	0.019	0.14		mg/Kg	1	11/21/2017 5:31:28 PM	35071
n-Butylbenzene	ND	0.0042	0.14		mg/Kg	1	11/21/2017 5:31:28 PM	35071
n-Propylbenzene	ND	0.0029	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
sec-Butylbenzene	ND	0.0048	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Styrene	ND	0.0081	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
tert-Butylbenzene	ND	0.0038	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0052	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.013	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Tetrachloroethene (PCE)	ND	0.0037	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
trans-1,2-DCE	ND	0.019	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
trans-1,3-Dichloropropene	ND	0.0055	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2,3-Trichlorobenzene	ND	0.0042	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2,4-Trichlorobenzene	ND	0.0047	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,1,1-Trichloroethane	ND	0.0060	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,1,2-Trichloroethane	ND	0.0049	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Trichloroethene (TCE)	ND	0.0056	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Trichlorofluoromethane	ND	0.0070	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
1,2,3-Trichloropropane	ND	0.023	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Vinyl chloride	ND	0.0039	0.046		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Xylenes, Total	ND	0.014	0.093		mg/Kg	1	11/21/2017 5:31:28 PM	35071
Surr: Dibromofluoromethane	101		70-130		%Rec	1	11/21/2017 5:31:28 PM	35071
Surr: 1,2-Dichloroethane-d4	97.8		70-130		%Rec	1	11/21/2017 5:31:28 PM	35071
Surr: Toluene-d8	90.9		70-130		%Rec	1	11/21/2017 5:31:28 PM	35071
Surr: 4-Bromofluorobenzene	102		70-130		%Rec	1	11/21/2017 5:31:28 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	24	3.2	19		mg/Kg	1	11/29/2017 11:00:00 AM	35099

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:30:00 PM
Lab ID: 1711977-006
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	11/28/2017 2:55:00 PM	35096
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	11/28/2017 2:55:00 PM	35096
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	11/28/2017 2:55:00 PM	35096
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	11/28/2017 2:55:00 PM	35096
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	11/28/2017 2:55:00 PM	35096
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	11/28/2017 2:55:00 PM	35096
Aroclor 1260	ND	0.0090	0.019		mg/Kg	1	11/28/2017 2:55:00 PM	35096
Surr: Decachlorobiphenyl	83.6	0	26.3-128		%Rec	1	11/28/2017 2:55:00 PM	35096
Surr: Tetrachloro-m-xylene	83.6	0	20.7-151		%Rec	1	11/28/2017 2:55:00 PM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.6	9.7		mg/Kg	1	11/22/2017 2:49:20 PM	35083
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	11/22/2017 2:49:20 PM	35083
Surr: DNOP	95.0	0	70-130		%Rec	1	11/22/2017 2:49:20 PM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.0	4.6		mg/Kg	1	11/21/2017 8:07:13 PM	35071
Surr: BFB	123	0	15-316		%Rec	1	11/21/2017 8:07:13 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	3.1	0.10	0.30		mg/Kg	1	12/1/2017 3:44:20 PM	35263
Chloride	350	3.7	30		mg/Kg	20	12/1/2017 3:56:44 PM	35263
Nitrogen, Nitrate (As N)	9.4	0.096	0.30		mg/Kg	1	12/1/2017 3:44:20 PM	35263
Sulfate	520	7.1	30		mg/Kg	20	12/1/2017 3:56:44 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	ND	0.0070	0.035		mg/Kg	1	12/4/2017 3:58:47 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	4.8	4.3	12	J	mg/Kg	5	11/30/2017 12:14:24 PM	35142
Barium	260	0.35	0.49		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Cadmium	ND	0.31	0.49		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Chromium	19	0.46	1.5		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Copper	4.5	0.59	1.5		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Iron	17000	2400	2400		mg/Kg	1000	12/15/2017 4:48:13 PM	35142
Lead	2.4	0.85	1.2		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Manganese	390	0.26	0.49		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Selenium	ND	8.9	12		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Silver	ND	0.31	1.2		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Uranium	ND	5.6	24		mg/Kg	5	11/30/2017 12:14:24 PM	35142
Zinc	26	1.7	12		mg/Kg	5	11/30/2017 12:14:24 PM	35142

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:30:00 PM
Lab ID: 1711977-006
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Aniline	ND	0.11	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Anthracene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Azobenzene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Benzo(g,h,i)perylene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Benzoic acid	ND	0.15	0.51		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Bis(2-ethylhexyl)phthalate	0.30	0.20	0.51	J	mg/Kg	1	11/21/2017 4:04:53 PM	35082
4-Bromophenyl phenyl ether	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Butyl benzyl phthalate	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Carbazole	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
4-Chloro-3-methylphenol	ND	0.18	0.51		mg/Kg	1	11/21/2017 4:04:53 PM	35082
4-Chloroaniline	ND	0.16	0.51		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2-Chloronaphthalene	ND	0.18	0.26		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2-Chlorophenol	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
4-Chlorophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Chrysene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Di-n-butyl phthalate	0.12	0.12	0.41	J	mg/Kg	1	11/21/2017 4:04:53 PM	35082
Di-n-octyl phthalate	ND	0.15	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Dibenzofuran	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
1,4-Dichlorobenzene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
3,3´-Dichlorobenzidine	ND	0.15	0.26		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Diethyl phthalate	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Dimethyl phthalate	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2,4-Dichlorophenol	ND	0.16	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2,4-Dimethylphenol	ND	0.091	0.31		mg/Kg	1	11/21/2017 4:04:53 PM	35082
4,6-Dinitro-2-methylphenol	ND	0.15	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2,4-Dinitrophenol	ND	0.12	0.51		mg/Kg	1	11/21/2017 4:04:53 PM	35082

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:30:00 PM
Lab ID: 1711977-006
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	0.19	0.51		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2,6-Dinitrotoluene	ND	0.18	0.51		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Fluoranthene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Fluorene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Hexachlorobenzene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Hexachloroethane	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Indeno(1,2,3-cd)pyrene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Isophorone	ND	0.20	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
1-Methylnaphthalene	ND	0.20	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2-Methylphenol	ND	0.15	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
3+4-Methylphenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
N-Nitrosodi-n-propylamine	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
N-Nitrosodiphenylamine	ND	0.20	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Naphthalene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2-Nitroaniline	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
4-Nitroaniline	ND	0.17	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Nitrobenzene	ND	0.17	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
4-Nitrophenol	ND	0.16	0.26		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Pentachlorophenol	ND	0.17	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Phenanthrene	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Phenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Pyrene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Pyridine	ND	0.14	0.41		mg/Kg	1	11/21/2017 4:04:53 PM	35082
1,2,4-Trichlorobenzene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:04:53 PM	35082
Surr: 2-Fluorophenol	60.7	0	23.3-81		%Rec	1	11/21/2017 4:04:53 PM	35082
Surr: Phenol-d5	72.2	0	19.4-93.6		%Rec	1	11/21/2017 4:04:53 PM	35082
Surr: 2,4,6-Tribromophenol	90.4	0	31.1-88.7	S	%Rec	1	11/21/2017 4:04:53 PM	35082
Surr: Nitrobenzene-d5	66.1		23.7-106		%Rec	1	11/21/2017 4:04:53 PM	35082
Surr: 2-Fluorobiphenyl	68.7		26.3-107		%Rec	1	11/21/2017 4:04:53 PM	35082
Surr: 4-Terphenyl-d14	67.0		32.5-80.1		%Rec	1	11/21/2017 4:04:53 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0046	0.023		mg/Kg	1	11/21/2017 6:00:48 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:30:00 PM
Lab ID: 1711977-006
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0037	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Ethylbenzene	ND	0.0032	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0071	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2,4-Trimethylbenzene	ND	0.0040	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,3,5-Trimethylbenzene	ND	0.0029	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0048	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0059	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Naphthalene	ND	0.0047	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1-Methylnaphthalene	ND	0.0033	0.19		mg/Kg	1	11/21/2017 6:00:48 PM	35071
2-Methylnaphthalene	ND	0.0038	0.19		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Acetone	ND	0.050	0.69		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Bromobenzene	ND	0.0034	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Bromodichloromethane	ND	0.0060	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Bromoform	ND	0.011	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Bromomethane	0.023	0.0080	0.14	J	mg/Kg	1	11/21/2017 6:00:48 PM	35071
2-Butanone	0.081	0.027	0.46	J	mg/Kg	1	11/21/2017 6:00:48 PM	35071
Carbon disulfide	ND	0.0055	0.46		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Carbon tetrachloride	ND	0.0046	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Chlorobenzene	ND	0.0028	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Chloroethane	ND	0.015	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Chloroform	ND	0.0028	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Chloromethane	ND	0.0097	0.14		mg/Kg	1	11/21/2017 6:00:48 PM	35071
2-Chlorotoluene	ND	0.0036	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
4-Chlorotoluene	ND	0.0042	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
cis-1,2-DCE	ND	0.0059	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
cis-1,3-Dichloropropene	ND	0.0035	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0064	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Dibromochloromethane	ND	0.0039	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Dibromomethane	ND	0.0023	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2-Dichlorobenzene	ND	0.0023	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,3-Dichlorobenzene	ND	0.0041	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,4-Dichlorobenzene	ND	0.0051	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Dichlorodifluoromethane	ND	0.019	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,1-Dichloroethane	ND	0.019	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,1-Dichloroethene	ND	0.019	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2-Dichloropropane	ND	0.0029	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,3-Dichloropropane	ND	0.011	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
2,2-Dichloropropane	ND	0.0053	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,1-Dichloropropene	ND	0.0052	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ03
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 1:30:00 PM
Lab ID: 1711977-006
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
2-Hexanone	ND	0.0090	0.46		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Isopropylbenzene	ND	0.0031	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
4-Isopropyltoluene	ND	0.0035	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
4-Methyl-2-pentanone	ND	0.0099	0.46		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Methylene chloride	ND	0.019	0.14		mg/Kg	1	11/21/2017 6:00:48 PM	35071
n-Butylbenzene	ND	0.0041	0.14		mg/Kg	1	11/21/2017 6:00:48 PM	35071
n-Propylbenzene	ND	0.0029	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
sec-Butylbenzene	ND	0.0048	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Styrene	ND	0.0080	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
tert-Butylbenzene	ND	0.0037	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0052	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.013	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Tetrachloroethene (PCE)	ND	0.0037	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
trans-1,2-DCE	ND	0.019	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
trans-1,3-Dichloropropene	ND	0.0055	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2,3-Trichlorobenzene	ND	0.0042	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2,4-Trichlorobenzene	ND	0.0047	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,1,1-Trichloroethane	ND	0.0060	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,1,2-Trichloroethane	ND	0.0049	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Trichloroethene (TCE)	ND	0.0056	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Trichlorofluoromethane	ND	0.0069	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
1,2,3-Trichloropropane	ND	0.023	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Vinyl chloride	ND	0.0039	0.046		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Xylenes, Total	ND	0.014	0.093		mg/Kg	1	11/21/2017 6:00:48 PM	35071
Surr: Dibromofluoromethane	100		70-130		%Rec	1	11/21/2017 6:00:48 PM	35071
Surr: 1,2-Dichloroethane-d4	91.8		70-130		%Rec	1	11/21/2017 6:00:48 PM	35071
Surr: Toluene-d8	91.6		70-130		%Rec	1	11/21/2017 6:00:48 PM	35071
Surr: 4-Bromofluorobenzene	103		70-130		%Rec	1	11/21/2017 6:00:48 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	15	3.3	20	J	mg/Kg	1	11/29/2017 11:00:00 AM	35099

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1711977-007
Matrix: AQUEOUS
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/22/2017 4:53:04 PM	B47319
Toluene	ND	0.064	1.0		µg/L	1	11/22/2017 4:53:04 PM	B47319
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/22/2017 4:53:04 PM	B47319
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/22/2017 4:53:04 PM	B47319
Surr: 1,2-Dichloroethane-d4	97.9	0	70-130		%Rec	1	11/22/2017 4:53:04 PM	B47319
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	11/22/2017 4:53:04 PM	B47319
Surr: Dibromofluoromethane	98.6	0	70-130		%Rec	1	11/22/2017 4:53:04 PM	B47319
Surr: Toluene-d8	95.5	0	70-130		%Rec	1	11/22/2017 4:53:04 PM	B47319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:00:00 PM
Lab ID: 1711977-008
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.010	0.019		mg/Kg	1	11/28/2017 4:01:00 PM	35096
Aroclor 1221	ND	0.019	0.019		mg/Kg	1	11/28/2017 4:01:00 PM	35096
Aroclor 1232	ND	0.019	0.019		mg/Kg	1	11/28/2017 4:01:00 PM	35096
Aroclor 1242	ND	0.019	0.019		mg/Kg	1	11/28/2017 4:01:00 PM	35096
Aroclor 1248	ND	0.019	0.019		mg/Kg	1	11/28/2017 4:01:00 PM	35096
Aroclor 1254	ND	0.019	0.019		mg/Kg	1	11/28/2017 4:01:00 PM	35096
Aroclor 1260	ND	0.0090	0.019		mg/Kg	1	11/28/2017 4:01:00 PM	35096
Surr: Decachlorobiphenyl	83.2	0	26.3-128		%Rec	1	11/28/2017 4:01:00 PM	35096
Surr: Tetrachloro-m-xylene	80.0	0	20.7-151		%Rec	1	11/28/2017 4:01:00 PM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.6	1.5	9.3	J	mg/Kg	1	11/22/2017 3:33:41 PM	35083
Motor Oil Range Organics (MRO)	ND	47	47		mg/Kg	1	11/22/2017 3:33:41 PM	35083
Surr: DNOP	94.4	0	70-130		%Rec	1	11/22/2017 3:33:41 PM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	5.0		mg/Kg	1	11/21/2017 8:30:48 PM	35071
Surr: BFB	122	0	15-316		%Rec	1	11/21/2017 8:30:48 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	3.3	0.10	0.30		mg/Kg	1	12/1/2017 4:09:08 PM	35263
Chloride	74	3.6	30		mg/Kg	20	12/1/2017 4:21:33 PM	35263
Nitrogen, Nitrate (As N)	0.43	0.096	0.30		mg/Kg	1	12/1/2017 4:09:08 PM	35263
Sulfate	600	7.1	30		mg/Kg	20	12/1/2017 4:21:33 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	0.037	0.0064	0.032		mg/Kg	1	12/4/2017 4:04:07 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Barium	280	0.35	0.49		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Cadmium	ND	0.31	0.49		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Chromium	15	0.47	1.5		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Copper	12	0.60	1.5		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Iron	13000	2500	2500		mg/Kg	1000	12/15/2017 4:49:45 PM	35142
Lead	5.0	0.86	1.2		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Manganese	460	0.26	0.49		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Selenium	ND	9.0	12		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Silver	ND	0.31	1.2		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Uranium	ND	5.7	25		mg/Kg	5	11/30/2017 12:15:46 PM	35142
Zinc	61	1.7	12		mg/Kg	5	11/30/2017 12:15:46 PM	35142

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:00:00 PM
Lab ID: 1711977-008
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Acenaphthylene	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Aniline	ND	0.11	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Anthracene	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Azobenzene	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Benzoic acid	ND	0.15	0.50		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Bis(2-ethylhexyl)phthalate	0.20	0.19	0.50	J	mg/Kg	1	11/21/2017 4:32:50 PM	35082
4-Bromophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Butyl benzyl phthalate	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Carbazole	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
4-Chloro-3-methylphenol	ND	0.18	0.50		mg/Kg	1	11/21/2017 4:32:50 PM	35082
4-Chloroaniline	ND	0.15	0.50		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2-Chlorophenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
4-Chlorophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Chrysene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Di-n-butyl phthalate	ND	0.11	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Di-n-octyl phthalate	ND	0.15	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
3,3´-Dichlorobenzidine	ND	0.15	0.25		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Diethyl phthalate	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Dimethyl phthalate	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2,4-Dichlorophenol	ND	0.16	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2,4-Dimethylphenol	ND	0.089	0.30		mg/Kg	1	11/21/2017 4:32:50 PM	35082
4,6-Dinitro-2-methylphenol	ND	0.15	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2,4-Dinitrophenol	ND	0.12	0.50		mg/Kg	1	11/21/2017 4:32:50 PM	35082

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:00:00 PM
Lab ID: 1711977-008
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	0.19	0.50		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2,6-Dinitrotoluene	ND	0.18	0.50		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Fluoranthene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Fluorene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Hexachlorobenzene	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Hexachloroethane	ND	0.14	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Indeno(1,2,3-cd)pyrene	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Isophorone	ND	0.19	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
1-Methylnaphthalene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2-Methylphenol	ND	0.15	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
3+4-Methylphenol	ND	0.13	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
N-Nitrosodi-n-propylamine	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Naphthalene	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2-Nitroaniline	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
4-Nitroaniline	ND	0.17	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Nitrobenzene	ND	0.17	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
4-Nitrophenol	ND	0.15	0.25		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Pentachlorophenol	ND	0.17	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Phenanthrene	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Phenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Pyrene	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Pyridine	ND	0.13	0.40		mg/Kg	1	11/21/2017 4:32:50 PM	35082
1,2,4-Trichlorobenzene	ND	0.18	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	11/21/2017 4:32:50 PM	35082
Surr: 2-Fluorophenol	64.3	0	23.3-81		%Rec	1	11/21/2017 4:32:50 PM	35082
Surr: Phenol-d5	69.6	0	19.4-93.6		%Rec	1	11/21/2017 4:32:50 PM	35082
Surr: 2,4,6-Tribromophenol	78.0	0	31.1-88.7		%Rec	1	11/21/2017 4:32:50 PM	35082
Surr: Nitrobenzene-d5	73.2		23.7-106		%Rec	1	11/21/2017 4:32:50 PM	35082
Surr: 2-Fluorobiphenyl	71.3		26.3-107		%Rec	1	11/21/2017 4:32:50 PM	35082
Surr: 4-Terphenyl-d14	84.6		32.5-80.1	S	%Rec	1	11/21/2017 4:32:50 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0049	0.025		mg/Kg	1	11/21/2017 6:30:14 PM	35071

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:00:00 PM
Lab ID: 1711977-008
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0040	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Ethylbenzene	ND	0.0035	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0076	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2,4-Trimethylbenzene	ND	0.0043	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,3,5-Trimethylbenzene	ND	0.0032	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0052	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0063	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Naphthalene	ND	0.0050	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1-Methylnaphthalene	ND	0.0035	0.20		mg/Kg	1	11/21/2017 6:30:14 PM	35071
2-Methylnaphthalene	ND	0.0040	0.20		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Acetone	ND	0.054	0.75		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Bromobenzene	ND	0.0037	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Bromodichloromethane	ND	0.0065	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Bromoform	ND	0.012	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Bromomethane	0.025	0.0086	0.15	J	mg/Kg	1	11/21/2017 6:30:14 PM	35071
2-Butanone	0.090	0.030	0.50	J	mg/Kg	1	11/21/2017 6:30:14 PM	35071
Carbon disulfide	ND	0.0059	0.50		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Carbon tetrachloride	ND	0.0049	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Chlorobenzene	ND	0.0030	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Chloroethane	ND	0.016	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Chloroform	ND	0.0030	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Chloromethane	ND	0.010	0.15		mg/Kg	1	11/21/2017 6:30:14 PM	35071
2-Chlorotoluene	ND	0.0039	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
4-Chlorotoluene	ND	0.0045	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
cis-1,2-DCE	ND	0.0064	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
cis-1,3-Dichloropropene	ND	0.0038	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0069	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Dibromochloromethane	ND	0.0042	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Dibromomethane	ND	0.0024	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2-Dichlorobenzene	ND	0.0025	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,3-Dichlorobenzene	ND	0.0044	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,4-Dichlorobenzene	ND	0.0055	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Dichlorodifluoromethane	ND	0.021	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,1-Dichloroethane	ND	0.020	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,1-Dichloroethene	ND	0.020	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2-Dichloropropane	ND	0.0031	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,3-Dichloropropane	ND	0.012	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
2,2-Dichloropropane	ND	0.0057	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,1-Dichloropropene	ND	0.0056	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF TZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:00:00 PM
Lab ID: 1711977-008
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
2-Hexanone	ND	0.0097	0.50		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Isopropylbenzene	ND	0.0033	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
4-Isopropyltoluene	ND	0.0038	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
4-Methyl-2-pentanone	ND	0.011	0.50		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Methylene chloride	ND	0.020	0.15		mg/Kg	1	11/21/2017 6:30:14 PM	35071
n-Butylbenzene	ND	0.0045	0.15		mg/Kg	1	11/21/2017 6:30:14 PM	35071
n-Propylbenzene	ND	0.0031	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
sec-Butylbenzene	ND	0.0051	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Styrene	ND	0.0087	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
tert-Butylbenzene	ND	0.0040	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0056	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.014	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Tetrachloroethene (PCE)	ND	0.0040	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
trans-1,2-DCE	ND	0.020	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
trans-1,3-Dichloropropene	ND	0.0059	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2,3-Trichlorobenzene	ND	0.0046	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2,4-Trichlorobenzene	ND	0.0050	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,1,1-Trichloroethane	ND	0.0065	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,1,2-Trichloroethane	ND	0.0053	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Trichloroethene (TCE)	ND	0.0060	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Trichlorofluoromethane	ND	0.0075	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
1,2,3-Trichloropropane	ND	0.025	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Vinyl chloride	ND	0.0042	0.050		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Xylenes, Total	ND	0.016	0.10		mg/Kg	1	11/21/2017 6:30:14 PM	35071
Surr: Dibromofluoromethane	103		70-130		%Rec	1	11/21/2017 6:30:14 PM	35071
Surr: 1,2-Dichloroethane-d4	97.4		70-130		%Rec	1	11/21/2017 6:30:14 PM	35071
Surr: Toluene-d8	93.4		70-130		%Rec	1	11/21/2017 6:30:14 PM	35071
Surr: 4-Bromofluorobenzene	99.4		70-130		%Rec	1	11/21/2017 6:30:14 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	16	3.2	19	J	mg/Kg	1	11/29/2017 11:00:00 AM	35099

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:10:00 PM
Lab ID: 1711977-009
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.011	0.020		mg/Kg	1	11/28/2017 4:34:00 PM	35096
Aroclor 1221	ND	0.020	0.020		mg/Kg	1	11/28/2017 4:34:00 PM	35096
Aroclor 1232	ND	0.020	0.020		mg/Kg	1	11/28/2017 4:34:00 PM	35096
Aroclor 1242	ND	0.020	0.020		mg/Kg	1	11/28/2017 4:34:00 PM	35096
Aroclor 1248	ND	0.020	0.020		mg/Kg	1	11/28/2017 4:34:00 PM	35096
Aroclor 1254	ND	0.020	0.020		mg/Kg	1	11/28/2017 4:34:00 PM	35096
Aroclor 1260	ND	0.0092	0.020		mg/Kg	1	11/28/2017 4:34:00 PM	35096
Surr: Decachlorobiphenyl	106	0	26.3-128		%Rec	1	11/28/2017 4:34:00 PM	35096
Surr: Tetrachloro-m-xylene	99.2	0	20.7-151		%Rec	1	11/28/2017 4:34:00 PM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	1.6	9.7		mg/Kg	1	11/22/2017 4:40:04 PM	35083
Motor Oil Range Organics (MRO)	ND	48	48		mg/Kg	1	11/22/2017 4:40:04 PM	35083
Surr: DNOP	95.3	0	70-130		%Rec	1	11/22/2017 4:40:04 PM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.8		mg/Kg	1	11/21/2017 8:54:28 PM	35071
Surr: BFB	122	0	15-316		%Rec	1	11/21/2017 8:54:28 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	3.4	0.51	1.5		mg/Kg	5	12/1/2017 4:33:57 PM	35263
Chloride	130	0.91	7.5		mg/Kg	5	12/1/2017 4:33:57 PM	35263
Nitrogen, Nitrate (As N)	0.48	0.48	1.5	J	mg/Kg	5	12/1/2017 4:33:57 PM	35263
Sulfate	700	1.8	7.5		mg/Kg	5	12/1/2017 4:33:57 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	ND	0.0063	0.031		mg/Kg	1	12/4/2017 4:05:53 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	ND	4.4	12		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Barium	310	0.35	0.49		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Cadmium	ND	0.31	0.49		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Chromium	18	0.47	1.5		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Copper	4.2	0.60	1.5		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Iron	17000	2500	2500		mg/Kg	1000	12/15/2017 4:51:18 PM	35142
Lead	2.2	0.86	1.2		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Manganese	410	0.26	0.49		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Selenium	ND	9.0	12		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Silver	ND	0.31	1.2		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Uranium	ND	5.7	25		mg/Kg	5	11/30/2017 12:17:07 PM	35142
Zinc	23	1.7	12		mg/Kg	5	11/30/2017 12:17:07 PM	35142

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:10:00 PM
Lab ID: 1711977-009
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Acenaphthylene	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Aniline	ND	0.11	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Anthracene	ND	0.18	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Azobenzene	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Benz(a)anthracene	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Benzo(a)pyrene	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Benzo(b)fluoranthene	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Benzo(g,h,i)perylene	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Benzo(k)fluoranthene	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Benzoic acid	ND	0.15	0.51		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Benzyl alcohol	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Bis(2-chloroethoxy)methane	ND	0.18	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Bis(2-chloroethyl)ether	ND	0.13	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Bis(2-chloroisopropyl)ether	ND	0.20	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Bis(2-ethylhexyl)phthalate	0.32	0.20	0.51	J	mg/Kg	1	11/21/2017 1:16:46 PM	35082
4-Bromophenyl phenyl ether	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Butyl benzyl phthalate	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Carbazole	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
4-Chloro-3-methylphenol	ND	0.18	0.51		mg/Kg	1	11/21/2017 1:16:46 PM	35082
4-Chloroaniline	ND	0.16	0.51		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2-Chloronaphthalene	ND	0.18	0.25		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2-Chlorophenol	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
4-Chlorophenyl phenyl ether	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Chrysene	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Di-n-butyl phthalate	0.14	0.11	0.41	J	mg/Kg	1	11/21/2017 1:16:46 PM	35082
Di-n-octyl phthalate	ND	0.15	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Dibenz(a,h)anthracene	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Dibenzofuran	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
1,2-Dichlorobenzene	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
1,3-Dichlorobenzene	ND	0.14	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
1,4-Dichlorobenzene	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
3,3´-Dichlorobenzidine	ND	0.15	0.25		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Diethyl phthalate	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Dimethyl phthalate	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2,4-Dichlorophenol	ND	0.16	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2,4-Dimethylphenol	ND	0.090	0.31		mg/Kg	1	11/21/2017 1:16:46 PM	35082
4,6-Dinitro-2-methylphenol	ND	0.15	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2,4-Dinitrophenol	ND	0.12	0.51		mg/Kg	1	11/21/2017 1:16:46 PM	35082

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:10:00 PM
Lab ID: 1711977-009
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	0.19	0.51		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2,6-Dinitrotoluene	ND	0.18	0.51		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Fluoranthene	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Fluorene	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Hexachlorobenzene	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Hexachlorobutadiene	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Hexachlorocyclopentadiene	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Hexachloroethane	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Indeno(1,2,3-cd)pyrene	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Isophorone	ND	0.19	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
1-Methylnaphthalene	ND	0.20	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2-Methylnaphthalene	ND	0.17	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2-Methylphenol	ND	0.15	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
3+4-Methylphenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
N-Nitrosodi-n-propylamine	ND	0.18	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
N-Nitrosodiphenylamine	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Naphthalene	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2-Nitroaniline	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
3-Nitroaniline	ND	0.18	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
4-Nitroaniline	ND	0.17	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Nitrobenzene	ND	0.17	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2-Nitrophenol	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
4-Nitrophenol	ND	0.16	0.25		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Pentachlorophenol	ND	0.17	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Phenanthrene	ND	0.18	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Phenol	ND	0.14	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Pyrene	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Pyridine	ND	0.13	0.41		mg/Kg	1	11/21/2017 1:16:46 PM	35082
1,2,4-Trichlorobenzene	ND	0.19	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2,4,5-Trichlorophenol	ND	0.15	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
2,4,6-Trichlorophenol	ND	0.16	0.20		mg/Kg	1	11/21/2017 1:16:46 PM	35082
Surr: 2-Fluorophenol	71.0	0	23.3-81		%Rec	1	11/21/2017 1:16:46 PM	35082
Surr: Phenol-d5	77.7	0	19.4-93.6		%Rec	1	11/21/2017 1:16:46 PM	35082
Surr: 2,4,6-Tribromophenol	82.3	0	31.1-88.7		%Rec	1	11/21/2017 1:16:46 PM	35082
Surr: Nitrobenzene-d5	71.1		23.7-106		%Rec	1	11/21/2017 1:16:46 PM	35082
Surr: 2-Fluorobiphenyl	75.3		26.3-107		%Rec	1	11/21/2017 1:16:46 PM	35082
Surr: 4-Terphenyl-d14	77.9		32.5-80.1		%Rec	1	11/21/2017 1:16:46 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0047	0.024		mg/Kg	1	11/21/2017 6:59:36 PM	35071

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:10:00 PM
Lab ID: 1711977-009
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0039	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Ethylbenzene	ND	0.0034	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0074	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2,4-Trimethylbenzene	ND	0.0042	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,3,5-Trimethylbenzene	ND	0.0030	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0050	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0061	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Naphthalene	ND	0.0049	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1-Methylnaphthalene	ND	0.0034	0.19		mg/Kg	1	11/21/2017 6:59:36 PM	35071
2-Methylnaphthalene	ND	0.0039	0.19		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Acetone	ND	0.052	0.72		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Bromobenzene	ND	0.0035	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Bromodichloromethane	ND	0.0063	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Bromoform	ND	0.012	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Bromomethane	0.021	0.0083	0.14	J	mg/Kg	1	11/21/2017 6:59:36 PM	35071
2-Butanone	0.077	0.029	0.48	J	mg/Kg	1	11/21/2017 6:59:36 PM	35071
Carbon disulfide	ND	0.0057	0.48		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Carbon tetrachloride	ND	0.0048	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Chlorobenzene	ND	0.0029	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Chloroethane	ND	0.016	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Chloroform	ND	0.0029	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Chloromethane	ND	0.010	0.14		mg/Kg	1	11/21/2017 6:59:36 PM	35071
2-Chlorotoluene	ND	0.0037	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
4-Chlorotoluene	ND	0.0044	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
cis-1,2-DCE	ND	0.0061	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
cis-1,3-Dichloropropene	ND	0.0037	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0066	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Dibromochloromethane	ND	0.0040	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Dibromomethane	ND	0.0024	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2-Dichlorobenzene	ND	0.0024	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,3-Dichlorobenzene	ND	0.0042	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,4-Dichlorobenzene	ND	0.0053	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Dichlorodifluoromethane	ND	0.020	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,1-Dichloroethane	ND	0.019	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,1-Dichloroethene	ND	0.019	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2-Dichloropropane	ND	0.0030	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,3-Dichloropropane	ND	0.012	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
2,2-Dichloropropane	ND	0.0055	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,1-Dichloropropene	ND	0.0054	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF VZ04
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:10:00 PM
Lab ID: 1711977-009
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
2-Hexanone	ND	0.0094	0.48		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Isopropylbenzene	ND	0.0032	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
4-Isopropyltoluene	ND	0.0037	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
4-Methyl-2-pentanone	ND	0.010	0.48		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Methylene chloride	ND	0.019	0.14		mg/Kg	1	11/21/2017 6:59:36 PM	35071
n-Butylbenzene	ND	0.0043	0.14		mg/Kg	1	11/21/2017 6:59:36 PM	35071
n-Propylbenzene	ND	0.0030	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
sec-Butylbenzene	ND	0.0050	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Styrene	ND	0.0084	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
tert-Butylbenzene	ND	0.0039	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0054	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.014	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Tetrachloroethene (PCE)	ND	0.0038	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
trans-1,2-DCE	ND	0.019	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
trans-1,3-Dichloropropene	ND	0.0057	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2,3-Trichlorobenzene	ND	0.0044	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2,4-Trichlorobenzene	ND	0.0049	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,1,1-Trichloroethane	ND	0.0062	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,1,2-Trichloroethane	ND	0.0051	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Trichloroethene (TCE)	ND	0.0058	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Trichlorofluoromethane	ND	0.0072	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
1,2,3-Trichloropropane	ND	0.024	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Vinyl chloride	ND	0.0040	0.048		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Xylenes, Total	ND	0.015	0.096		mg/Kg	1	11/21/2017 6:59:36 PM	35071
Surr: Dibromofluoromethane	99.2		70-130		%Rec	1	11/21/2017 6:59:36 PM	35071
Surr: 1,2-Dichloroethane-d4	93.6		70-130		%Rec	1	11/21/2017 6:59:36 PM	35071
Surr: Toluene-d8	91.4		70-130		%Rec	1	11/21/2017 6:59:36 PM	35071
Surr: 4-Bromofluorobenzene	101		70-130		%Rec	1	11/21/2017 6:59:36 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	3.4	3.1	19	J	mg/Kg	1	11/29/2017 11:00:00 AM	35099

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017
Lab ID: 1711977-010
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8082A: PCB'S							Analyst: **SCC**	
Aroclor 1016	ND	0.10	0.19	D	mg/Kg	1	11/28/2017 5:07:00 PM	35096
Aroclor 1221	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 5:07:00 PM	35096
Aroclor 1232	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 5:07:00 PM	35096
Aroclor 1242	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 5:07:00 PM	35096
Aroclor 1248	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 5:07:00 PM	35096
Aroclor 1254	ND	0.19	0.19	D	mg/Kg	1	11/28/2017 5:07:00 PM	35096
Aroclor 1260	ND	0.090	0.19	D	mg/Kg	1	11/28/2017 5:07:00 PM	35096
Surr: Decachlorobiphenyl	0	0	26.3-128	SD	%Rec	1	11/28/2017 5:07:00 PM	35096
Surr: Tetrachloro-m-xylene	0	0	20.7-151	SD	%Rec	1	11/28/2017 5:07:00 PM	35096
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: **TOM**	
Diesel Range Organics (DRO)	880	15	91		mg/Kg	10	11/27/2017 12:34:28 PM	35083
Motor Oil Range Organics (MRO)	900	460	460		mg/Kg	10	11/27/2017 12:34:28 PM	35083
Surr: DNOP	0	0	70-130	S	%Rec	10	11/27/2017 12:34:28 PM	35083
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	1.1	4.9		mg/Kg	1	11/21/2017 9:18:08 PM	35071
Surr: BFB	119	0	15-316		%Rec	1	11/21/2017 9:18:08 PM	35071
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	12	0.10	0.30		mg/Kg	1	12/1/2017 4:58:47 PM	35263
Chloride	1000	3.7	30		mg/Kg	20	12/1/2017 5:11:12 PM	35263
Nitrogen, Nitrate (As N)	7.8	0.096	0.30		mg/Kg	1	12/1/2017 4:58:47 PM	35263
Sulfate	2700	7.1	30		mg/Kg	20	12/1/2017 5:11:12 PM	35263
EPA METHOD 7471: MERCURY							Analyst: **MED**	
Mercury	0.081	0.0067	0.033		mg/Kg	1	12/4/2017 4:07:38 PM	35296
EPA METHOD 6010B: SOIL METALS							Analyst: **MED**	
Arsenic	6.6	4.4	12	J	mg/Kg	5	11/30/2017 12:18:29 PM	35142
Barium	350	0.35	0.50		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Cadmium	ND	0.32	0.50		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Chromium	22	0.47	1.5		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Copper	9.9	0.61	1.5		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Iron	15000	2500	2500		mg/Kg	1000	12/15/2017 4:52:53 PM	35142
Lead	220	0.87	1.2		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Manganese	360	0.27	0.50		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Selenium	ND	9.1	12		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Silver	ND	0.31	1.2		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Uranium	ND	5.7	25		mg/Kg	5	11/30/2017 12:18:29 PM	35142
Zinc	120	1.7	12		mg/Kg	5	11/30/2017 12:18:29 PM	35142

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017
Lab ID: 1711977-010
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Acenaphthylene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Aniline	ND	1.1	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Anthracene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Azobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Benz(a)anthracene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Benzo(a)pyrene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Benzo(b)fluoranthene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Benzo(g,h,i)perylene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Benzo(k)fluoranthene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Benzoic acid	ND	1.5	4.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Benzyl alcohol	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Bis(2-chloroethoxy)methane	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Bis(2-chloroethyl)ether	ND	1.2	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Bis(2-chloroisopropyl)ether	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Bis(2-ethylhexyl)phthalate	ND	1.9	4.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
4-Bromophenyl phenyl ether	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Butyl benzyl phthalate	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Carbazole	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
4-Chloro-3-methylphenol	ND	1.8	4.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
4-Chloroaniline	ND	1.5	4.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2-Chloronaphthalene	ND	1.7	2.4	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2-Chlorophenol	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
4-Chlorophenyl phenyl ether	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Chrysene	1.7	1.5	2.0	JD	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Di-n-butyl phthalate	ND	1.1	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Di-n-octyl phthalate	ND	1.5	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Dibenz(a,h)anthracene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Dibenzofuran	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
1,2-Dichlorobenzene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
1,3-Dichlorobenzene	ND	1.3	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
1,4-Dichlorobenzene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
3,3´-Dichlorobenzidine	ND	1.4	2.4	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Diethyl phthalate	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Dimethyl phthalate	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2,4-Dichlorophenol	ND	1.5	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2,4-Dimethylphenol	ND	0.86	2.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
4,6-Dinitro-2-methylphenol	ND	1.5	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2,4-Dinitrophenol	ND	1.2	4.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017
Lab ID: 1711977-010
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
2,4-Dinitrotoluene	ND	1.8	4.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2,6-Dinitrotoluene	ND	1.7	4.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Fluoranthene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Fluorene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Hexachlorobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Hexachlorobutadiene	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Hexachlorocyclopentadiene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Hexachloroethane	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Indeno(1,2,3-cd)pyrene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Isophorone	ND	1.9	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
1-Methylnaphthalene	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2-Methylnaphthalene	ND	1.6	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2-Methylphenol	ND	1.4	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
3+4-Methylphenol	ND	1.3	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
N-Nitrosodi-n-propylamine	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
N-Nitrosodiphenylamine	ND	1.9	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Naphthalene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2-Nitroaniline	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
3-Nitroaniline	ND	1.7	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
4-Nitroaniline	ND	1.6	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Nitrobenzene	ND	1.6	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2-Nitrophenol	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
4-Nitrophenol	ND	1.5	2.4	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Pentachlorophenol	ND	1.7	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Phenanthrene	5.1	1.7	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Phenol	ND	1.3	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Pyrene	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Pyridine	ND	1.3	3.9	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
1,2,4-Trichlorobenzene	ND	1.8	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2,4,5-Trichlorophenol	ND	1.4	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
2,4,6-Trichlorophenol	ND	1.5	2.0	D	mg/Kg	1	11/21/2017 5:56:40 PM	35082
Surr: 2-Fluorophenol	0	0	23.3-81	SD	%Rec	1	11/21/2017 5:56:40 PM	35082
Surr: Phenol-d5	0	0	19.4-93.6	SD	%Rec	1	11/21/2017 5:56:40 PM	35082
Surr: 2,4,6-Tribromophenol	0	0	31.1-88.7	SD	%Rec	1	11/21/2017 5:56:40 PM	35082
Surr: Nitrobenzene-d5	0		23.7-106	SD	%Rec	1	11/21/2017 5:56:40 PM	35082
Surr: 2-Fluorobiphenyl	0		26.3-107	SD	%Rec	1	11/21/2017 5:56:40 PM	35082
Surr: 4-Terphenyl-d14	0		32.5-80.1	SD	%Rec	1	11/21/2017 5:56:40 PM	35082
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.0049	0.025		mg/Kg	1	11/21/2017 7:28:52 PM	35071

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Lab ID: 1711977-010
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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.0040	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Ethylbenzene	ND	0.0035	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Methyl tert-butyl ether (MTBE)	ND	0.0076	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2,4-Trimethylbenzene	ND	0.0043	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,3,5-Trimethylbenzene	ND	0.0031	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2-Dichloroethane (EDC)	ND	0.0052	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2-Dibromoethane (EDB)	ND	0.0063	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Naphthalene	ND	0.0050	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1-Methylnaphthalene	0.011	0.0035	0.20	J	mg/Kg	1	11/21/2017 7:28:52 PM	35071
2-Methylnaphthalene	ND	0.0040	0.20		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Acetone	ND	0.054	0.74		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Bromobenzene	ND	0.0036	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Bromodichloromethane	ND	0.0064	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Bromoform	ND	0.012	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Bromomethane	ND	0.0085	0.15		mg/Kg	1	11/21/2017 7:28:52 PM	35071
2-Butanone	0.085	0.029	0.49	J	mg/Kg	1	11/21/2017 7:28:52 PM	35071
Carbon disulfide	ND	0.0059	0.49		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Carbon tetrachloride	ND	0.0049	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Chlorobenzene	ND	0.0029	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Chloroethane	ND	0.016	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Chloroform	ND	0.0030	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Chloromethane	ND	0.010	0.15		mg/Kg	1	11/21/2017 7:28:52 PM	35071
2-Chlorotoluene	ND	0.0038	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
4-Chlorotoluene	ND	0.0045	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
cis-1,2-DCE	ND	0.0063	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
cis-1,3-Dichloropropene	ND	0.0038	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2-Dibromo-3-chloropropane	ND	0.0068	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Dibromochloromethane	ND	0.0042	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Dibromomethane	ND	0.0024	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2-Dichlorobenzene	ND	0.0025	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,3-Dichlorobenzene	ND	0.0044	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,4-Dichlorobenzene	ND	0.0055	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Dichlorodifluoromethane	ND	0.020	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,1-Dichloroethane	ND	0.020	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,1-Dichloroethene	ND	0.020	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2-Dichloropropane	ND	0.0031	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,3-Dichloropropane	ND	0.012	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
2,2-Dichloropropane	ND	0.0056	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,1-Dichloropropene	ND	0.0056	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF DUP 01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017
Lab ID: 1711977-010
Matrix: SOIL
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.012	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
2-Hexanone	ND	0.0097	0.49		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Isopropylbenzene	ND	0.0033	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
4-Isopropyltoluene	ND	0.0038	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
4-Methyl-2-pentanone	ND	0.011	0.49		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Methylene chloride	ND	0.020	0.15		mg/Kg	1	11/21/2017 7:28:52 PM	35071
n-Butylbenzene	ND	0.0044	0.15		mg/Kg	1	11/21/2017 7:28:52 PM	35071
n-Propylbenzene	ND	0.0031	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
sec-Butylbenzene	ND	0.0051	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Styrene	ND	0.0086	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
tert-Butylbenzene	ND	0.0040	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,1,1,2-Tetrachloroethane	ND	0.0056	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,1,2,2-Tetrachloroethane	ND	0.014	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Tetrachloroethene (PCE)	ND	0.0039	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
trans-1,2-DCE	ND	0.020	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
trans-1,3-Dichloropropene	ND	0.0059	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2,3-Trichlorobenzene	ND	0.0045	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2,4-Trichlorobenzene	ND	0.0050	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,1,1-Trichloroethane	ND	0.0064	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,1,2-Trichloroethane	ND	0.0053	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Trichloroethene (TCE)	ND	0.0060	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Trichlorofluoromethane	ND	0.0074	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
1,2,3-Trichloropropane	ND	0.025	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Vinyl chloride	ND	0.0041	0.049		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Xylenes, Total	ND	0.015	0.099		mg/Kg	1	11/21/2017 7:28:52 PM	35071
Surr: Dibromofluoromethane	101		70-130		%Rec	1	11/21/2017 7:28:52 PM	35071
Surr: 1,2-Dichloroethane-d4	95.4		70-130		%Rec	1	11/21/2017 7:28:52 PM	35071
Surr: Toluene-d8	91.6		70-130		%Rec	1	11/21/2017 7:28:52 PM	35071
Surr: 4-Bromofluorobenzene	101		70-130		%Rec	1	11/21/2017 7:28:52 PM	35071
EPA METHOD 418.1: TPH							Analyst: **MAB**	
Petroleum Hydrocarbons, TR	1100	33	200		mg/Kg	10	11/29/2017 11:00:00 AM	35099

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF FB01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:25:00 PM
Lab ID: 1711977-011
Matrix: AQUEOUS
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/22/2017 5:22:06 PM	B47319
Toluene	0.32	0.064	1.0	J	µg/L	1	11/22/2017 5:22:06 PM	B47319
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/22/2017 5:22:06 PM	B47319
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/22/2017 5:22:06 PM	B47319
Surr: 1,2-Dichloroethane-d4	96.6	0	70-130		%Rec	1	11/22/2017 5:22:06 PM	B47319
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	11/22/2017 5:22:06 PM	B47319
Surr: Dibromofluoromethane	96.3	0	70-130		%Rec	1	11/22/2017 5:22:06 PM	B47319
Surr: Toluene-d8	97.4	0	70-130		%Rec	1	11/22/2017 5:22:06 PM	B47319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: CENTRAL OCD LF EB01
Project: OCD Central Landfarm Semiannual Sam
Collection Date: 11/16/2017 2:30:00 PM
Lab ID: 1711977-012
Matrix: AQUEOUS
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/22/2017 5:51:02 PM	B47319
Toluene	0.32	0.064	1.0	J	µg/L	1	11/22/2017 5:51:02 PM	B47319
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/22/2017 5:51:02 PM	B47319
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/22/2017 5:51:02 PM	B47319
Surr: 1,2-Dichloroethane-d4	96.8	0	70-130		%Rec	1	11/22/2017 5:51:02 PM	B47319
Surr: 4-Bromofluorobenzene	98.5	0	70-130		%Rec	1	11/22/2017 5:51:02 PM	B47319
Surr: Dibromofluoromethane	97.1	0	70-130		%Rec	1	11/22/2017 5:51:02 PM	B47319
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	11/22/2017 5:51:02 PM	B47319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: OCD Central Landfarm Semiannual Sam
Collection Date:
Lab ID: 1711977-013
Matrix: AQUEOUS
Received Date: 11/17/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/22/2017 6:19:58 PM	B47319
Toluene	ND	0.064	1.0		µg/L	1	11/22/2017 6:19:58 PM	B47319
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/22/2017 6:19:58 PM	B47319
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/22/2017 6:19:58 PM	B47319
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	11/22/2017 6:19:58 PM	B47319
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	11/22/2017 6:19:58 PM	B47319
Surr: Dibromofluoromethane	98.6	0	70-130		%Rec	1	11/22/2017 6:19:58 PM	B47319
Surr: Toluene-d8	96.4	0	70-130		%Rec	1	11/22/2017 6:19:58 PM	B47319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:12	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:15	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:18	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:19	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:20	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:21	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:22	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:23	WG1046137

Wet Chemistry by Method 9012B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Cyanide	ND		0.250	1	11/26/2017 16:24	WG1046137

Method Blank (MB)

(MB) R3268281-1 11/26/17 16:03

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Cyanide	U		0.039	0.250

L953171-01 Original Sample (OS) • Duplicate (DUP)

(OS) L953171-01 11/26/17 16:33 • (DUP) R3268281-7 11/26/17 16:34

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3268281-2 11/26/17 16:04 • (LCSD) R3268281-3 11/26/17 16:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Cyanide	2.50	2.38	2.23	95	89	50-150			6	20

L953045-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L953045-02 11/26/17 16:15 • (MS) R3268281-5 11/26/17 16:16 • (MSD) R3268281-6 11/26/17 16:17

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	1.67	ND	1.63	1.58	98	95	1	75-125			3	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1711977
Pace Project No.: 30236787

Sample: 1711977-001D CENTRAL OCD LF TZ **Lab ID: 30236787001** Collected: 11/16/17 11:35 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.471 ± 0.295 (0.192) C:NA T:NA**	pCi/g	12/21/17 09:26	13982-63-3	
Radium-228	EPA 901.1	**1.936 ± 0.414 (0.206) C:NA T:NA**	pCi/g	12/21/17 09:26	15262-20-1	

Sample: 1711977-002D CENTRAL OCD LF VZ **Lab ID: 30236787002** Collected: 11/16/17 12:00 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.312 ± 0.358 (0.185) C:NA T:NA**	pCi/g	12/21/17 09:28	13982-63-3	
Radium-228	EPA 901.1	**1.978 ± 0.503 (0.505) C:NA T:NA**	pCi/g	12/21/17 09:28	15262-20-1	

Sample: 1711977-003D CENTRAL OCD LF TZ **Lab ID: 30236787005** Collected: 11/16/17 12:40 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.631 ± 0.346 (0.123) C:NA T:NA**	pCi/g	12/21/17 09:45	13982-63-3	
Radium-228	EPA 901.1	**1.818 ± 0.491 (0.247) C:NA T:NA**	pCi/g	12/21/17 09:45	15262-20-1	

Sample: 1711977-004D CENTRAL OCD LF VZ **Lab ID: 30236787006** Collected: 11/16/17 12:50 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.161 ± 0.291 (0.187) C:NA T:NA**	pCi/g	12/26/17 10:46	13982-63-3	
Radium-228	EPA 901.1	**1.887 ± 0.466 (0.287) C:NA T:NA**	pCi/g	12/26/17 10:46	15262-20-1	

Sample: 1711977-005D CENTRAL OCD LF TZ **Lab ID: 30236787007** Collected: 11/16/17 13:20 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.622 ± 0.402 (0.245) C:NA T:NA**	pCi/g	12/21/17 10:30	13982-63-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1711977
Pace Project No.: 30236787

Sample: 1711977-005D CENTRAL OCD LF TZ **Lab ID: 30236787007** Collected: 11/16/17 13:20 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-228	EPA 901.1	**1.967 ± 0.536 (0.329) C:NA T:NA**	pCi/g	12/21/17 10:30	15262-20-1	

Sample: 1711977-006D CENTRAL OCD LF VZ **Lab ID: 30236787008** Collected: 11/16/17 13:30 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.339 ± 0.316 (0.190) C:NA T:NA**	pCi/g	12/21/17 10:46	13982-63-3	
Radium-228	EPA 901.1	**1.248 ± 0.619 (0.566) C:NA T:NA**	pCi/g	12/21/17 10:46	15262-20-1	

Sample: 1711977-008D CENTRAL OCD LF TZ **Lab ID: 30236787009** Collected: 11/16/17 14:00 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.233 ± 0.280 (0.292) C:NA T:NA**	pCi/g	12/21/17 10:47	13982-63-3	
Radium-228	EPA 901.1	**1.415 ± 0.487 (0.502) C:NA T:NA**	pCi/g	12/21/17 10:47	15262-20-1	

Sample: 1711977-009D CENTRAL OCD LF VZ **Lab ID: 30236787010** Collected: 11/16/17 14:10 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.562 ± 0.361 (0.192) C:NA T:NA**	pCi/g	12/21/17 11:09	13982-63-3	
Radium-228	EPA 901.1	**2.274 ± 0.540 (0.221) C:NA T:NA**	pCi/g	12/21/17 11:09	15262-20-1	

Sample: 1711977-010D CENTRAL OCD LF DU **Lab ID: 30236787011** Collected: 11/16/17 11:15 Received: 11/21/17 10:15 Matrix: Solid
PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	**1.269 ± 0.389 (0.267) C:NA T:NA**	pCi/g	12/21/17 11:07	13982-63-3	
Radium-228	EPA 901.1	**1.137 ± 0.625 (0.741) C:NA T:NA**	pCi/g	12/21/17 11:07	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1711977
Pace Project No.: 30236787

QC Batch: 282295 Analysis Method: EPA 901.1
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec Ingrowth
Associated Lab Samples: 30236787007, 30236787008, 30236787009, 30236787010, 30236787011

METHOD BLANK: 1385658 Matrix: Solid
Associated Lab Samples: 30236787007, 30236787008, 30236787009, 30236787010, 30236787011

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.030 ± 0.051 (0.193) C:NA T:NA	pCi/g	12/21/17 10:11	
Radium-228	0.018 ± 0.193 (0.244) C:NA T:NA	pCi/g	12/21/17 10:11	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1711977
Pace Project No.: 30236787

QC Batch: 280958 Analysis Method: EPA 901.1
QC Batch Method: EPA 901.1 Analysis Description: 901.1 Gamma Spec Ingrowth
Associated Lab Samples: 30236787001, 30236787002, 30236787005

METHOD BLANK: 1379234 Matrix: Solid
Associated Lab Samples: 30236787001, 30236787002, 30236787005

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.045 ± 0.061 (0.193) C:NA T:NA	pCi/g	12/18/17 09:36	
Radium-228	0.000 ± 0.031 (0.427) C:NA T:NA	pCi/g	12/18/17 09:36	

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL - RADIOCHEMISTRY

Project: 1711977
Pace Project No.: 30236787

QC Batch: 282294
QC Batch Method: EPA 901.1
Associated Lab Samples: 30236787006

Analysis Method: EPA 901.1
Analysis Description: 901.1 Gamma Spec Ingrowth

METHOD BLANK: 1385619
Associated Lab Samples: 30236787006

Matrix: Solid

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.107 ± 0.096 (0.111) C:NA T:NA	pCi/g	12/19/17 13:57	
Radium-228	0.115 ± 0.132 (0.153) C:NA T:NA	pCi/g	12/19/17 13:57	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1711977
Pace Project No.: 30236787

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**
27-Dec-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-35263**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **35263**	RunNo: **47471**
Prep Date: **12/1/2017**	Analysis Date: **12/1/2017**	SeqNo: **1516483** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID **LCS-35263**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **35263**	RunNo: **47471**
Prep Date: **12/1/2017**	Analysis Date: **12/1/2017**	SeqNo: **1516484** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.4	0.30	1.500	0	95.6	90	110			
Chloride	14	1.5	15.00	0	92.7	90	110			
Nitrogen, Nitrate (As N)	7.4	0.30	7.500	0	99.2	90	110			
Sulfate	29	1.5	30.00	0	95.6	90	110			

Sample ID **1711977-002AMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35263**	RunNo: **47471**
Prep Date: **12/1/2017**	Analysis Date: **12/1/2017**	SeqNo: **1516497** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	11	0.30	7.500	3.344	105	61.8	142			

Sample ID **1711977-002AMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35263**	RunNo: **47471**
Prep Date: **12/1/2017**	Analysis Date: **12/1/2017**	SeqNo: **1516498** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	11	0.30	7.500	3.344	95.5	61.8	142	6.90	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-35099**	SampType: **MBLK**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **PBS**	Batch ID: **35099**	RunNo: **47392**							
Prep Date: **11/21/2017**	Analysis Date: **11/29/2017**	SeqNo: **1512330**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	11	20								J

Sample ID **LCS-35099**	SampType: **LCS**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **LCSS**	Batch ID: **35099**	RunNo: **47392**							
Prep Date: **11/21/2017**	Analysis Date: **11/29/2017**	SeqNo: **1512331**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	95	20	100.0	0	95.5	80.5	126			

Sample ID **1711977-002AMS**	SampType: **MS**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **CENTRAL OCD LF V**	Batch ID: **35099**	RunNo: **47392**							
Prep Date: **11/21/2017**	Analysis Date: **11/29/2017**	SeqNo: **1512334**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	150	19	95.06	35.22	119	80	120			

Sample ID **1711977-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 418.1: TPH**							
Client ID: **CENTRAL OCD LF V**	Batch ID: **35099**	RunNo: **47392**							
Prep Date: **11/21/2017**	Analysis Date: **11/29/2017**	SeqNo: **1512335**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	110	20	97.56	35.22	81.5	80	120	25.7	20	R

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **LCS-35083**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **35083**	RunNo: **47318**
Prep Date: **11/20/2017**	Analysis Date: **11/22/2017**	SeqNo: **1509436** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.3	73.2	114			
Surr: DNOP	4.5		5.000		90.7	70	130			

Sample ID **MB-35083**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **35083**	RunNo: **47318**
Prep Date: **11/20/2017**	Analysis Date: **11/22/2017**	SeqNo: **1509437** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		90.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-35071**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **35071**	RunNo: **47280**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508064** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1200		1000		120	15	316			

Sample ID **LCS-35071**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **35071**	RunNo: **47280**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508065** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	110	75.9	131			
Surr: BFB	1300		1000		130	15	316			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-35096**	SampType: **MBLK**	TestCode: **EPA Method 8082A: PCB's**
Client ID: **PBS**	Batch ID: **35096**	RunNo: **47344**
Prep Date: **11/21/2017**	Analysis Date: **11/28/2017**	SeqNo: **1510574** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.073		0.06250		116	26.3	128			
Surr: Tetrachloro-m-xylene	0.067		0.06250		108	20.7	151			

Sample ID **LCS-35096**	SampType: **LCS**	TestCode: **EPA Method 8082A: PCB's**
Client ID: **LCSS**	Batch ID: **35096**	RunNo: **47344**
Prep Date: **11/21/2017**	Analysis Date: **11/28/2017**	SeqNo: **1510575** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.14	0.020	0.1250	0	109	15	195			
Aroclor 1260	0.15	0.020	0.1250	0	120	24	140			
Surr: Decachlorobiphenyl	0.071		0.06250		114	26.3	128			
Surr: Tetrachloro-m-xylene	0.068		0.06250		108	20.7	151			

Sample ID **1711977-002AMS**	SampType: **MS**	TestCode: **EPA Method 8082A: PCB's**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35096**	RunNo: **47344**
Prep Date: **11/21/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511517** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.094	0.019	0.1213	0	77.2	15	153			
Aroclor 1260	0.11	0.019	0.1213	0	93.2	15	180			
Surr: Decachlorobiphenyl	0.056		0.06065		92.4	26.3	128			
Surr: Tetrachloro-m-xylene	0.053		0.06065		88.0	20.7	151			

Sample ID **1711977-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8082A: PCB's**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35096**	RunNo: **47344**
Prep Date: **11/21/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511518** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.10	0.020	0.1242	0	80.6	15	153	6.66	32.9	
Aroclor 1260	0.12	0.020	0.1242	0	94.0	15	180	3.21	31.1	
Surr: Decachlorobiphenyl	0.059		0.06210		94.4	26.3	128	0	0	
Surr: Tetrachloro-m-xylene	0.057		0.06210		91.2	20.7	151	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-35071**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **35071**	RunNo: **47283**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508291** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	0.012	0.20								J
2-Methylnaphthalene	0.014	0.20								J
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	0.064	0.15								J
2-Butanone	0.11	0.50								J
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-35071**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBS**	Batch ID: **35071**	RunNo: **47283**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508291** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	0.010	0.50								J
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	0.021	0.50								J
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	0.021	0.050								J
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.45		0.5000		89.8	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.3	70	130			

Sample ID **lcs-35071**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **35071**	RunNo: **47283**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508292** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	102	70	130			
Toluene	0.88	0.050	1.000	0	88.2	70	130			
Chlorobenzene	0.90	0.050	1.000	0	89.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-35071**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS**	Batch ID: **35071**	RunNo: **47283**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508292** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.3	0.050	1.000	0	130	70	130			
Trichloroethene (TCE)	0.99	0.050	1.000	0	99.5	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		107	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		102	70	130			
Surr: Toluene-d8	0.45		0.5000		90.9	70	130			
Surr: 4-Bromofluorobenzene	0.49		0.5000		97.3	70	130			

Sample ID **1711977-002ams**	SampType: **MS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35071**	RunNo: **47283**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508301** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.024	0.9542	0	124	51.9	158			
Toluene	1.1	0.048	0.9542	0	114	64.6	132			
Chlorobenzene	1.1	0.048	0.9542	0	117	62.8	136			
1,1-Dichloroethene	1.4	0.048	0.9542	0	149	42.4	170			
Trichloroethene (TCE)	1.2	0.048	0.9542	0	122	70	130			
Surr: Dibromofluoromethane	0.51		0.4771		106	70	130			
Surr: 1,2-Dichloroethane-d4	0.49		0.4771		103	70	130			
Surr: Toluene-d8	0.45		0.4771		93.3	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.4771		101	70	130			

Sample ID **1711977-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35071**	RunNo: **47283**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508302** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.024	0.9709	0	121	51.9	158	0.564	20	
Toluene	1.1	0.049	0.9709	0	114	64.6	132	1.52	20	
Chlorobenzene	1.1	0.049	0.9709	0	116	62.8	136	0.655	20	
1,1-Dichloroethene	1.4	0.049	0.9709	0	145	42.4	170	1.09	20	
Trichloroethene (TCE)	1.2	0.049	0.9709	0	124	70	130	2.59	20	
Surr: Dibromofluoromethane	0.50		0.4854		103	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	0.48		0.4854		98.0	70	130	0	0	
Surr: Toluene-d8	0.45		0.4854		91.8	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.49		0.4854		101	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B47319**	RunNo: **47319**
Prep Date:	Analysis Date: **11/22/2017**	SeqNo: **1509540** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.0	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.5	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.9	70	130			
Surr: Toluene-d8	9.2		10.00		91.7	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B47319**	RunNo: **47319**
Prep Date:	Analysis Date: **11/22/2017**	SeqNo: **1509541** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	20	1.0	20.00	0	98.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.2	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**
27-Dec-17

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-35082**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **35082**	RunNo: **47281**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508122** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	0.21	0.50								J
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.40								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3´-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.40								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **mb-35082**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBS**	Batch ID: **35082**	RunNo: **47281**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508122** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.40								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.40								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.40								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.40								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	1.9		3.330		56.0	23.3	81			
Surr: Phenol-d5	2.0		3.330		61.2	19.4	93.6			
Surr: 2,4,6-Tribromophenol	2.3		3.330		67.7	31.1	88.7			
Surr: Nitrobenzene-d5	1.1		1.670		64.6	23.7	106			
Surr: 2-Fluorobiphenyl	0.99		1.670		59.5	26.3	107			
Surr: 4-Terphenyl-d14	0.69		1.670		41.3	32.5	80.1			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **lcs-35082**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS**	Batch ID: **35082**	RunNo: **47281**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508123** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	86.0	39.4	110			
4-Chloro-3-methylphenol	3.1	0.50	3.330	0	92.2	41.6	108			
2-Chlorophenol	2.8	0.20	3.330	0	84.7	35	107			
1,4-Dichlorobenzene	1.3	0.20	1.670	0	76.6	31	105			
2,4-Dinitrotoluene	1.3	0.50	1.670	0	80.8	35.6	101			
N-Nitrosodi-n-propylamine	1.5	0.20	1.670	0	92.6	26	100			
4-Nitrophenol	3.1	0.25	3.330	0	92.7	34.1	106			
Pentachlorophenol	2.7	0.40	3.330	0	80.0	35.3	95.4			
Phenol	2.7	0.20	3.330	0	80.7	39.3	96.5			
Pyrene	1.4	0.20	1.670	0	86.5	47.8	95.7			
1,2,4-Trichlorobenzene	1.4	0.20	1.670	0	85.8	36.6	117			
Surr: 2-Fluorophenol	2.5		3.330		73.9	23.3	81			
Surr: Phenol-d5	2.7		3.330		81.1	19.4	93.6			
Surr: 2,4,6-Tribromophenol	3.3		3.330		100	31.1	88.7			S
Surr: Nitrobenzene-d5	1.4		1.670		82.0	23.7	106			
Surr: 2-Fluorobiphenyl	1.4		1.670		83.1	26.3	107			
Surr: 4-Terphenyl-d14	0.90		1.670		54.1	32.5	80.1			

Sample ID **1711977-002Ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35082**	RunNo: **47281**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508133** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.2	0.40	1.668	0	71.6	23.7	110			
4-Chloro-3-methylphenol	2.4	1.0	3.326	0	73.1	23.5	109			
2-Chlorophenol	2.5	0.40	3.326	0	76.2	15	106			
1,4-Dichlorobenzene	1.2	0.40	1.668	0	73.1	16	98.5			
2,4-Dinitrotoluene	1.0	1.0	1.668	0	60.8	23.3	92.8			
N-Nitrosodi-n-propylamine	1.4	0.40	1.668	0	81.0	17	111			
4-Nitrophenol	2.5	0.50	3.326	0	76.5	30.9	103			
Pentachlorophenol	1.9	0.80	3.326	0	57.9	20.8	92.7			
Phenol	2.5	0.40	3.326	0	75.7	17	107			
Pyrene	1.2	0.40	1.668	0	70.5	27.9	111			
1,2,4-Trichlorobenzene	1.3	0.40	1.668	0	78.7	19.5	118			
Surr: 2-Fluorophenol	2.4		3.326		71.1	23.3	81			
Surr: Phenol-d5	2.5		3.326		74.6	19.4	93.6			
Surr: 2,4,6-Tribromophenol	2.5		3.326		75.4	31.1	88.7			
Surr: Nitrobenzene-d5	1.3		1.668		75.4	23.7	106			
Surr: 2-Fluorobiphenyl	1.2		1.668		72.9	26.3	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1711977-002Ams**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35082**	RunNo: **47281**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508133** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	1.0		1.668		62.4	32.5	80.1			

Sample ID **1711977-002Amsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35082**	RunNo: **47281**
Prep Date: **11/20/2017**	Analysis Date: **11/21/2017**	SeqNo: **1508134** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.40	1.685	0	83.9	23.7	110	16.8	43.1	
4-Chloro-3-methylphenol	2.7	1.0	3.359	0	80.5	23.5	109	10.7	52.2	
2-Chlorophenol	2.9	0.40	3.359	0	86.4	15	106	13.6	42.5	
1,4-Dichlorobenzene	1.3	0.40	1.685	0	79.6	16	98.5	9.57	50.4	
2,4-Dinitrotoluene	1.2	1.0	1.685	0	73.0	23.3	92.8	19.3	24.2	
N-Nitrosodi-n-propylamine	1.5	0.40	1.685	0	87.5	17	111	8.82	39.7	
4-Nitrophenol	3.0	0.50	3.359	0	88.9	30.9	103	16.0	59.4	
Pentachlorophenol	2.4	0.81	3.359	0	70.6	20.8	92.7	20.8	32.7	
Phenol	2.8	0.40	3.359	0	83.8	17	107	11.2	41.2	
Pyrene	1.4	0.40	1.685	0	81.4	27.9	111	15.4	34	
1,2,4-Trichlorobenzene	1.5	0.40	1.685	0	92.0	19.5	118	16.5	35.8	
Surr: 2-Fluorophenol	2.7		3.359		80.4	23.3	81	0	0	
Surr: Phenol-d5	2.7		3.359		80.0	19.4	93.6	0	0	
Surr: 2,4,6-Tribromophenol	2.9		3.359		87.7	31.1	88.7	0	0	
Surr: Nitrobenzene-d5	1.4		1.685		84.4	23.7	106	0	0	
Surr: 2-Fluorobiphenyl	1.4		1.685		83.7	26.3	107	0	0	
Surr: 4-Terphenyl-d14	1.0		1.685		60.0	32.5	80.1	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**MB-35296**	SampType: **MBLK**		TestCode: **EPA Method 7471: Mercury**					
Client ID:	**PBS**	Batch ID: **35296**		RunNo: **47506**					
Prep Date:	**12/4/2017**	Analysis Date: **12/4/2017**		SeqNo: **1516933**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	**LCS-35296**	SampType: **LCS**		TestCode: **EPA Method 7471: Mercury**					
Client ID:	**LCSS**	Batch ID: **35296**		RunNo: **47506**					
Prep Date:	**12/4/2017**	Analysis Date: **12/4/2017**		SeqNo: **1516934**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	104	80	120			

Sample ID	**1711977-002BMS**	SampType: **MS**		TestCode: **EPA Method 7471: Mercury**					
Client ID:	**CENTRAL OCD LF V**	Batch ID: **35296**		RunNo: **47506**					
Prep Date:	**12/4/2017**	Analysis Date: **12/4/2017**		SeqNo: **1516937**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.031	0.1565	0	108	80	120			

Sample ID	**1711977-002BMSD**	SampType: **MSD**		TestCode: **EPA Method 7471: Mercury**					
Client ID:	**CENTRAL OCD LF V**	Batch ID: **35296**		RunNo: **47506**					
Prep Date:	**12/4/2017**	Analysis Date: **12/4/2017**		SeqNo: **1516938**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.032	0.1625	0	107	80	120	2.77	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **MB-35142**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **35142**	RunNo: **47357**
Prep Date: **11/25/2017**	Analysis Date: **11/27/2017**	SeqNo: **1511081** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								

Sample ID **LCS-35142**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **35142**	RunNo: **47357**
Prep Date: **11/25/2017**	Analysis Date: **11/27/2017**	SeqNo: **1511082** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	101	80	120			
Barium	24	0.10	25.00	0	96.0	80	120			
Cadmium	24	0.10	25.00	0	95.5	80	120			
Chromium	24	0.30	25.00	0	95.5	80	120			
Copper	25	0.30	25.00	0	99.4	80	120			
Lead	24	0.25	25.00	0	94.6	80	120			
Manganese	24	0.10	25.00	0	96.9	80	120			
Selenium	24	2.5	25.00	0	96.4	80	120			
Silver	5.0	0.25	5.000	0	99.2	80	120			
Uranium	22	5.0	25.00	0	89.7	80	120			

Sample ID **MB-35142**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **PBS**	Batch ID: **35142**	RunNo: **47434**
Prep Date: **11/25/2017**	Analysis Date: **11/30/2017**	SeqNo: **1513817** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	2.5								

Sample ID **LCS-35142**	SampType: **LCS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **LCSS**	Batch ID: **35142**	RunNo: **47434**
Prep Date: **11/25/2017**	Analysis Date: **11/30/2017**	SeqNo: **1513818** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	24	2.5	25.00	0	96.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID **1711977-002BMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35142**	RunNo: **47434**
Prep Date: **11/25/2017**	Analysis Date: **11/30/2017**	SeqNo: **1513839** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	25	0.48	24.11	0	103	75	125			
Chromium	44	1.4	24.11	18.11	106	75	125			
Copper	27	1.4	24.11	3.927	97.6	75	125			
Lead	25	1.2	24.11	2.909	91.1	75	125			

Sample ID **1711977-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35142**	RunNo: **47434**
Prep Date: **11/25/2017**	Analysis Date: **11/30/2017**	SeqNo: **1513840** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	25	0.49	24.55	0	104	75	125	3.05	20	
Chromium	44	1.5	24.55	18.11	106	75	125	1.21	20	
Copper	29	1.5	24.55	3.927	101	75	125	4.42	20	
Lead	26	1.2	24.55	2.909	92.8	75	125	3.24	20	

Sample ID **1711977-002BMS**	SampType: **MS**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35142**	RunNo: **47462**
Prep Date: **11/25/2017**	Analysis Date: **12/1/2017**	SeqNo: **1515281** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	380	0.48	24.11	286.6	399	75	125			S
Manganese	410	0.48	24.11	403.8	34.2	75	125			S
Selenium	9.4	12	24.11	0	39.2	75	125			JS
Silver	2.2	1.2	4.823	0	46.6	75	125			S
Uranium	ND	24	24.11	0	0	75	125			S
Zinc	48	12	24.11	23.00	102	75	125			

Sample ID **1711977-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 6010B: Soil Metals**
Client ID: **CENTRAL OCD LF V**	Batch ID: **35142**	RunNo: **47462**
Prep Date: **11/25/2017**	Analysis Date: **12/1/2017**	SeqNo: **1515283** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	300	0.49	24.55	286.6	40.3	75	125	25.4	20	RS
Manganese	390	0.49	24.55	403.8	-57.5	75	125	5.58	20	S
Selenium	9.7	12	24.55	0	39.7	75	125	3.08	20	JS
Silver	1.6	1.2	4.910	0	32.2	75	125	35.0	20	RS
Uranium	ND	25	24.55	0	0	75	125	0	20	S
Zinc	48	12	24.55	23.00	101	75	125	0.402	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711977**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

Sample ID	**1711977-002BPS**	SampType:	**PS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**CENTRAL OCD LF V**	Batch ID:	**35142**		RunNo:	**47462**				
Prep Date:		Analysis Date:	**12/1/2017**		SeqNo:	**1515285**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	380	0.48	119.6	286.6	80.8	80	120			
Manganese	490	0.48	119.6	403.8	75.9	80	120			S
Selenium	120	12	119.6	0	97.9	80	120			
Silver	23	1.2	23.92	0	98.0	80	120			
Uranium	88	24	119.6	0	73.6	80	120			S
Zinc	130	12	119.6	23.00	93.3	80	120			

Sample ID	**MB-35142**	SampType:	**MBLK**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**PBS**	Batch ID:	**35142**		RunNo:	**47793**				
Prep Date:	**11/25/2017**	Analysis Date:	**12/14/2017**		SeqNo:	**1532881**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	2.5								
Zinc	ND	2.5								

Sample ID	**LCS-35142**	SampType:	**LCS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**LCSS**	Batch ID:	**35142**		RunNo:	**47793**				
Prep Date:	**11/25/2017**	Analysis Date:	**12/14/2017**		SeqNo:	**1532882**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	27	2.5	25.00	0	107	80	120			
Zinc	24	2.5	25.00	0	95.6	80	120			

Sample ID	**1711977-002BMS**	SampType:	**MS**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**CENTRAL OCD LF V**	Batch ID:	**35142**		RunNo:	**47909**				
Prep Date:	**11/25/2017**	Analysis Date:	**12/20/2017**		SeqNo:	**1534613**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	18	12	24.11	0	75.4	75	125			

Sample ID	**1711977-002BMSD**	SampType:	**MSD**		TestCode:	**EPA Method 6010B: Soil Metals**				
Client ID:	**CENTRAL OCD LF V**	Batch ID:	**35142**		RunNo:	**47909**				
Prep Date:	**11/25/2017**	Analysis Date:	**12/20/2017**		SeqNo:	**1534614**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	21	12	24.55	0	85.9	75	125	14.8	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1711977 RcptNo: 1

Received By: Anne Thorne 11/17/2017 11:15:00 AM Anne Thorne
Completed By: Anne Thorne 11/20/2017 7:50:49 AM Anne Thorne
Reviewed By: JMO 11/20/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? _____
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

PAGE 1 of 2

Client:	ANDEAVOR GALLUP REFINERY
Mailing Address:	92 GIANT CROSSING RD GALLUP, NM 87301
Phone #:	505-722-0231
email or Fax#:	CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:	☒ Standard ☐ Level 4 (Full Validation)
Accreditation	☐ NELAP ☐ Other
☒ EDD (Type)	EXCEL

Turn-Around Time:	☒ Standard ☐ Rush
Project Name:	CENTRAL OCD LANDFARM SEMIANNUAL SAMPLING
Project #:	
Project Manager:	CHERYL JOHNSON
Sampler:	TRACY PAYNE
On Ice:	☒ Yes ☐ No
Sample Temperature:	1.0

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711977	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	VADOSE ZONE LIST	NMAC LIST	BTEX		Air Bubbles (Y or N)
11/16/17	1135	SOIL	CENTRAL OCD LF TZ01	8OZJAR-3 4OZJAR-1	NONE	-001			✓									✓	✓			
	1200		CENTRAL OCD LF VZ01			-002												✓	✓			
	1240		CENTRAL OCD LF TZ02			-003			✓									✓	✓			
	1250		CENTRAL OCDLF VZ02			-004												✓	✓			
	1320		CENTRAL OCDLF TZ03			-005			✓									✓	✓			
	1330		CENTRAL OCD LF VZ03			-006												✓	✓			
	—	WATER	TRIP BLANK	40 ML VOA-3	HCL	-007														✓		

Date: 11/17/17	Time: 1115	Relinquished by:	Received by:	Date 11/17/17	Time 1115
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: CENTRAL OCD LANDFARM SEMIANNUAL SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711977	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015 (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	VADOSE ZONE LIST	NMAC LIST	BTEX		Air Bubbles (Y or N)
11/16/17	1400	SOIL	CENTRAL OCD LF TZ04	8OZJAR-3 4OZJAR-1	NONE	-008			✓									✓	✓			
	1410		CENTRAL OCD LF VZ04			-009												✓	✓			
	—		CENTRAL OCD LF DUP01			-010												✓	✓			
	1200		CENTRAL OCD LF VZ01MS			~~AT 11/20/17~~ -002 -011												✓	✓			
	1200		CENTRAL OCD LF VZ01MSD		~~HCL~~ TP/NONE	-002 -012												✓	✓			
	1425	WATER	CENTRAL OCD LF FB01	40ML VOA-3	HCL	-011 -013														✓		
	1430		CENTRAL OCD LF EB01			-012 -014														✓		
	—		TRIP BLANK			-013 -015														✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/17/17	1115			11/17/17	1115
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.6000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW6010A	mg/kg	2.5000
Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg	0.1000
Chromium	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg	0.6000
Iron	SW6010A	mg/kg	500.0000
Lead	SW6010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0.2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethene	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

APPENDIX G
HALL LABORATORY ANALYTICAL DATA (ON ATTACHED CD)

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 14, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017 1ST Quarter GW Wells OrderNo.: 1702B11

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 12 sample(s) on 2/24/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 7:00:00 AM
Lab ID: 1702B11-001
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Toluene	0.29	0.12	1.0	J	µg/L	1	2/27/2017 8:13:00 PM	R41008
Ethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Naphthalene	ND	0.093	2.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Acetone	6.5	4.9	10	J	µg/L	1	2/27/2017 8:13:00 PM	R41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 8:13:00 PM	R41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 8:13:00 PM	R41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 8:13:00 PM	R41008

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 7:00:00 AM
Lab ID: 1702B11-001
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 8:13:00 PM	R41008
Isopropylbenzene	ND	0.10	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 8:13:00 PM	R41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
n-Butylbenzene	ND	0.16	3.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
n-Propylbenzene	ND	0.13	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 8:13:00 PM	R41008
Xylenes, Total	ND	0.37	1.5		µg/L	1	2/27/2017 8:13:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	119	0	70-130		%Rec	1	2/27/2017 8:13:00 PM	R41008
Surr: 4-Bromofluorobenzene	99.0	0	70-130		%Rec	1	2/27/2017 8:13:00 PM	R41008
Surr: Dibromofluoromethane	118	0	70-130		%Rec	1	2/27/2017 8:13:00 PM	R41008
Surr: Toluene-d8	96.9	0	70-130		%Rec	1	2/27/2017 8:13:00 PM	R41008

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1ST Quarter GW Wells
Collection Date:
Lab ID: 1702B11-002
Matrix: TRIP BLANK
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Toluene	ND	0.12	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Ethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Naphthalene	ND	0.093	2.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Acetone	5.3	4.9	10	J	µg/L	1	2/27/2017 8:37:00 PM	R41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 8:37:00 PM	R41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 8:37:00 PM	R41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 8:37:00 PM	R41008

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1ST Quarter GW Wells
Collection Date:
Lab ID: 1702B11-002
Matrix: TRIP BLANK
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 8:37:00 PM	R41008
Isopropylbenzene	ND	0.10	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 8:37:00 PM	R41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
n-Butylbenzene	ND	0.16	3.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
n-Propylbenzene	ND	0.13	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 8:37:00 PM	R41008
Xylenes, Total	ND	0.37	1.5		µg/L	1	2/27/2017 8:37:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	98.9	0	70-130		%Rec	1	2/27/2017 8:37:00 PM	R41008
Surr: 4-Bromofluorobenzene	98.8	0	70-130		%Rec	1	2/27/2017 8:37:00 PM	R41008
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	2/27/2017 8:37:00 PM	R41008
Surr: Toluene-d8	104	0	70-130		%Rec	1	2/27/2017 8:37:00 PM	R41008

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 10:10:00 AM
Lab ID: 1702B11-003
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	12	0.48	1.0		mg/L	1	2/27/2017 12:32:44 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 12:32:44 PM	30397
Surr: DNOP	114	0	98.8-141		%Rec	1	2/27/2017 12:32:44 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.92	0.12	0.25		mg/L	5	2/27/2017 3:25:12 PM	AG4102
Surr: BFB	106	0	52.3-138		%Rec	5	2/27/2017 3:25:12 PM	AG4102
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.9	0.25	0.50		mg/L	5	2/24/2017 10:37:52 PM	R41000
Chloride	1400	50	100		mg/L	200	3/1/2017 12:10:58 AM	A41069
Bromide	4.8	0.15	0.50		mg/L	5	2/24/2017 10:37:52 PM	R41000
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	3/1/2017 12:48:12 AM	A41069
Sulfate	14	0.48	2.5		mg/L	5	2/24/2017 10:37:52 PM	R41000
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	2/25/2017 1:56:25 AM	R41000
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.95	0.00085	0.0020		mg/L	1	3/9/2017 2:54:51 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 2:54:51 PM	A41280
Calcium	170	2.5	5.0		mg/L	5	3/9/2017 2:56:38 PM	A41280
Chromium	ND	0.0010	0.0060		mg/L	1	3/9/2017 2:54:51 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 2:54:51 PM	A41280
Iron	4.8	0.10	0.10	*	mg/L	5	3/9/2017 2:56:38 PM	A41280
Magnesium	32	0.50	1.0		mg/L	1	3/9/2017 2:54:51 PM	A41280
Manganese	1.7	0.0019	0.010	*	mg/L	5	3/9/2017 2:56:38 PM	A41280
Potassium	4.0	0.50	1.0		mg/L	1	3/9/2017 2:54:51 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 2:54:51 PM	A41280
Sodium	1400	25	50		mg/L	50	3/13/2017 3:36:54 PM	A41337
Zinc	0.029	0.0011	0.010		mg/L	1	3/13/2017 3:35:09 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.98	0.00079	0.0020		mg/L	1	3/2/2017 12:42:19 PM	30472
Cadmium	ND	0.0015	0.0020		mg/L	1	3/2/2017 12:42:19 PM	30472
Chromium	0.0056	0.0027	0.0060	J	mg/L	1	3/2/2017 12:42:19 PM	30472
Copper	0.0093	0.0030	0.0060		mg/L	1	3/2/2017 12:42:19 PM	30472
Iron	5.8	0.20	0.20	*	mg/L	10	3/6/2017 12:33:32 PM	30472
Manganese	1.6	0.0027	0.020	*	mg/L	10	3/6/2017 12:33:32 PM	30472
Silver	ND	0.0015	0.0050		mg/L	1	3/2/2017 12:42:19 PM	30472
Zinc	0.030	0.0027	0.010		mg/L	1	3/2/2017 12:42:19 PM	30472
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.013	0.00069	0.0050	*	mg/L	5	3/6/2017 6:00:49 PM	B41191

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	3/6/2017 6:00:49 PM	B41191
Selenium	0.022	0.0011	0.0050		mg/L	5	3/6/2017 6:00:49 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.021	0.011	0.050	*J	mg/L	50	3/3/2017 3:46:47 PM	30472
Lead	0.014	0.00041	0.0025		mg/L	5	3/3/2017 3:40:46 PM	30472
Selenium	0.025	0.0019	0.010		mg/L	10	3/3/2017 3:43:46 PM	30472
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 4:57:04 PM	30538
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Acenaphthylene	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Aniline	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Anthracene	ND	2.5	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Azobenzene	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Benzoic acid	ND	2.6	20		µg/L	1	3/1/2017 5:36:39 PM	30412
Benzyl alcohol	ND	3.0	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Bis(2-ethylhexyl)phthalate	7.8	2.6	10	J	µg/L	1	3/1/2017 5:36:39 PM	30412
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Carbazole	ND	2.3	10		µg/L	1	3/1/2017 5:36:39 PM	30412
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
4-Chloroaniline	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2-Chlorophenol	ND	2.2	10		µg/L	1	3/1/2017 5:36:39 PM	30412
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Chrysene	ND	2.8	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Dibenzofuran	ND	2.5	10		µg/L	1	3/1/2017 5:36:39 PM	30412

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Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 5:36:39 PM	30412
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 5:36:39 PM	30412
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Diethyl phthalate	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/1/2017 5:36:39 PM	30412
2,4-Dimethylphenol	13	3.0	10		µg/L	1	3/1/2017 5:36:39 PM	30412
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/1/2017 5:36:39 PM	30412
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/1/2017 5:36:39 PM	30412
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Fluoranthene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Fluorene	ND	2.7	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Hexachloroethane	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Isophorone	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
1-Methylnaphthalene	10	2.9	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2-Methylphenol	ND	2.5	10		µg/L	1	3/1/2017 5:36:39 PM	30412
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/1/2017 5:36:39 PM	30412
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/1/2017 5:36:39 PM	30412
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Naphthalene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2-Nitroaniline	ND	2.8	10		µg/L	1	3/1/2017 5:36:39 PM	30412
3-Nitroaniline	ND	2.9	10		µg/L	1	3/1/2017 5:36:39 PM	30412
4-Nitroaniline	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Nitrobenzene	ND	2.8	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2-Nitrophenol	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
4-Nitrophenol	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Pentachlorophenol	ND	2.3	20		µg/L	1	3/1/2017 5:36:39 PM	30412
Phenanthrene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Phenol	ND	2.0	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Pyrene	ND	3.1	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Pyridine	ND	2.2	10		µg/L	1	3/1/2017 5:36:39 PM	30412

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Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/1/2017 5:36:39 PM	30412
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/1/2017 5:36:39 PM	30412
Surr: 2-Fluorophenol	29.3	0	15-98.1		%Rec	1	3/1/2017 5:36:39 PM	30412
Surr: Phenol-d5	23.8	0	15-80.7		%Rec	1	3/1/2017 5:36:39 PM	30412
Surr: 2,4,6-Tribromophenol	42.0	0	15-112		%Rec	1	3/1/2017 5:36:39 PM	30412
Surr: Nitrobenzene-d5	68.0	0	27.2-90.7		%Rec	1	3/1/2017 5:36:39 PM	30412
Surr: 2-Fluorobiphenyl	55.6	0	23.3-85.6		%Rec	1	3/1/2017 5:36:39 PM	30412
Surr: 4-Terphenyl-d14	28.0	0	27.6-107		%Rec	1	3/1/2017 5:36:39 PM	30412
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	120	0.96	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Toluene	ND	1.2	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Ethylbenzene	10	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Methyl tert-butyl ether (MTBE)	280	2.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2,4-Trimethylbenzene	3.7	1.1	10	JD	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,3,5-Trimethylbenzene	ND	1.2	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	1.2	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Naphthalene	2.0	0.93	20	JD	µg/L	10	2/27/2017 2:42:00 PM	R41008
1-Methylnaphthalene	16	2.0	40	JD	µg/L	10	2/27/2017 2:42:00 PM	R41008
2-Methylnaphthalene	ND	1.6	40	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Acetone	ND	49	100	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Bromobenzene	ND	0.98	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Bromodichloromethane	ND	1.4	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Bromoform	ND	1.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Bromomethane	ND	7.8	30	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
2-Butanone	ND	7.4	100	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Carbon disulfide	ND	6.0	100	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Chlorobenzene	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Chloroethane	ND	1.9	20	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Chloroform	ND	0.89	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Chloromethane	ND	2.1	30	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
4-Chlorotoluene	ND	1.3	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
cis-1,2-DCE	ND	1.2	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
cis-1,3-Dichloropropene	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	2.3	20	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Dibromochloromethane	ND	0.87	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008

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EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	1.2	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2-Dichlorobenzene	ND	4.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,3-Dichlorobenzene	ND	1.4	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,4-Dichlorobenzene	ND	1.4	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Dichlorodifluoromethane	ND	3.6	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,1-Dichloroethane	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,1-Dichloroethene	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2-Dichloropropane	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,3-Dichloropropane	ND	1.6	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
2,2-Dichloropropane	ND	1.7	20	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,1-Dichloropropene	ND	1.3	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Hexachlorobutadiene	ND	2.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
2-Hexanone	ND	8.4	100	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Isopropylbenzene	1.6	1.0	10	JD	µg/L	10	2/27/2017 2:42:00 PM	R41008
4-Isopropyltoluene	ND	1.4	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
4-Methyl-2-pentanone	ND	4.3	100	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Methylene Chloride	ND	1.9	30	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
n-Butylbenzene	ND	1.6	30	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
n-Propylbenzene	1.5	1.3	10	JD	µg/L	10	2/27/2017 2:42:00 PM	R41008
sec-Butylbenzene	ND	1.2	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Styrene	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
tert-Butylbenzene	ND	1.2	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	1.3	20	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Tetrachloroethene (PCE)	ND	1.5	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
trans-1,2-DCE	ND	4.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
trans-1,3-Dichloropropene	ND	1.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2,3-Trichlorobenzene	ND	1.1	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2,4-Trichlorobenzene	ND	1.3	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,1,1-Trichloroethane	ND	0.91	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,1,2-Trichloroethane	ND	1.3	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Trichloroethene (TCE)	ND	1.8	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Trichlorofluoromethane	ND	2.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
1,2,3-Trichloropropane	ND	2.0	20	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Vinyl chloride	ND	2.0	10	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Xylenes, Total	ND	3.7	15	D	µg/L	10	2/27/2017 2:42:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	117	0	70-130	D	%Rec	10	2/27/2017 2:42:00 PM	R41008
Surr: 4-Bromofluorobenzene	98.8	0	70-130	D	%Rec	10	2/27/2017 2:42:00 PM	R41008
Surr: Dibromofluoromethane	122	0	70-130	D	%Rec	10	2/27/2017 2:42:00 PM	R41008

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 10:10:00 AM
Lab ID: 1702B11-003
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	107	0	70-130	D	%Rec	10	2/27/2017 2:42:00 PM	R41008

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:08:00 PM
Lab ID: 1702B11-004
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	2.4	0.48	1.0		mg/L	1	2/27/2017 1:00:38 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 1:00:38 PM	30397
Surr: DNOP	113	0	98.8-141		%Rec	1	2/27/2017 1:00:38 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.60	0.025	0.050		mg/L	1	2/27/2017 4:35:19 PM	AG4102
Surr: BFB	135	0	52.3-138		%Rec	1	2/27/2017 4:35:19 PM	AG4102
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.8	0.050	0.10		mg/L	1	2/24/2017 11:02:41 PM	R41000
Chloride	250	5.0	10		mg/L	20	2/24/2017 11:15:06 PM	R41000
Bromide	1.1	0.031	0.10		mg/L	1	2/24/2017 11:02:41 PM	R41000
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/1/2017 1:00:37 AM	A41069
Sulfate	8.7	0.096	0.50		mg/L	1	2/24/2017 11:02:41 PM	R41000
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	2/25/2017 2:08:50 AM	R41000
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	1.4	0.0043	0.010		mg/L	5	3/9/2017 3:00:44 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 2:58:39 PM	A41280
Calcium	76	0.50	1.0		mg/L	1	3/9/2017 2:58:39 PM	A41280
Chromium	ND	0.0010	0.0060		mg/L	1	3/9/2017 2:58:39 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 2:58:39 PM	A41280
Iron	0.88	0.020	0.020	*	mg/L	1	3/9/2017 2:58:39 PM	A41280
Magnesium	15	0.50	1.0		mg/L	1	3/9/2017 2:58:39 PM	A41280
Manganese	0.97	0.00038	0.0020	*	mg/L	1	3/9/2017 2:58:39 PM	A41280
Potassium	0.68	0.50	1.0	J	mg/L	1	3/9/2017 2:58:39 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 2:58:39 PM	A41280
Sodium	360	2.5	5.0		mg/L	5	3/9/2017 3:00:44 PM	A41280
Zinc	0.020	0.0011	0.010		mg/L	1	3/13/2017 3:38:46 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	1.8	0.0040	0.010		mg/L	5	3/6/2017 12:36:14 PM	30472
Cadmium	ND	0.0015	0.0020		mg/L	1	3/2/2017 12:44:32 PM	30472
Chromium	0.0062	0.0027	0.0060		mg/L	1	3/2/2017 12:44:32 PM	30472
Copper	0.0043	0.0030	0.0060	J	mg/L	1	3/2/2017 12:44:32 PM	30472
Iron	4.0	0.10	0.10	*	mg/L	5	3/6/2017 12:36:14 PM	30472
Manganese	0.96	0.0014	0.010	*	mg/L	5	3/6/2017 12:36:14 PM	30472
Silver	ND	0.0015	0.0050		mg/L	1	3/2/2017 12:44:32 PM	30472
Zinc	0.016	0.0027	0.010		mg/L	1	3/2/2017 12:44:32 PM	30472
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0053	0.0014	0.010	J	mg/L	10	3/6/2017 6:06:56 PM	B41191

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:08:00 PM
Lab ID: 1702B11-004
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	2/27/2017 7:40:12 PM	C41030
Selenium	0.0047	0.0021	0.010	J	mg/L	10	3/6/2017 6:06:56 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0080	0.0042	0.020	J	mg/L	20	3/3/2017 3:58:44 PM	30472
Lead	0.0038	0.000081	0.00050		mg/L	1	3/2/2017 7:40:31 PM	30472
Selenium	0.0067	0.0037	0.020	J	mg/L	20	3/3/2017 3:58:44 PM	30472
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:03:15 PM	30538
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Acenaphthylene	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Aniline	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Anthracene	ND	2.5	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Azobenzene	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Benzoic acid	ND	2.6	20		µg/L	1	3/1/2017 1:26:24 PM	30432
Benzyl alcohol	ND	3.0	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Bis(2-ethylhexyl)phthalate	8.0	2.6	10	J	µg/L	1	3/1/2017 1:26:24 PM	30432
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Carbazole	ND	2.3	10		µg/L	1	3/1/2017 1:26:24 PM	30432
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
4-Chloroaniline	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2-Chlorophenol	ND	2.2	10		µg/L	1	3/1/2017 1:26:24 PM	30432
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Chrysene	ND	2.8	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Di-n-butyl phthalate	3.4	2.4	10	J	µg/L	1	3/1/2017 1:26:24 PM	30432
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/1/2017 1:26:24 PM	30432
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Dibenzofuran	ND	2.5	10		µg/L	1	3/1/2017 1:26:24 PM	30432

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:08:00 PM
Lab ID: 1702B11-004
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 1:26:24 PM	30432
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 1:26:24 PM	30432
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Diethyl phthalate	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/1/2017 1:26:24 PM	30432
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/1/2017 1:26:24 PM	30432
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/1/2017 1:26:24 PM	30432
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/1/2017 1:26:24 PM	30432
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Fluoranthene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Fluorene	ND	2.7	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Hexachloroethane	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Isophorone	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2-Methylphenol	ND	2.5	10		µg/L	1	3/1/2017 1:26:24 PM	30432
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/1/2017 1:26:24 PM	30432
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/1/2017 1:26:24 PM	30432
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Naphthalene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2-Nitroaniline	ND	2.8	10		µg/L	1	3/1/2017 1:26:24 PM	30432
3-Nitroaniline	ND	2.9	10		µg/L	1	3/1/2017 1:26:24 PM	30432
4-Nitroaniline	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Nitrobenzene	ND	2.8	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2-Nitrophenol	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
4-Nitrophenol	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Pentachlorophenol	ND	2.3	20		µg/L	1	3/1/2017 1:26:24 PM	30432
Phenanthrene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Phenol	ND	2.0	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Pyrene	ND	3.1	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Pyridine	ND	2.2	10		µg/L	1	3/1/2017 1:26:24 PM	30432

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:08:00 PM
Lab ID: 1702B11-004
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/1/2017 1:26:24 PM	30432
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/1/2017 1:26:24 PM	30432
Surr: 2-Fluorophenol	22.8	0	15-98.1		%Rec	1	3/1/2017 1:26:24 PM	30432
Surr: Phenol-d5	19.6	0	15-80.7		%Rec	1	3/1/2017 1:26:24 PM	30432
Surr: 2,4,6-Tribromophenol	37.2	0	15-112		%Rec	1	3/1/2017 1:26:24 PM	30432
Surr: Nitrobenzene-d5	59.6	0	27.2-90.7		%Rec	1	3/1/2017 1:26:24 PM	30432
Surr: 2-Fluorobiphenyl	56.3	0	23.3-85.6		%Rec	1	3/1/2017 1:26:24 PM	30432
Surr: 4-Terphenyl-d14	27.9	0	27.6-107		%Rec	1	3/1/2017 1:26:24 PM	30432
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	24	0.096	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Toluene	0.14	0.12	1.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
Ethylbenzene	3.1	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Methyl tert-butyl ether (MTBE)	180	0.21	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Naphthalene	2.3	0.093	2.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1-Methylnaphthalene	2.3	0.20	4.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
2-Methylnaphthalene	0.69	0.16	4.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
Acetone	6.6	4.9	10	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 9:00:00 PM	R41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 9:00:00 PM	R41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
cis-1,2-DCE	0.14	0.12	1.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:08:00 PM
Lab ID: 1702B11-004
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,1-Dichloroethane	0.24	0.11	1.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 9:00:00 PM	R41008
Isopropylbenzene	0.74	0.10	1.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 9:00:00 PM	R41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
n-Butylbenzene	0.25	0.16	3.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
n-Propylbenzene	0.60	0.13	1.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
sec-Butylbenzene	0.46	0.12	1.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
tert-Butylbenzene	0.25	0.12	1.0	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 9:00:00 PM	R41008
Xylenes, Total	0.53	0.37	1.5	J	µg/L	1	2/27/2017 9:00:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	114	0	70-130		%Rec	1	2/27/2017 9:00:00 PM	R41008
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	2/27/2017 9:00:00 PM	R41008
Surr: Dibromofluoromethane	116	0	70-130		%Rec	1	2/27/2017 9:00:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:08:00 PM
Lab ID: 1702B11-004
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	104	0	70-130		%Rec	1	2/27/2017 9:00:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:28:00 PM
Lab ID: 1702B11-005
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	1.0	0.48	1.0		mg/L	1	2/27/2017 1:28:11 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 1:28:11 PM	30397
Surr: DNOP	114	0	98.8-141		%Rec	1	2/27/2017 1:28:11 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.20	0.025	0.050		mg/L	1	2/27/2017 4:58:41 PM	AG4102
Surr: BFB	110	0	52.3-138		%Rec	1	2/27/2017 4:58:41 PM	AG4102
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.0	0.050	0.10		mg/L	1	2/24/2017 11:27:30 PM	R41000
Chloride	160	5.0	10		mg/L	20	2/24/2017 11:39:54 PM	R41000
Bromide	1.1	0.031	0.10		mg/L	1	2/24/2017 11:27:30 PM	R41000
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/1/2017 1:13:02 AM	A41069
Sulfate	26	0.096	0.50		mg/L	1	2/24/2017 11:27:30 PM	R41000
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	2/25/2017 2:21:15 AM	R41000
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	1.2	0.0043	0.010		mg/L	5	3/9/2017 3:04:46 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 3:02:38 PM	A41280
Calcium	79	0.50	1.0		mg/L	1	3/9/2017 3:02:38 PM	A41280
Chromium	ND	0.0010	0.0060		mg/L	1	3/9/2017 3:02:38 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 3:02:38 PM	A41280
Iron	0.17	0.020	0.020		mg/L	1	3/9/2017 3:02:38 PM	A41280
Magnesium	13	0.50	1.0		mg/L	1	3/9/2017 3:02:38 PM	A41280
Manganese	1.1	0.0019	0.010	*	mg/L	5	3/9/2017 3:04:46 PM	A41280
Potassium	0.72	0.50	1.0	J	mg/L	1	3/9/2017 3:02:38 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 3:02:38 PM	A41280
Sodium	280	2.5	5.0		mg/L	5	3/9/2017 3:04:46 PM	A41280
Zinc	0.028	0.0011	0.010		mg/L	1	3/13/2017 3:40:50 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	1.1	0.0040	0.010		mg/L	5	3/6/2017 12:38:57 PM	30472
Cadmium	ND	0.0015	0.0020		mg/L	1	3/2/2017 12:46:47 PM	30472
Chromium	ND	0.0027	0.0060		mg/L	1	3/2/2017 12:46:47 PM	30472
Copper	ND	0.0030	0.0060		mg/L	1	3/2/2017 12:46:47 PM	30472
Iron	1.8	0.10	0.10	*	mg/L	5	3/6/2017 12:38:57 PM	30472
Manganese	1.1	0.0014	0.010	*	mg/L	5	3/6/2017 12:38:57 PM	30472
Silver	ND	0.0015	0.0050		mg/L	1	3/2/2017 12:46:47 PM	30472
Zinc	0.0047	0.0027	0.010	J	mg/L	1	3/2/2017 12:46:47 PM	30472
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0019	0.0014	0.010	J	mg/L	10	3/6/2017 6:13:02 PM	B41191

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:28:00 PM
Lab ID: 1702B11-005
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	2/27/2017 7:43:16 PM	C41030
Selenium	0.0035	0.0021	0.010	J	mg/L	10	3/6/2017 6:13:02 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0068	0.0021	0.010	J	mg/L	10	3/3/2017 4:01:44 PM	30472
Lead	0.00035	0.000081	0.00050	J	mg/L	1	3/2/2017 7:45:39 PM	30472
Selenium	0.0057	0.0019	0.010	J	mg/L	10	3/3/2017 4:01:44 PM	30472
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:05:19 PM	30538
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Acenaphthylene	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Aniline	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Anthracene	ND	2.5	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Azobenzene	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Benzoic acid	ND	2.6	20		µg/L	1	3/1/2017 1:54:03 PM	30432
Benzyl alcohol	ND	3.0	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Bis(2-ethylhexyl)phthalate	7.1	2.6	10	J	µg/L	1	3/1/2017 1:54:03 PM	30432
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Carbazole	ND	2.3	10		µg/L	1	3/1/2017 1:54:03 PM	30432
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
4-Chloroaniline	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2-Chlorophenol	ND	2.2	10		µg/L	1	3/1/2017 1:54:03 PM	30432
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Chrysene	ND	2.8	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Di-n-octyl phthalate	3.4	2.0	10	J	µg/L	1	3/1/2017 1:54:03 PM	30432
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Dibenzofuran	ND	2.5	10		µg/L	1	3/1/2017 1:54:03 PM	30432

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:28:00 PM
Lab ID: 1702B11-005
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 1:54:03 PM	30432
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 1:54:03 PM	30432
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Diethyl phthalate	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/1/2017 1:54:03 PM	30432
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/1/2017 1:54:03 PM	30432
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/1/2017 1:54:03 PM	30432
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/1/2017 1:54:03 PM	30432
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Fluoranthene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Fluorene	ND	2.7	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Hexachloroethane	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Isophorone	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2-Methylphenol	ND	2.5	10		µg/L	1	3/1/2017 1:54:03 PM	30432
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/1/2017 1:54:03 PM	30432
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/1/2017 1:54:03 PM	30432
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Naphthalene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2-Nitroaniline	ND	2.8	10		µg/L	1	3/1/2017 1:54:03 PM	30432
3-Nitroaniline	ND	2.9	10		µg/L	1	3/1/2017 1:54:03 PM	30432
4-Nitroaniline	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Nitrobenzene	ND	2.8	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2-Nitrophenol	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
4-Nitrophenol	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Pentachlorophenol	ND	2.3	20		µg/L	1	3/1/2017 1:54:03 PM	30432
Phenanthrene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Phenol	ND	2.0	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Pyrene	ND	3.1	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Pyridine	ND	2.2	10		µg/L	1	3/1/2017 1:54:03 PM	30432

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Client Sample ID: KA-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:28:00 PM
Lab ID: 1702B11-005
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/1/2017 1:54:03 PM	30432
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/1/2017 1:54:03 PM	30432
Surr: 2-Fluorophenol	22.8	0	15-98.1		%Rec	1	3/1/2017 1:54:03 PM	30432
Surr: Phenol-d5	17.9	0	15-80.7		%Rec	1	3/1/2017 1:54:03 PM	30432
Surr: 2,4,6-Tribromophenol	49.7	0	15-112		%Rec	1	3/1/2017 1:54:03 PM	30432
Surr: Nitrobenzene-d5	63.9	0	27.2-90.7		%Rec	1	3/1/2017 1:54:03 PM	30432
Surr: 2-Fluorobiphenyl	67.8	0	23.3-85.6		%Rec	1	3/1/2017 1:54:03 PM	30432
Surr: 4-Terphenyl-d14	36.2	0	27.6-107		%Rec	1	3/1/2017 1:54:03 PM	30432
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	17	0.096	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Toluene	ND	0.12	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Ethylbenzene	7.7	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Methyl tert-butyl ether (MTBE)	46	0.21	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Naphthalene	4.0	0.093	2.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1-Methylnaphthalene	3.2	0.20	4.0	J	µg/L	1	2/27/2017 9:24:00 PM	R41008
2-Methylnaphthalene	1.2	0.16	4.0	J	µg/L	1	2/27/2017 9:24:00 PM	R41008
Acetone	ND	4.9	10		µg/L	1	2/27/2017 9:24:00 PM	R41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 9:24:00 PM	R41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 9:24:00 PM	R41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
cis-1,2-DCE	0.16	0.12	1.0	J	µg/L	1	2/27/2017 9:24:00 PM	R41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:28:00 PM
Lab ID: 1702B11-005
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 9:24:00 PM	R41008
Isopropylbenzene	0.93	0.10	1.0	J	µg/L	1	2/27/2017 9:24:00 PM	R41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 9:24:00 PM	R41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
n-Butylbenzene	ND	0.16	3.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
n-Propylbenzene	0.73	0.13	1.0	J	µg/L	1	2/27/2017 9:24:00 PM	R41008
sec-Butylbenzene	0.36	0.12	1.0	J	µg/L	1	2/27/2017 9:24:00 PM	R41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
tert-Butylbenzene	0.19	0.12	1.0	J	µg/L	1	2/27/2017 9:24:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 9:24:00 PM	R41008
Xylenes, Total	ND	0.37	1.5		µg/L	1	2/27/2017 9:24:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	2/27/2017 9:24:00 PM	R41008
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	1	2/27/2017 9:24:00 PM	R41008
Surr: Dibromofluoromethane	114	0	70-130		%Rec	1	2/27/2017 9:24:00 PM	R41008

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 12:28:00 PM
Lab ID: 1702B11-005
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	104	0	70-130		%Rec	1	2/27/2017 9:24:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 3:35:00 PM
Lab ID: 1702B11-006
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	1.5	0.48	1.0		mg/L	1	2/27/2017 1:55:46 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 1:55:46 PM	30397
Surr: DNOP	115	0	98.8-141		%Rec	1	2/27/2017 1:55:46 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	2/27/2017 5:21:59 PM	AG4102
Surr: BFB	88.7	0	52.3-138		%Rec	1	2/27/2017 5:21:59 PM	AG4102
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.3	0.050	0.10		mg/L	1	2/24/2017 11:52:19 PM	R41000
Chloride	350	12	25		mg/L	50	3/1/2017 1:37:51 AM	A41069
Bromide	2.3	0.031	0.10		mg/L	1	2/24/2017 11:52:19 PM	R41000
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/1/2017 1:25:26 AM	A41069
Sulfate	150	1.9	10		mg/L	20	2/25/2017 12:04:44 AM	R41000
Nitrate+Nitrite as N	1.9	0.13	1.0		mg/L	5	2/25/2017 2:33:39 AM	R41000
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.089	0.00085	0.0020		mg/L	1	3/9/2017 3:06:40 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 3:06:40 PM	A41280
Calcium	19	0.50	1.0		mg/L	1	3/9/2017 3:06:40 PM	A41280
Chromium	0.0015	0.0010	0.0060	J	mg/L	1	3/9/2017 3:06:40 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 3:06:40 PM	A41280
Iron	0.23	0.020	0.020		mg/L	1	3/9/2017 3:06:40 PM	A41280
Magnesium	2.5	0.50	1.0		mg/L	1	3/9/2017 3:06:40 PM	A41280
Manganese	0.10	0.00038	0.0020	*	mg/L	1	3/9/2017 3:06:40 PM	A41280
Potassium	2.4	0.50	1.0		mg/L	1	3/9/2017 3:06:40 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 3:06:40 PM	A41280
Sodium	490	2.5	5.0		mg/L	5	3/9/2017 3:14:26 PM	A41280
Zinc	0.027	0.0011	0.010		mg/L	1	3/13/2017 3:42:55 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.60	0.00079	0.0020		mg/L	1	3/2/2017 12:49:33 PM	30472
Cadmium	ND	0.0015	0.0020		mg/L	1	3/2/2017 12:49:33 PM	30472
Chromium	0.025	0.0027	0.0060		mg/L	1	3/2/2017 12:49:33 PM	30472
Copper	0.026	0.0030	0.0060		mg/L	1	3/2/2017 12:49:33 PM	30472
Iron	7.2	0.40	0.40	*	mg/L	20	3/6/2017 12:41:38 PM	30472
Manganese	0.53	0.00027	0.0020	*	mg/L	1	3/2/2017 12:49:33 PM	30472
Silver	ND	0.0015	0.0050		mg/L	1	3/2/2017 12:49:33 PM	30472
Zinc	0.14	0.0027	0.010		mg/L	1	3/2/2017 12:49:33 PM	30472
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0039	0.00069	0.0050	J	mg/L	5	3/6/2017 6:16:06 PM	B41191

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 3:35:00 PM
Lab ID: 1702B11-006
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0011	0.00017	0.00050		mg/L	1	2/27/2017 7:46:19 PM	C41030
Selenium	0.0083	0.0021	0.010	J	mg/L	10	3/6/2017 6:25:19 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0052	0.0021	0.010	J	mg/L	10	3/3/2017 4:07:45 PM	30472
Lead	0.014	0.000081	0.00050		mg/L	1	3/2/2017 7:50:48 PM	30472
Selenium	0.0088	0.0019	0.010	J	mg/L	10	3/3/2017 4:07:45 PM	30472
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	0.00015	0.000053	0.00020	J	mg/L	1	3/6/2017 5:07:23 PM	30538
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Acenaphthylene	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Aniline	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Anthracene	ND	2.5	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Azobenzene	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Benzoic acid	ND	2.6	20		µg/L	1	3/1/2017 2:21:44 PM	30432
Benzyl alcohol	ND	3.0	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Bis(2-ethylhexyl)phthalate	7.1	2.6	10	J	µg/L	1	3/1/2017 2:21:44 PM	30432
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Carbazole	ND	2.3	10		µg/L	1	3/1/2017 2:21:44 PM	30432
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
4-Chloroaniline	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2-Chlorophenol	ND	2.2	10		µg/L	1	3/1/2017 2:21:44 PM	30432
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Chrysene	ND	2.8	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Di-n-octyl phthalate	3.6	2.0	10	J	µg/L	1	3/1/2017 2:21:44 PM	30432
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Dibenzofuran	ND	2.5	10		µg/L	1	3/1/2017 2:21:44 PM	30432

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 3:35:00 PM
Lab ID: 1702B11-006
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 2:21:44 PM	30432
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 2:21:44 PM	30432
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Diethyl phthalate	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/1/2017 2:21:44 PM	30432
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/1/2017 2:21:44 PM	30432
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/1/2017 2:21:44 PM	30432
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/1/2017 2:21:44 PM	30432
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Fluoranthene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Fluorene	ND	2.7	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Hexachloroethane	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Isophorone	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2-Methylphenol	ND	2.5	10		µg/L	1	3/1/2017 2:21:44 PM	30432
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/1/2017 2:21:44 PM	30432
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/1/2017 2:21:44 PM	30432
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Naphthalene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2-Nitroaniline	ND	2.8	10		µg/L	1	3/1/2017 2:21:44 PM	30432
3-Nitroaniline	ND	2.9	10		µg/L	1	3/1/2017 2:21:44 PM	30432
4-Nitroaniline	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Nitrobenzene	ND	2.8	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2-Nitrophenol	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
4-Nitrophenol	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Pentachlorophenol	ND	2.3	20		µg/L	1	3/1/2017 2:21:44 PM	30432
Phenanthrene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Phenol	ND	2.0	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Pyrene	ND	3.1	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Pyridine	ND	2.2	10		µg/L	1	3/1/2017 2:21:44 PM	30432

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 3:35:00 PM
Lab ID: 1702B11-006
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/1/2017 2:21:44 PM	30432
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/1/2017 2:21:44 PM	30432
Surr: 2-Fluorophenol	20.8	0	15-98.1		%Rec	1	3/1/2017 2:21:44 PM	30432
Surr: Phenol-d5	20.5	0	15-80.7		%Rec	1	3/1/2017 2:21:44 PM	30432
Surr: 2,4,6-Tribromophenol	45.5	0	15-112		%Rec	1	3/1/2017 2:21:44 PM	30432
Surr: Nitrobenzene-d5	55.8	0	27.2-90.7		%Rec	1	3/1/2017 2:21:44 PM	30432
Surr: 2-Fluorobiphenyl	56.8	0	23.3-85.6		%Rec	1	3/1/2017 2:21:44 PM	30432
Surr: 4-Terphenyl-d14	37.4	0	27.6-107		%Rec	1	3/1/2017 2:21:44 PM	30432
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Toluene	ND	0.12	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Ethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Methyl tert-butyl ether (MTBE)	16	0.21	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Naphthalene	ND	0.093	2.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Acetone	ND	4.9	10		µg/L	1	2/27/2017 9:47:00 PM	R41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 9:47:00 PM	R41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 9:47:00 PM	R41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 3:35:00 PM
Lab ID: 1702B11-006
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 9:47:00 PM	R41008
Isopropylbenzene	ND	0.10	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 9:47:00 PM	R41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
n-Butylbenzene	ND	0.16	3.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
n-Propylbenzene	ND	0.13	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 9:47:00 PM	R41008
Xylenes, Total	ND	0.37	1.5		µg/L	1	2/27/2017 9:47:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	118	0	70-130		%Rec	1	2/27/2017 9:47:00 PM	R41008
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	2/27/2017 9:47:00 PM	R41008
Surr: Dibromofluoromethane	119	0	70-130		%Rec	1	2/27/2017 9:47:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 3:35:00 PM
Lab ID: 1702B11-006
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	105	0	70-130		%Rec	1	2/27/2017 9:47:00 PM	R41008

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 1:35:00 PM
Lab ID: 1702B11-007
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	ND	0.48	1.0		mg/L	1	2/27/2017 2:23:09 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 2:23:09 PM	30397
Surr: DNOP	116	0	98.8-141		%Rec	1	2/27/2017 2:23:09 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	2/27/2017 5:45:32 PM	AG4102
Surr: BFB	86.5	0	52.3-138		%Rec	1	2/27/2017 5:45:32 PM	AG4102
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.32	0.050	0.10		mg/L	1	2/25/2017 12:17:09 AM	R41000
Chloride	110	5.0	10		mg/L	20	2/25/2017 12:29:34 AM	R41000
Bromide	1.7	0.031	0.10		mg/L	1	2/25/2017 12:17:09 AM	R41000
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/1/2017 1:50:16 AM	A41069
Sulfate	110	1.9	10		mg/L	20	2/25/2017 12:29:34 AM	R41000
Nitrate+Nitrite as N	27	0.13	1.0	*	mg/L	5	2/25/2017 2:46:04 AM	R41000
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.12	0.00085	0.0020		mg/L	1	3/9/2017 3:16:14 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 3:16:14 PM	A41280
Calcium	110	2.5	5.0		mg/L	5	3/9/2017 3:18:09 PM	A41280
Chromium	ND	0.0010	0.0060		mg/L	1	3/9/2017 3:16:14 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 3:16:14 PM	A41280
Iron	ND	0.020	0.020		mg/L	1	3/9/2017 3:16:14 PM	A41280
Magnesium	20	0.50	1.0		mg/L	1	3/9/2017 3:16:14 PM	A41280
Manganese	0.090	0.00038	0.0020	*	mg/L	1	3/9/2017 3:16:14 PM	A41280
Potassium	0.54	0.50	1.0	J	mg/L	1	3/9/2017 3:16:14 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 3:16:14 PM	A41280
Sodium	350	2.5	5.0		mg/L	5	3/9/2017 3:18:09 PM	A41280
Zinc	0.018	0.0011	0.010		mg/L	1	3/13/2017 3:44:57 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.13	0.00079	0.0020		mg/L	1	3/6/2017 9:16:51 AM	30504
Cadmium	ND	0.0015	0.0020		mg/L	1	3/6/2017 9:16:51 AM	30504
Chromium	ND	0.0027	0.0060		mg/L	1	3/6/2017 9:16:51 AM	30504
Copper	ND	0.0030	0.0060		mg/L	1	3/6/2017 9:16:51 AM	30504
Iron	0.14	0.020	0.020		mg/L	1	3/6/2017 9:16:51 AM	30504
Manganese	0.26	0.00027	0.0020	*	mg/L	1	3/6/2017 9:16:51 AM	30504
Silver	ND	0.0015	0.0050		mg/L	1	3/6/2017 9:16:51 AM	30504
Zinc	ND	0.0027	0.010		mg/L	1	3/6/2017 9:16:51 AM	30504
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.0014	0.010	J	mg/L	10	3/6/2017 6:28:23 PM	B41191

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Lab ID: 1702B11-007
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	2/27/2017 7:49:23 PM	C41030
Selenium	0.0082	0.0021	0.010	J	mg/L	10	3/6/2017 6:28:23 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0042	0.0021	0.010	J	mg/L	10	3/7/2017 1:57:32 PM	30504
Lead	0.00028	0.000081	0.00050	J	mg/L	1	3/3/2017 4:28:55 PM	30504
Selenium	0.0085	0.0019	0.010	J	mg/L	10	3/7/2017 1:57:32 PM	30504
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:09:27 PM	30538
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Acenaphthylene	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Aniline	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Anthracene	ND	2.5	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Azobenzene	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Benzoic acid	ND	2.6	20		µg/L	1	3/1/2017 2:49:27 PM	30432
Benzyl alcohol	ND	3.0	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Bis(2-ethylhexyl)phthalate	6.9	2.6	10	J	µg/L	1	3/1/2017 2:49:27 PM	30432
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Carbazole	ND	2.3	10		µg/L	1	3/1/2017 2:49:27 PM	30432
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
4-Chloroaniline	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2-Chlorophenol	ND	2.2	10		µg/L	1	3/1/2017 2:49:27 PM	30432
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Chrysene	ND	2.8	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Di-n-butyl phthalate	2.6	2.4	10	J	µg/L	1	3/1/2017 2:49:27 PM	30432
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/1/2017 2:49:27 PM	30432
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Dibenzofuran	ND	2.5	10		µg/L	1	3/1/2017 2:49:27 PM	30432

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 1:35:00 PM
Lab ID: 1702B11-007
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 2:49:27 PM	30432
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 2:49:27 PM	30432
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Diethyl phthalate	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/1/2017 2:49:27 PM	30432
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/1/2017 2:49:27 PM	30432
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/1/2017 2:49:27 PM	30432
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/1/2017 2:49:27 PM	30432
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Fluoranthene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Fluorene	ND	2.7	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Hexachloroethane	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Isophorone	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2-Methylphenol	ND	2.5	10		µg/L	1	3/1/2017 2:49:27 PM	30432
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/1/2017 2:49:27 PM	30432
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/1/2017 2:49:27 PM	30432
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Naphthalene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2-Nitroaniline	ND	2.8	10		µg/L	1	3/1/2017 2:49:27 PM	30432
3-Nitroaniline	ND	2.9	10		µg/L	1	3/1/2017 2:49:27 PM	30432
4-Nitroaniline	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Nitrobenzene	ND	2.8	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2-Nitrophenol	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
4-Nitrophenol	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Pentachlorophenol	ND	2.3	20		µg/L	1	3/1/2017 2:49:27 PM	30432
Phenanthrene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Phenol	ND	2.0	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Pyrene	ND	3.1	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Pyridine	ND	2.2	10		µg/L	1	3/1/2017 2:49:27 PM	30432

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 1:35:00 PM
Lab ID: 1702B11-007
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/1/2017 2:49:27 PM	30432
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/1/2017 2:49:27 PM	30432
Surr: 2-Fluorophenol	30.0	0	15-98.1		%Rec	1	3/1/2017 2:49:27 PM	30432
Surr: Phenol-d5	24.7	0	15-80.7		%Rec	1	3/1/2017 2:49:27 PM	30432
Surr: 2,4,6-Tribromophenol	54.8	0	15-112		%Rec	1	3/1/2017 2:49:27 PM	30432
Surr: Nitrobenzene-d5	65.4	0	27.2-90.7		%Rec	1	3/1/2017 2:49:27 PM	30432
Surr: 2-Fluorobiphenyl	56.3	0	23.3-85.6		%Rec	1	3/1/2017 2:49:27 PM	30432
Surr: 4-Terphenyl-d14	30.2	0	27.6-107		%Rec	1	3/1/2017 2:49:27 PM	30432
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Toluene	ND	0.12	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Ethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Methyl tert-butyl ether (MTBE)	1.3	0.21	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Naphthalene	ND	0.093	2.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Acetone	ND	4.9	10		µg/L	1	2/27/2017 10:11:00 PM	R41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 10:11:00 PM	R41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 10:11:00 PM	R41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 1:35:00 PM
Lab ID: 1702B11-007
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 10:11:00 PM	R41008
Isopropylbenzene	ND	0.10	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 10:11:00 PM	R41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
n-Butylbenzene	ND	0.16	3.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
n-Propylbenzene	ND	0.13	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 10:11:00 PM	R41008
Xylenes, Total	ND	0.37	1.5		µg/L	1	2/27/2017 10:11:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	119	0	70-130		%Rec	1	2/27/2017 10:11:00 PM	R41008
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	1	2/27/2017 10:11:00 PM	R41008
Surr: Dibromofluoromethane	123	0	70-130		%Rec	1	2/27/2017 10:11:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 1:35:00 PM
Lab ID: 1702B11-007
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	101	0	70-130		%Rec	1	2/27/2017 10:11:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 2:32:00 PM
Lab ID: 1702B11-008
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	ND	0.48	1.0		mg/L	1	2/27/2017 3:18:45 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 3:18:45 PM	30397
Surr: DNOP	117	0	98.8-141		%Rec	1	2/27/2017 3:18:45 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	2/27/2017 6:09:10 PM	AG4102
Surr: BFB	91.3	0	52.3-138		%Rec	1	2/27/2017 6:09:10 PM	AG4102
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.25	0.50		mg/L	5	3/1/2017 2:15:06 AM	A41069
Chloride	2000	50	100		mg/L	200	3/1/2017 2:27:30 AM	A41069
Bromide	4.0	0.61	2.0		mg/L	20	2/25/2017 1:19:12 AM	R41000
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/1/2017 2:02:41 AM	A41069
Sulfate	140	1.9	10		mg/L	20	2/25/2017 1:19:12 AM	R41000
Nitrate+Nitrite as N	24	0.26	2.0	*	mg/L	10	2/28/2017 11:33:56 AM	R41069
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.12	0.00085	0.0020		mg/L	1	3/9/2017 3:20:04 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 3:20:04 PM	A41280
Calcium	91	0.50	1.0		mg/L	1	3/9/2017 3:20:04 PM	A41280
Chromium	ND	0.0010	0.0060		mg/L	1	3/9/2017 3:20:04 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 3:20:04 PM	A41280
Iron	0.031	0.020	0.020		mg/L	1	3/9/2017 3:20:04 PM	A41280
Magnesium	13	0.50	1.0		mg/L	1	3/9/2017 3:20:04 PM	A41280
Manganese	0.00045	0.00038	0.0020	J	mg/L	1	3/9/2017 3:20:04 PM	A41280
Potassium	5.8	0.50	1.0		mg/L	1	3/9/2017 3:20:04 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 3:20:04 PM	A41280
Sodium	1500	25	50		mg/L	50	3/13/2017 3:48:46 PM	A41337
Zinc	0.020	0.0011	0.010		mg/L	1	3/13/2017 3:46:50 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.29	0.00079	0.0020		mg/L	1	3/6/2017 9:19:32 AM	30504
Cadmium	ND	0.0015	0.0020		mg/L	1	3/6/2017 9:19:32 AM	30504
Chromium	0.0042	0.0027	0.0060	J	mg/L	1	3/6/2017 9:19:32 AM	30504
Copper	ND	0.0030	0.0060		mg/L	1	3/6/2017 9:19:32 AM	30504
Iron	3.1	0.10	0.10	*	mg/L	5	3/7/2017 8:22:18 AM	30504
Manganese	0.14	0.00027	0.0020	*	mg/L	1	3/6/2017 9:19:32 AM	30504
Silver	ND	0.0015	0.0050		mg/L	1	3/6/2017 9:19:32 AM	30504
Zinc	0.031	0.0027	0.010		mg/L	1	3/7/2017 8:19:44 AM	30504
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0063	0.0014	0.010	J	mg/L	10	3/6/2017 6:34:30 PM	B41191

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 2:32:00 PM
Lab ID: 1702B11-008
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	3/6/2017 6:31:26 PM	B41191
Selenium	0.022	0.0011	0.0050		mg/L	5	3/6/2017 6:31:26 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0094	0.0021	0.010	J	mg/L	10	3/7/2017 2:03:33 PM	30504
Lead	0.0043	0.00041	0.0025		mg/L	5	3/7/2017 2:00:32 PM	30504
Selenium	0.019	0.00094	0.0050		mg/L	5	3/7/2017 2:00:32 PM	30504
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:11:31 PM	30538
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Toluene	ND	0.12	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Ethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Methyl tert-butyl ether (MTBE)	0.63	0.21	1.0	J	µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Naphthalene	ND	0.093	2.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Acetone	ND	4.9	10		µg/L	1	2/27/2017 10:34:00 PM	R41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 10:34:00 PM	R41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 10:34:00 PM	R41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 2:32:00 PM
Lab ID: 1702B11-008
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 10:34:00 PM	R41008
Isopropylbenzene	ND	0.10	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 10:34:00 PM	R41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
n-Butylbenzene	ND	0.16	3.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
n-Propylbenzene	ND	0.13	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 10:34:00 PM	R41008
Xylenes, Total	ND	0.37	1.5		µg/L	1	2/27/2017 10:34:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	117	0	70-130		%Rec	1	2/27/2017 10:34:00 PM	R41008
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	2/27/2017 10:34:00 PM	R41008
Surr: Dibromofluoromethane	116	0	70-130		%Rec	1	2/27/2017 10:34:00 PM	R41008

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 2:32:00 PM
Lab ID: 1702B11-008
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	102	0	70-130		%Rec	1	2/27/2017 10:34:00 PM	R41008

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: West LDU
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 4:00:00 PM
Lab ID: 1702B11-009
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	14	0.48	1.0		mg/L	1	2/27/2017 3:46:18 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 3:46:18 PM	30397
Surr: DNOP	118	0	98.8-141		%Rec	1	2/27/2017 3:46:18 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	2.6	0.25	0.50		mg/L	10	2/27/2017 8:06:27 PM	AG4102
Surr: BFB	100	0	52.3-138		%Rec	10	2/27/2017 8:06:27 PM	AG4102
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.22	0.00085	0.0020		mg/L	1	3/9/2017 3:24:03 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 3:24:03 PM	A41280
Chromium	2.2	0.0051	0.030	*	mg/L	5	3/9/2017 3:26:00 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 3:24:03 PM	A41280
Iron	0.59	0.020	0.020	*	mg/L	1	3/9/2017 3:24:03 PM	A41280
Manganese	2.7	0.0019	0.010	*	mg/L	5	3/9/2017 3:26:00 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 3:24:03 PM	A41280
Zinc	0.019	0.0011	0.010		mg/L	1	3/13/2017 3:50:34 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.22	0.00079	0.0020		mg/L	1	3/6/2017 9:22:05 AM	30504
Cadmium	ND	0.0015	0.0020		mg/L	1	3/6/2017 9:22:05 AM	30504
Chromium	2.1	0.013	0.030	*	mg/L	5	3/7/2017 8:27:41 AM	30504
Copper	ND	0.0030	0.0060		mg/L	1	3/6/2017 9:22:05 AM	30504
Iron	1.4	0.10	0.10	*	mg/L	5	3/7/2017 8:27:41 AM	30504
Manganese	2.6	0.0014	0.010	*	mg/L	5	3/7/2017 8:27:41 AM	30504
Silver	ND	0.0015	0.0050		mg/L	1	3/6/2017 9:22:05 AM	30504
Zinc	0.014	0.0027	0.010		mg/L	1	3/7/2017 8:25:03 AM	30504
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0068	0.00069	0.0050		mg/L	5	3/6/2017 6:37:33 PM	B41191
Lead	ND	0.00084	0.0025		mg/L	5	3/6/2017 6:37:33 PM	B41191
Selenium	0.0054	0.0011	0.0050		mg/L	5	3/6/2017 6:37:33 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0072	0.0011	0.0050		mg/L	5	3/7/2017 2:15:39 PM	30504
Lead	ND	0.00041	0.0025		mg/L	5	3/7/2017 2:15:39 PM	30504
Selenium	0.0050	0.00094	0.0050	J	mg/L	5	3/7/2017 2:15:39 PM	30504
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	0.000064	0.000053	0.00020	J	mg/L	1	3/6/2017 5:13:35 PM	30538
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	290	0.96	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: West LDU
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 4:00:00 PM
Lab ID: 1702B11-009
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Toluene	24	1.2	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Ethylbenzene	32	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Methyl tert-butyl ether (MTBE)	9.8	2.1	10	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2,4-Trimethylbenzene	17	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,3,5-Trimethylbenzene	7.6	1.2	10	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	1.2	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Naphthalene	22	0.93	20	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1-Methylnaphthalene	26	2.0	40	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
2-Methylnaphthalene	23	1.6	40	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
Acetone	ND	49	100	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Bromobenzene	ND	0.98	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Bromodichloromethane	ND	1.4	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Bromoform	ND	1.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Bromomethane	ND	7.8	30	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
2-Butanone	ND	7.4	100	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Carbon disulfide	19	6.0	100	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Chlorobenzene	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Chloroethane	ND	1.9	20	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Chloroform	ND	0.89	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Chloromethane	ND	2.1	30	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
4-Chlorotoluene	ND	1.3	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
cis-1,2-DCE	ND	1.2	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
cis-1,3-Dichloropropene	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	2.3	20	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Dibromochloromethane	ND	0.87	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Dibromomethane	ND	1.2	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2-Dichlorobenzene	ND	4.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,3-Dichlorobenzene	ND	1.4	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,4-Dichlorobenzene	ND	1.4	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Dichlorodifluoromethane	ND	3.6	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,1-Dichloroethane	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,1-Dichloroethene	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2-Dichloropropane	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,3-Dichloropropane	ND	1.6	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
2,2-Dichloropropane	ND	1.7	20	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,1-Dichloropropene	ND	1.3	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: West LDU
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 4:00:00 PM
Lab ID: 1702B11-009
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Hexachlorobutadiene	ND	2.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
2-Hexanone	ND	8.4	100	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Isopropylbenzene	4.1	1.0	10	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
4-Isopropyltoluene	2.0	1.4	10	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
4-Methyl-2-pentanone	ND	4.3	100	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Methylene Chloride	ND	1.9	30	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
n-Butylbenzene	ND	1.6	30	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
n-Propylbenzene	4.0	1.3	10	JD	µg/L	10	2/27/2017 3:06:00 PM	R41008
sec-Butylbenzene	ND	1.2	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Styrene	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
tert-Butylbenzene	ND	1.2	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	1.3	20	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Tetrachloroethene (PCE)	ND	1.5	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
trans-1,2-DCE	ND	4.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
trans-1,3-Dichloropropene	ND	1.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2,3-Trichlorobenzene	ND	1.1	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2,4-Trichlorobenzene	ND	1.3	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,1,1-Trichloroethane	ND	0.91	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,1,2-Trichloroethane	ND	1.3	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Trichloroethene (TCE)	ND	1.8	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Trichlorofluoromethane	ND	2.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
1,2,3-Trichloropropane	ND	2.0	20	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Vinyl chloride	ND	2.0	10	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Xylenes, Total	60	3.7	15	D	µg/L	10	2/27/2017 3:06:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	85.1	0	70-130	D	%Rec	10	2/27/2017 3:06:00 PM	R41008
Surr: 4-Bromofluorobenzene	99.1	0	70-130	D	%Rec	10	2/27/2017 3:06:00 PM	R41008
Surr: Dibromofluoromethane	107	0	70-130	D	%Rec	10	2/27/2017 3:06:00 PM	R41008
Surr: Toluene-d8	107	0	70-130	D	%Rec	10	2/27/2017 3:06:00 PM	R41008

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CLIENT: Western Refining Southwest, Gallup
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Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017 4:15:00 PM
Lab ID: 1702B11-010
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	27	0.48	1.0		mg/L	1	2/27/2017 4:14:10 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 4:14:10 PM	30397
Surr: DNOP	116	0	98.8-141		%Rec	1	2/27/2017 4:14:10 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	4.4	0.25	0.50		mg/L	10	2/27/2017 8:29:54 PM	AG4102
Surr: BFB	116	0	52.3-138		%Rec	10	2/27/2017 8:29:54 PM	AG4102
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.13	0.00085	0.0020		mg/L	1	3/9/2017 3:27:57 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 3:27:57 PM	A41280
Chromium	1.2	0.0051	0.030	*	mg/L	5	3/9/2017 3:29:57 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 3:27:57 PM	A41280
Iron	91	2.0	2.0	*	mg/L	100	3/13/2017 4:01:54 PM	A41337
Manganese	15	0.0077	0.040	*	mg/L	20	3/13/2017 4:00:22 PM	A41337
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 3:27:57 PM	A41280
Zinc	0.057	0.0011	0.010		mg/L	1	3/13/2017 3:58:35 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.13	0.00079	0.0020		mg/L	1	3/6/2017 12:25:33 PM	30504
Cadmium	ND	0.0015	0.0020		mg/L	1	3/6/2017 12:25:33 PM	30504
Chromium	1.2	0.013	0.030	*	mg/L	5	3/7/2017 8:43:13 AM	30504
Copper	0.039	0.0030	0.0060		mg/L	1	3/6/2017 12:25:33 PM	30504
Iron	84	2.0	2.0	*	mg/L	100	3/7/2017 8:48:29 AM	30504
Manganese	14	0.014	0.10	*	mg/L	50	3/7/2017 8:45:40 AM	30504
Silver	ND	0.0015	0.0050		mg/L	1	3/6/2017 12:25:33 PM	30504
Zinc	0.063	0.0027	0.010		mg/L	1	3/6/2017 12:25:33 PM	30504
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0039	0.00014	0.0010		mg/L	1	3/6/2017 6:46:43 PM	B41191
Lead	0.00069	0.00017	0.00050		mg/L	1	3/6/2017 6:46:43 PM	B41191
Selenium	0.0032	0.00021	0.0010		mg/L	1	3/6/2017 6:46:43 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0049	0.0011	0.0050	J	mg/L	5	3/7/2017 2:24:44 PM	30504
Lead	0.0018	0.000081	0.00050		mg/L	1	3/3/2017 4:37:56 PM	30504
Selenium	0.0025	0.00094	0.0050	J	mg/L	5	3/7/2017 2:24:44 PM	30504
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	0.00022	0.000053	0.00020		mg/L	1	3/6/2017 5:15:33 PM	30538
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	230	0.96	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008

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EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Toluene	140	1.2	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Ethylbenzene	140	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Methyl tert-butyl ether (MTBE)	13	2.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2,4-Trimethylbenzene	110	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,3,5-Trimethylbenzene	100	1.2	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2-Dichloroethane (EDC)	ND	1.2	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2-Dibromoethane (EDB)	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Naphthalene	92	0.93	20	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1-Methylnaphthalene	55	2.0	40	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
2-Methylnaphthalene	58	1.6	40	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Acetone	2000	49	100	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Bromobenzene	ND	0.98	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Bromodichloromethane	ND	1.4	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Bromoform	ND	1.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Bromomethane	ND	7.8	30	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
2-Butanone	360	7.4	100	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Carbon disulfide	ND	6.0	100	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Chlorobenzene	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Chloroethane	ND	1.9	20	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Chloroform	ND	0.89	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Chloromethane	ND	2.1	30	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
4-Chlorotoluene	ND	1.3	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
cis-1,2-DCE	ND	1.2	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
cis-1,3-Dichloropropene	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2-Dibromo-3-chloropropane	ND	2.3	20	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Dibromochloromethane	ND	0.87	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Dibromomethane	ND	1.2	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2-Dichlorobenzene	ND	4.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,3-Dichlorobenzene	ND	1.4	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,4-Dichlorobenzene	ND	1.4	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Dichlorodifluoromethane	ND	3.6	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,1-Dichloroethane	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,1-Dichloroethene	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2-Dichloropropane	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,3-Dichloropropane	ND	1.6	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
2,2-Dichloropropane	ND	1.7	20	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,1-Dichloropropene	ND	1.3	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Hexachlorobutadiene	ND	2.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
2-Hexanone	ND	8.4	100	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Isopropylbenzene	18	1.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
4-Isopropyltoluene	7.5	1.4	10	JD	µg/L	10	2/27/2017 3:30:00 PM	R41008
4-Methyl-2-pentanone	52	4.3	100	JD	µg/L	10	2/27/2017 3:30:00 PM	R41008
Methylene Chloride	ND	1.9	30	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
n-Butylbenzene	6.8	1.6	30	JD	µg/L	10	2/27/2017 3:30:00 PM	R41008
n-Propylbenzene	28	1.3	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
sec-Butylbenzene	6.5	1.2	10	JD	µg/L	10	2/27/2017 3:30:00 PM	R41008
Styrene	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
tert-Butylbenzene	ND	1.2	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,1,1,2-Tetrachloroethane	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,1,2,2-Tetrachloroethane	ND	1.3	20	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Tetrachloroethene (PCE)	ND	1.5	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
trans-1,2-DCE	ND	4.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
trans-1,3-Dichloropropene	ND	1.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2,3-Trichlorobenzene	ND	1.1	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2,4-Trichlorobenzene	ND	1.3	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,1,1-Trichloroethane	ND	0.91	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,1,2-Trichloroethane	ND	1.3	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Trichloroethene (TCE)	ND	1.8	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Trichlorofluoromethane	ND	2.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
1,2,3-Trichloropropane	ND	2.0	20	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Vinyl chloride	ND	2.0	10	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Xylenes, Total	300	3.7	15	D	µg/L	10	2/27/2017 3:30:00 PM	R41008
Surr: 1,2-Dichloroethane-d4	94.6	0	70-130	D	%Rec	10	2/27/2017 3:30:00 PM	R41008
Surr: 4-Bromofluorobenzene	105	0	70-130	D	%Rec	10	2/27/2017 3:30:00 PM	R41008
Surr: Dibromofluoromethane	105	0	70-130	D	%Rec	10	2/27/2017 3:30:00 PM	R41008
Surr: Toluene-d8	108	0	70-130	D	%Rec	10	2/27/2017 3:30:00 PM	R41008

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	ND	0.48	1.0		mg/L	1	2/27/2017 4:41:54 PM	30397
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	2/27/2017 4:41:54 PM	30397
Surr: DNOP	120	0	98.8-141		%Rec	1	2/27/2017 4:41:54 PM	30397
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	2/27/2017 8:53:21 PM	AG4102
Surr: BFB	90.5	0	52.3-138		%Rec	1	2/27/2017 8:53:21 PM	AG4102
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.25	0.50		mg/L	5	3/1/2017 3:17:09 AM	A41069
Chloride	1700	50	100		mg/L	200	3/1/2017 3:29:34 AM	A41069
Bromide	3.7	0.61	2.0		mg/L	20	2/25/2017 1:44:01 AM	R41000
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/1/2017 3:04:44 AM	A41069
Sulfate	130	1.9	10		mg/L	20	2/25/2017 1:44:01 AM	R41000
Nitrate+Nitrite as N	24	0.26	2.0	*	mg/L	10	2/28/2017 11:46:21 AM	R41069
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.12	0.00085	0.0020		mg/L	1	3/9/2017 3:31:35 PM	A41280
Cadmium	ND	0.0010	0.0020		mg/L	1	3/9/2017 3:31:35 PM	A41280
Calcium	90	0.50	1.0		mg/L	1	3/9/2017 3:31:35 PM	A41280
Chromium	ND	0.0010	0.0060		mg/L	1	3/9/2017 3:31:35 PM	A41280
Copper	ND	0.0032	0.0060		mg/L	1	3/9/2017 3:31:35 PM	A41280
Iron	0.044	0.020	0.020		mg/L	1	3/9/2017 3:31:35 PM	A41280
Magnesium	13	0.50	1.0		mg/L	1	3/9/2017 3:31:35 PM	A41280
Manganese	0.00042	0.00038	0.0020	J	mg/L	1	3/9/2017 3:31:35 PM	A41280
Potassium	5.9	0.50	1.0		mg/L	1	3/9/2017 3:31:35 PM	A41280
Silver	ND	0.00088	0.0050		mg/L	1	3/9/2017 3:31:35 PM	A41280
Sodium	1500	25	50		mg/L	50	3/13/2017 4:15:28 PM	A41337
Zinc	0.025	0.0011	0.010		mg/L	1	3/13/2017 4:03:58 PM	A41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.23	0.00079	0.0020		mg/L	1	3/6/2017 12:28:07 PM	30504
Cadmium	ND	0.0015	0.0020		mg/L	1	3/6/2017 12:28:07 PM	30504
Chromium	0.0031	0.0027	0.0060	J	mg/L	1	3/6/2017 12:28:07 PM	30504
Copper	0.0044	0.0030	0.0060	J	mg/L	1	3/6/2017 12:28:07 PM	30504
Iron	3.1	0.10	0.10	*	mg/L	5	3/7/2017 8:53:52 AM	30504
Manganese	0.11	0.00027	0.0020	*	mg/L	1	3/6/2017 12:28:07 PM	30504
Silver	ND	0.0015	0.0050		mg/L	1	3/6/2017 12:28:07 PM	30504
Zinc	0.028	0.0027	0.010		mg/L	1	3/6/2017 12:28:07 PM	30504
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0063	0.0014	0.010	J	mg/L	10	3/6/2017 7:02:03 PM	B41191

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Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	3/6/2017 6:49:47 PM	B41191
Selenium	0.027	0.0011	0.0050		mg/L	5	3/6/2017 6:49:47 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0088	0.0021	0.010	J	mg/L	10	3/7/2017 2:33:46 PM	30504
Lead	0.0043	0.00041	0.0025		mg/L	5	3/7/2017 2:30:45 PM	30504
Selenium	0.021	0.00094	0.0050		mg/L	5	3/7/2017 2:30:45 PM	30504
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:17:31 PM	30538
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Toluene	ND	0.12	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Ethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Methyl tert-butyl ether (MTBE)	0.66	0.21	1.0	J	µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Naphthalene	ND	0.093	2.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Acetone	ND	4.9	10		µg/L	1	2/27/2017 11:45:00 PM	B41008
Bromobenzene	ND	0.098	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Bromodichloromethane	ND	0.14	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Bromoform	ND	0.10	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Bromomethane	ND	0.78	3.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
2-Butanone	ND	0.74	10		µg/L	1	2/27/2017 11:45:00 PM	B41008
Carbon disulfide	ND	0.60	10		µg/L	1	2/27/2017 11:45:00 PM	B41008
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Chlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Chloroethane	ND	0.19	2.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Chloroform	ND	0.089	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Chloromethane	ND	0.21	3.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Dibromochloromethane	ND	0.087	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: Duplicate
Project: 2017 1ST Quarter GW Wells
Collection Date: 2/21/2017
Lab ID: 1702B11-011
Matrix: AQUEOUS
Received Date: 2/24/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
2-Hexanone	ND	0.84	10		µg/L	1	2/27/2017 11:45:00 PM	B41008
Isopropylbenzene	ND	0.10	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	2/27/2017 11:45:00 PM	B41008
Methylene Chloride	ND	0.19	3.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
n-Butylbenzene	ND	0.16	3.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
n-Propylbenzene	ND	0.13	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Styrene	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Vinyl chloride	ND	0.20	1.0		µg/L	1	2/27/2017 11:45:00 PM	B41008
Xylenes, Total	ND	0.37	1.5		µg/L	1	2/27/2017 11:45:00 PM	B41008
Surr: 1,2-Dichloroethane-d4	118	0	70-130		%Rec	1	2/27/2017 11:45:00 PM	B41008
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	2/27/2017 11:45:00 PM	B41008
Surr: Dibromofluoromethane	120	0	70-130		%Rec	1	2/27/2017 11:45:00 PM	B41008

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	103	0	70-130		%Rec	1	2/27/2017 11:45:00 PM	B41008

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Acenaphthylene	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Aniline	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Anthracene	ND	2.5	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Azobenzene	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Benzoic acid	ND	2.6	20		µg/L	1	3/1/2017 6:04:17 PM	30412
Benzyl alcohol	ND	3.0	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Bis(2-ethylhexyl)phthalate	7.1	2.6	10	J	µg/L	1	3/1/2017 6:04:17 PM	30412
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Carbazole	ND	2.3	10		µg/L	1	3/1/2017 6:04:17 PM	30412
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
4-Chloroaniline	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2-Chlorophenol	ND	2.2	10		µg/L	1	3/1/2017 6:04:17 PM	30412
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Chrysene	ND	2.8	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Di-n-octyl phthalate	3.7	2.0	10	J	µg/L	1	3/1/2017 6:04:17 PM	30412
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Dibenzofuran	ND	2.5	10		µg/L	1	3/1/2017 6:04:17 PM	30412
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 6:04:17 PM	30412
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/1/2017 6:04:17 PM	30412
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Diethyl phthalate	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/1/2017 6:04:17 PM	30412
2,4-Dimethylphenol	17	3.0	10		µg/L	1	3/1/2017 6:04:17 PM	30412
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/1/2017 6:04:17 PM	30412
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/1/2017 6:04:17 PM	30412

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Fluoranthene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Fluorene	ND	2.7	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Hexachloroethane	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Isophorone	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
1-Methylnaphthalene	12	2.9	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2-Methylphenol	ND	2.5	10		µg/L	1	3/1/2017 6:04:17 PM	30412
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/1/2017 6:04:17 PM	30412
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/1/2017 6:04:17 PM	30412
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Naphthalene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2-Nitroaniline	ND	2.8	10		µg/L	1	3/1/2017 6:04:17 PM	30412
3-Nitroaniline	ND	2.9	10		µg/L	1	3/1/2017 6:04:17 PM	30412
4-Nitroaniline	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Nitrobenzene	ND	2.8	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2-Nitrophenol	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
4-Nitrophenol	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Pentachlorophenol	ND	2.3	20		µg/L	1	3/1/2017 6:04:17 PM	30412
Phenanthrene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Phenol	ND	2.0	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Pyrene	ND	3.1	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Pyridine	ND	2.2	10		µg/L	1	3/1/2017 6:04:17 PM	30412
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/1/2017 6:04:17 PM	30412
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/1/2017 6:04:17 PM	30412
Surr: 2-Fluorophenol	42.8	0	15-98.1		%Rec	1	3/1/2017 6:04:17 PM	30412
Surr: Phenol-d5	33.9	0	15-80.7		%Rec	1	3/1/2017 6:04:17 PM	30412
Surr: 2,4,6-Tribromophenol	58.2	0	15-112		%Rec	1	3/1/2017 6:04:17 PM	30412
Surr: Nitrobenzene-d5	77.5	0	27.2-90.7		%Rec	1	3/1/2017 6:04:17 PM	30412
Surr: 2-Fluorobiphenyl	64.2	0	23.3-85.6		%Rec	1	3/1/2017 6:04:17 PM	30412
Surr: 4-Terphenyl-d14	36.3	0	27.6-107		%Rec	1	3/1/2017 6:04:17 PM	30412

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Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	170228014
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	**Project Name:**	1702B11
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	170228014-001	**Sampling Date**	2/21/2017	**Date/Time Received**	2/28/2017 11:00 AM
Client Sample ID	1702B11-003G / OAPIS-1	**Sampling Time**	10:10 AM		
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.0745	mg/L	0.01	3/7/2017	JEK	EPA 335.4	

Authorized Signature

Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 170228014
Project Name: 1702B11

Analytical Results Report

Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	3/7/2017	3/7/2017

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
170223021-001	Cyanide	ND	0.519	mg/L	0.5	103.8	90-110	3/7/2017	3/7/2017

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.467	mg/L	0.5	93.4	10.5	0-20	3/7/2017	3/7/2017

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	3/7/2017	3/7/2017

AR	Acceptable Range
ND	Not Detected
PQL	Practical Quantitation Limit
RPD	Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41280**	RunNo: **41280**
Prep Date:	Analysis Date: **3/9/2017**	SeqNo: **1293155** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41280**	RunNo: **41280**
Prep Date:	Analysis Date: **3/9/2017**	SeqNo: **1293156** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.9	85	115			
Calcium	53	1.0	50.00	0	105	85	115			
Chromium	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.49	0.0060	0.5000	0	97.0	85	115			
Iron	0.48	0.020	0.5000	0	96.9	85	115			
Magnesium	53	1.0	50.00	0	106	85	115			
Manganese	0.48	0.0020	0.5000	0	96.0	85	115			
Potassium	52	1.0	50.00	0	103	85	115			
Silver	0.087	0.0050	0.1000	0	87.2	85	115			
Sodium	52	1.0	50.00	0	103	85	115			

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41280**	RunNo: **41280**
Prep Date:	Analysis Date: **3/9/2017**	SeqNo: **1293157** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	96.0	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			
Calcium	0.65	1.0	0.5000	0	131	50	150			J
Chromium	0.0059	0.0060	0.006000	0	98.5	50	150			J
Copper	0.0069	0.0060	0.006000	0	115	50	150			
Iron	0.024	0.020	0.02000	0	118	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID	**LCSLL-A**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A41280**		RunNo:	**41280**					
Prep Date:		Analysis Date:	**3/9/2017**		SeqNo:	**1293157**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium		0.56	1.0	0.5000	0	111	50	150			J
Manganese		0.0024	0.0020	0.002000	0	118	50	150			
Potassium		0.55	1.0	0.5000	0	111	50	150			J
Silver		0.0049	0.0050	0.005000	0	98.8	50	150			J
Sodium		0.52	1.0	0.5000	0	104	50	150			J

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**A41337**		RunNo:	**41337**					
Prep Date:		Analysis Date:	**3/13/2017**		SeqNo:	**1295209**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.020								
Manganese		ND	0.0020								
Sodium		ND	1.0								
Zinc		ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **MB-30472**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **30472**	RunNo: **41106**
Prep Date: **3/1/2017**	Analysis Date: **3/2/2017**	SeqNo: **1287549** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCS-30472**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **30472**	RunNo: **41106**
Prep Date: **3/1/2017**	Analysis Date: **3/2/2017**	SeqNo: **1287550** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.8	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.1	85	115			
Chromium	0.48	0.0060	0.5000	0	96.6	85	115			
Copper	0.49	0.0060	0.5000	0	97.7	85	115			
Iron	0.48	0.020	0.5000	0	95.5	85	115			
Manganese	0.48	0.0020	0.5000	0	96.0	85	115			
Silver	0.099	0.0050	0.1000	0	99.4	85	115			
Zinc	0.48	0.010	0.5000	0	95.2	85	115			

Sample ID **LCSLL-30472**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **30472**	RunNo: **41106**
Prep Date: **3/1/2017**	Analysis Date: **3/2/2017**	SeqNo: **1287551** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	107	50	150			
Cadmium	0.0017	0.0020	0.002000	0	85.5	50	150			J
Chromium	0.0068	0.0060	0.006000	0	114	50	150			
Copper	0.0045	0.0060	0.006000	0	75.2	50	150			J
Iron	0.020	0.020	0.02000	0	98.3	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.5	50	150			J
Silver	0.0051	0.0050	0.005000	0	101	50	150			
Zinc	0.0052	0.010	0.005000	0	104	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID	**MB-30504**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**30504**	RunNo:	**41147**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1289946**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LCS-30504**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**30504**	RunNo:	**41147**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1289947**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	96.4	85	115			
Chromium	0.47	0.0060	0.5000	0	94.3	85	115			
Copper	0.47	0.0060	0.5000	0	94.7	85	115			
Iron	0.46	0.020	0.5000	0	92.4	85	115			
Manganese	0.47	0.0020	0.5000	0	93.0	85	115			
Silver	0.097	0.0050	0.1000	0	96.7	85	115			
Zinc	0.46	0.010	0.5000	0	92.3	85	115			

Sample ID	**LCSLL-30504**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**30504**	RunNo:	**41147**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1289948**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.0022	0.0020	0.002000	0	112	50	150			
Chromium	0.0056	0.0060	0.006000	0	94.0	50	150			J
Copper	0.0060	0.0060	0.006000	0	100	50	150			
Iron	0.019	0.020	0.02000	0	95.1	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Silver	0.0051	0.0050	0.005000	0	102	50	150			
Zinc	0.0052	0.010	0.005000	0	105	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41030**	RunNo: **41030**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1285265** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0	91.9	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C41030**	RunNo: **41030**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1285267** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00047	0.00050	0.0005000	0	94.8	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C41030**	RunNo: **41030**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1285269** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID **1702B11-009DMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **West LDU**	Batch ID: **B41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290330** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.14	0.0050	0.1250	0.006779	104	70	130	0.00708	20	
Lead	0.092	0.0025	0.06250	0	148	70	130	3.09	20	S
Selenium	0.12	0.0050	0.1250	0.005383	95.5	70	130	4.82	20	

Sample ID **1702B11-009DMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **West LDU**	Batch ID: **B41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290331** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.14	0.0050	0.1250	0.006779	104	70	130			
Lead	0.090	0.0025	0.06250	0	143	70	130			S
Selenium	0.12	0.0050	0.1250	0.005383	90.8	70	130			

Sample ID **1702B11-011EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **Duplicate**	Batch ID: **B41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290335** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.064	0.0025	0.06250	0	103	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID	**1702B11-011EMSLL**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**Duplicate**	Batch ID:	**B41191**		RunNo:	**41191**				
Prep Date:		Analysis Date:	**3/6/2017**		SeqNo:	**1290335**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.15	0.0050	0.1250	0.02687	102	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B41191**		RunNo:	**41191**				
Prep Date:		Analysis Date:	**3/6/2017**		SeqNo:	**1290363**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Lead	0.012	0.00050	0.01250	0	96.4	85	115			
Selenium	0.027	0.0010	0.02500	0	108	85	115			

Sample ID	**LCSLL**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B41191**		RunNo:	**41191**				
Prep Date:		Analysis Date:	**3/6/2017**		SeqNo:	**1290365**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	106	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.3	50	150			J
Selenium	0.0012	0.0010	0.001000	0	120	50	150			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B41191**		RunNo:	**41191**				
Prep Date:		Analysis Date:	**3/6/2017**		SeqNo:	**1290367**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID	**MB-30472**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30472**	RunNo:	**41121**					
Prep Date:	**3/1/2017**	Analysis Date:	**3/2/2017**	SeqNo:	**1287862**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-30472**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30472**	RunNo:	**41121**					
Prep Date:	**3/1/2017**	Analysis Date:	**3/2/2017**	SeqNo:	**1287863**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.8	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.024	0.0010	0.02500	0	96.6	85	115			

Sample ID	**MSLCSLL-30472**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**30472**	RunNo:	**41121**					
Prep Date:	**3/1/2017**	Analysis Date:	**3/2/2017**	SeqNo:	**1287864**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	102	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.8	50	150			J
Selenium	0.00069	0.0010	0.001000	0	68.6	50	150			J

Sample ID	**MB-30504**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30504**	RunNo:	**41153**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/3/2017**	SeqNo:	**1289016**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-30504**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30504**	RunNo:	**41153**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/3/2017**	SeqNo:	**1289017**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.2	85	115			
Lead	0.012	0.00050	0.01250	0	99.2	85	115			
Selenium	0.024	0.0010	0.02500	0	96.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**
14-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST Quarter GW Wells

Sample ID	**MSLCSLL-30504**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**30504**	RunNo:	**41153**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/3/2017**	SeqNo:	**1289018**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	94.0	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.5	50	150			J
Selenium	0.00088	0.0010	0.001000	0	87.9	50	150			J

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID	**MB-30538**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30538**	RunNo:	**41181**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1290025**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-30538**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30538**	RunNo:	**41181**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1290026**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41000**	RunNo: **41000**
Prep Date:	Analysis Date: **2/24/2017**	SeqNo: **1284044** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41000**	RunNo: **41000**
Prep Date:	Analysis Date: **2/24/2017**	SeqNo: **1284045** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.7	0.50	5.000	0	94.4	90	110			
Bromide	2.4	0.10	2.500	0	97.9	90	110			
Sulfate	9.6	0.50	10.00	0	95.8	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.3	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41069**	RunNo: **41069**
Prep Date:	Analysis Date: **2/28/2017**	SeqNo: **1286505** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41069**	RunNo: **41069**
Prep Date:	Analysis Date: **2/28/2017**	SeqNo: **1286506** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.1	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41069**	RunNo: **41069**
Prep Date:	Analysis Date: **2/28/2017**	SeqNo: **1286559** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Phosphorus, Orthophosphate (As P	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41069**	RunNo: **41069**
Prep Date:	Analysis Date: **2/28/2017**	SeqNo: **1286560** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.56	0.10	0.5000	0	112	90	110			S
Chloride	4.8	0.50	5.000	0	96.9	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **LCS-30397**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **30397**	RunNo: **40996**
Prep Date: **2/27/2017**	Analysis Date: **2/27/2017**	SeqNo: **1284442** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	63.2	155			
Surr: DNOP	0.58		0.5000		117	98.8	141			

Sample ID **MB-30397**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **30397**	RunNo: **40996**
Prep Date: **2/27/2017**	Analysis Date: **2/27/2017**	SeqNo: **1284443** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		117	98.8	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **AG41024**	RunNo: **41024**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284788** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	17		20.00		86.4	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **AG41024**	RunNo: **41024**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284789** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.54	0.050	0.5000	0	108	79.1	123			
Surr: BFB	12		10.00		123	52.3	138			

Sample ID **1702B11-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OAPIS-1**	Batch ID: **AG41024**	RunNo: **41024**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284791** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	3.4	0.25	2.500	0.9210	100	64.8	129			
Surr: BFB	120		100.0		117	52.3	138			

Sample ID **1702B11-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OAPIS-1**	Batch ID: **AG41024**	RunNo: **41024**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284792** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	3.4	0.25	2.500	0.9210	101	64.8	129	0.494	20	
Surr: BFB	120		100.0		118	52.3	138	0	0	

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.8	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284877** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284877** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	0.71	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284877** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.2	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.5	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1285014** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	117	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	24	1.0	20.00	0	120	70	130			
Trichloroethene (TCE)	23	1.0	20.00	0	113	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		122	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	12		10.00		120	70	130			
Surr: Toluene-d8	11		10.00		108	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1285015** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1285015** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	0.65	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**
14-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST Quarter GW Wells

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41008**	RunNo: **41008**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1285015** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.4	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		123	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **lcs-30412**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30412**	RunNo: **41091**
Prep Date: **2/27/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287151** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	75	10	100.0	0	74.6	42.9	100			
4-Chloro-3-methylphenol	170	10	200.0	0	84.6	36.2	110			
2-Chlorophenol	150	10	200.0	0	74.0	33.4	97.8			
1,4-Dichlorobenzene	66	10	100.0	0	66.1	32.8	79.3			
2,4-Dinitrotoluene	65	10	100.0	0	64.9	34.9	107			
N-Nitrosodi-n-propylamine	81	10	100.0	0	80.8	30.7	111			
4-Nitrophenol	80	10	200.0	0	39.8	15	91.9			
Pentachlorophenol	120	20	200.0	0	61.8	33.3	93.5			
Phenol	80	10	200.0	0	39.8	20.9	86.4			
Pyrene	72	10	100.0	0	72.1	45.6	111			
1,2,4-Trichlorobenzene	72	10	100.0	0	72.0	38.7	88.2			
Surr: 2-Fluorophenol	110		200.0		54.7	15	98.1			
Surr: Phenol-d5	83		200.0		41.4	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		75.4	15	112			
Surr: Nitrobenzene-d5	80		100.0		79.7	27.2	90.7			
Surr: 2-Fluorobiphenyl	71		100.0		71.1	23.3	85.6			
Surr: 4-Terphenyl-d14	62		100.0		62.4	27.6	107			

Sample ID **lcs-30432**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30432**	RunNo: **41091**
Prep Date: **2/28/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287152** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	79	10	100.0	0	78.8	42.9	100			
4-Chloro-3-methylphenol	180	10	200.0	0	91.0	36.2	110			
2-Chlorophenol	160	10	200.0	0	80.8	33.4	97.8			
1,4-Dichlorobenzene	69	10	100.0	0	69.0	32.8	79.3			
2,4-Dinitrotoluene	71	10	100.0	0	70.7	34.9	107			
N-Nitrosodi-n-propylamine	85	10	100.0	0	85.1	30.7	111			
4-Nitrophenol	81	10	200.0	0	40.6	15	91.9			
Pentachlorophenol	140	20	200.0	0	70.0	33.3	93.5			
Phenol	86	10	200.0	0	43.1	20.9	86.4			
Pyrene	79	10	100.0	0	79.1	45.6	111			
1,2,4-Trichlorobenzene	77	10	100.0	0	77.3	38.7	88.2			
Surr: 2-Fluorophenol	120		200.0		58.8	15	98.1			
Surr: Phenol-d5	88		200.0		44.2	15	80.7			
Surr: 2,4,6-Tribromophenol	170		200.0		84.2	15	112			
Surr: Nitrobenzene-d5	83		100.0		82.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	77		100.0		76.7	23.3	85.6			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **lcs-30432**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30432**	RunNo: **41091**
Prep Date: **2/28/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287152** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	68		100.0		67.7	27.6	107			

Sample ID **lcsd-30412**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30412**	RunNo: **41091**
Prep Date: **2/27/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287153** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	61	10	100.0	0	61.5	42.9	100	19.3	37.4	
4-Chloro-3-methylphenol	86	10	200.0	0	42.8	36.2	110	65.6	26.8	R
2-Chlorophenol	89	10	200.0	0	44.4	33.4	97.8	50.0	30.3	R
1,4-Dichlorobenzene	57	10	100.0	0	56.8	32.8	79.3	15.1	32	
2,4-Dinitrotoluene	52	10	100.0	0	52.5	34.9	107	21.2	36.7	
N-Nitrosodi-n-propylamine	69	10	100.0	0	68.9	30.7	111	15.9	29.9	
4-Nitrophenol	44	10	200.0	0	21.9	15	91.9	58.1	28.8	R
Pentachlorophenol	82	20	200.0	0	41.0	33.3	93.5	40.6	38.2	R
Phenol	53	10	200.0	0	26.3	20.9	86.4	40.9	39.8	R
Pyrene	60	10	100.0	0	59.9	45.6	111	18.5	28.3	
1,2,4-Trichlorobenzene	57	10	100.0	0	57.2	38.7	88.2	23.0	39.8	
Surr: 2-Fluorophenol	66		200.0		32.8	15	98.1	0	0	
Surr: Phenol-d5	52		200.0		26.0	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	96		200.0		48.0	15	112	0	0	
Surr: Nitrobenzene-d5	64		100.0		64.2	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	63		100.0		62.5	23.3	85.6	0	0	
Surr: 4-Terphenyl-d14	38		100.0		38.2	27.6	107	0	0	

Sample ID **lcsd-30432**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30432**	RunNo: **41091**
Prep Date: **2/28/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287154** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	61	10	100.0	0	60.8	42.9	100	25.8	37.4	
4-Chloro-3-methylphenol	91	10	200.0	0	45.3	36.2	110	67.0	26.8	R
2-Chlorophenol	80	10	200.0	0	39.9	33.4	97.8	67.8	30.3	R
1,4-Dichlorobenzene	47	10	100.0	0	46.7	32.8	79.3	38.4	32	R
2,4-Dinitrotoluene	59	10	100.0	0	58.6	34.9	107	18.7	36.7	
N-Nitrosodi-n-propylamine	64	10	100.0	0	63.6	30.7	111	28.9	29.9	
4-Nitrophenol	49	10	200.0	0	24.3	15	91.9	50.0	28.8	R
Pentachlorophenol	76	20	200.0	0	38.2	33.3	93.5	58.8	38.2	R
Phenol	46	10	200.0	0	23.2	20.9	86.4	60.1	39.8	R
Pyrene	63	10	100.0	0	63.3	45.6	111	22.1	28.3	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **lcsd-30432**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30432**	RunNo: **41091**
Prep Date: **2/28/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287154** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	52	10	100.0	0	51.9	38.7	88.2	39.3	39.8	
Surr: 2-Fluorophenol	54		200.0		26.9	15	98.1	0	0	
Surr: Phenol-d5	46		200.0		23.1	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	92		200.0		45.9	15	112	0	0	
Surr: Nitrobenzene-d5	61		100.0		61.5	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	59		100.0		58.7	23.3	85.6	0	0	
Surr: 4-Terphenyl-d14	36		100.0		36.0	27.6	107	0	0	

Sample ID **mb-30412**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30412**	RunNo: **41091**
Prep Date: **2/27/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287155** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.7	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	7.3	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**
14-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST Quarter GW Wells

Sample ID **mb-30412**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30412**	RunNo: **41091**
Prep Date: **2/27/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287155** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Di-n-octyl phthalate	3.6	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	3.4	20								J
Phenanthrene	ND	10								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**
14-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST Quarter GW Wells

Sample ID **mb-30412**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30412**	RunNo: **41091**
Prep Date: **2/27/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287155** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	99		200.0		49.7	15	98.1			
Surr: Phenol-d5	82		200.0		41.1	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		75.9	15	112			
Surr: Nitrobenzene-d5	77		100.0		77.2	27.2	90.7			
Surr: 2-Fluorobiphenyl	73		100.0		72.5	23.3	85.6			
Surr: 4-Terphenyl-d14	61		100.0		61.3	27.6	107			

Sample ID **mb-30432**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30432**	RunNo: **41091**
Prep Date: **2/28/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287156** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.8	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	7.4	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**
14-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST Quarter GW Wells

Sample ID **mb-30432**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30432**	RunNo: **41091**
Prep Date: **2/28/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287156** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	3.5	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	3.9	10								J
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	4.0	20								J
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702B11**

14-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST Quarter GW Wells

Sample ID **mb-30432**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30432**	RunNo: **41091**
Prep Date: **2/28/2017**	Analysis Date: **3/1/2017**	SeqNo: **1287156** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	3.5	20								J
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	2.5	10								J
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	93		200.0		46.4	15	98.1			
Surr: Phenol-d5	71		200.0		35.3	15	80.7			
Surr: 2,4,6-Tribromophenol	130		200.0		66.6	15	112			
Surr: Nitrobenzene-d5	70		100.0		70.4	27.2	90.7			
Surr: 2-Fluorobiphenyl	62		100.0		62.2	23.3	85.6			
Surr: 4-Terphenyl-d14	55		100.0		54.9	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1702B11 RcptNo: 1

Received by/date: 02/24/17

Logged By: Ashley Gallegos 2/24/2017 9:50:00 AM

Completed By: Ashley Gallegos 2/24/2017 10:44:35 AM

Reviewed By: 02/24/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved? aj	~~Yes ☑~~	No ☑	
9. Was preservative added to bottles?	Yes ☑	~~No ☑~~ aj	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? YES
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: aj

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date	
By Whom:		Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person	
Regarding:			
Client Instructions:			

17. Additional remarks: For metals analysis: added 1mL HNO3 to cool for acceptable pH. Held 24 hours prior to analysis.

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

2/24 @ 1610 aj

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2017 1ST Quarter GW Wells

Project #:

NAP, OAP, STP1, LDU(2)

Project Manager:

C. JOHNSON (cheryl.johnson@wnr.com)

Sampler: Cjohnson WNR

On Ice: ☐ Yes ☐ No

Sample Temperature: 1.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1702B11	8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GRO/DRO/MRO)	MAJOR CATIONS/ANIONS	8270	CYANIDE	8021B + MTBE							Air Bubbles (Y or N)
												AT 02/28/17									
2/21/2017	700	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001	X														
2/21/2017	700	aqueous	TRIP BLANK	3-40ML VOAS	HCL	-002	X														
2/21/2017	1010	aqueous	OAPIS-1	Misc	Misc	-003	X	X	X	X	X	X	X								
2/21/2017	1208	aqueous	NAPIS-2	Misc	Misc	-004	X	X	X	X	X	X		X							
2/21/2017	1228	aqueous	KA-3	Misc	Misc	-005	X	X	X	X	X	X		X							
2/21/2017	1535	aqueous	NAPIS-3	Misc	Misc	-006	X	X	X	X	X	X		X							
2/21/2017	1335	aqueous	NAPIS-1	Misc	Misc	-007	X	X	X	X	X	X		X							
2/21/2017	1432	aqueous	STP1-NW	Misc	Misc	-008	X	X	X	X	X			X							
2/21/2017	1600	aqueous	WEST LDU	Misc	Misc	-009	X	X	X	X				X							
2/21/2017	1615	aqueous	EAST LDU	Misc	Misc	-010	X	X	X	X				X							
2/21/2017		aqueous	DUPLICATE	Misc	Misc	-011	X	X	X	X	X										
2/21/2017		aqueous	DUPLICATE	1-L AMBER	NONE	-012						X									

Date: 02/22/17 Time: 0940 Relinquished by:

Received by: Date 02/24/17 Time 0958

Date: Time: Relinquished by:

Received by: Date Time

Remarks: A NEW PO FOR THIS PROJECT WILL BE ASSIGNED FOR THE GW & MKTF WELLS FOR THE 1ST QTR.

No H on Tot or Diss Metals

AT 02/28/17

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 27, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 1st QTR Ground Water OrderNo.: 1703F34

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 15 sample(s) on 3/30/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water
Lab Order: 1703F34

Lab ID: 1703F34-002 **Collection Date:** 3/30/2017 8:40:00 AM
Client Sample ID: STP-1 to EP-2 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	3760	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-003 **Collection Date:** 3/30/2017 8:45:00 AM
Client Sample ID: EP-2 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	9430	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-004 **Collection Date:** 3/30/2017 9:10:00 AM
Client Sample ID: EP-3 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	10800	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-005 **Collection Date:** 3/30/2017 9:20:00 AM
Client Sample ID: EP-4 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	10300	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-006 **Collection Date:** 3/30/2017 9:45:00 AM
Client Sample ID: EP-5 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	17500	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water
Lab Order: 1703F34

Lab ID: 1703F34-007 **Collection Date:** 3/30/2017 9:55:00 AM
Client Sample ID: EP-6 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	19200	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-008 **Collection Date:** 3/30/2017 10:15:00 AM
Client Sample ID: EP-7 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	105000	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-009 **Collection Date:** 3/30/2017 10:25:00 AM
Client Sample ID: EP-11 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	104000	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-010 **Collection Date:** 3/30/2017 11:10:00 AM
Client Sample ID: EP-12A **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	13600	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-011 **Collection Date:** 3/30/2017 11:20:00 AM
Client Sample ID: EP-12B **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	10600	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water
Lab Order: 1703F34

Lab ID: 1703F34-012 **Collection Date:** 3/30/2017 11:38:00 AM
Client Sample ID: EP-8 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	99100	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Lab ID: 1703F34-013 **Collection Date:** 3/30/2017 12:05:00 PM
Client Sample ID: EP-9 **Matrix:** AQUEOUS

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	88800	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

27-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **MB-31114**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **31114**	RunNo: **41979**
Prep Date: **4/6/2017**	Analysis Date: **4/8/2017**	SeqNo: **1318231** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	14.0	20.0								J

Sample ID **LCS-31114**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **31114**	RunNo: **41979**
Prep Date: **4/6/2017**	Analysis Date: **4/8/2017**	SeqNo: **1318232** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1703F34 RcptNo: 1

Received By: Andy Jansson 3/30/2017 4:55:00 PM

Completed By: Ashley Gallegos 3/30/2017 5:32:45 PM

Reviewed By: AJ 04/03/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	AJ ~~Yes ✔~~ ✓	No ✓	
9. Was preservative added to bottles?	Yes ✓	~~No ✔~~ AJ	NA
10. VOA vials have zero headspace?	Yes ✔	No	No VOA Vials
11. Were any sample containers received broken?	Yes	No ✔	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH: 4 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted? yes
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by: AJ/ENM

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: ____ Date: ____

By Whom: ____ Via: eMail Phone Fax In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks: For metals analysis: added 1mL HNO3 to -004B, -005B, -011B for acceptable pH. Held 24 hours prior to analysis.

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

~~3/30/17~~ @ AJ

03/31/17 @ 0952 ~~AJ~~ FNM

Chain-of-Custody Record

Corrected COC

Client:	Western Refining Company
	GALLUP REFINERY
Mailing Address:	92 Giant Crossing Road, Gallup, NM 87301
Phone #:	505-722-3833
Email or Fax#:	505-863-0930
QA/QC Package:	☐ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other
☐ EDD (Type)	

Turn-Around Time: X Standard ☐ Rush

Project Name: 2017 1ST QTR GROUND WATER

Project #:

Project Manager: C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703134	Analysis Request: 8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GRO/DRO/MRO)	8270	MAJOR CATIONS/ANIONS	CYANIDE	BOD/COD/TDS	GENERAL CHEMISTRY	E-COLI	NITRATES		Air Bubbles (Y or N)
03 [illegible]																			
10/30/2017	700	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001	X												
10/30/2017	840	aqueous	STP-1 TO EP-2	Misc	Misc	-002	X			X				X					
10/30/2017	845	aqueous	EP-2	Misc	Misc	-003	X	X	X		X			X	X	X			
10/30/2017	910	aqueous	EP-3	Misc	Misc	-004	X	X	X	X	X			X	X	X			
10/30/2017	920	aqueous	EP-4	Misc	Misc	-005	X			X	X			X	X	X			
10/30/2017	945	aqueous	EP-5	Misc	Misc	-006	X			X	X			X	X	X			
10/30/2017	955	aqueous	EP-6	Misc	Misc	-007	X			X	X			X	X	X			
10/30/2017	1015	aqueous	EP-7	Misc	Misc	-008	X			X	X			X	X	X			
10/30/2017	1025	aqueous	EP-11	Misc	Misc	-009	X			X	X			X	X	X			
10/30/2017	1110	aqueous	EP-12A	Misc	Misc	-010	X			X	X			X	X	X			
10/30/2017	1120	aqueous	EP-12B	Misc	Misc	-011	X			X	X			X	X	X			
10/30/2017	1138	aqueous	EP-8	Misc	Misc	-012	X			X	X			X	X	X			
10/30/2017	1205	aqueous	EP-9	Misc	Misc	-013	X			X	X			X	X	X			
10/30/2017	1220	aqueous	PW-4	Misc	Misc	-014	X	X	X		X		X				X		
10/30/2017	1240	aqueous	OW-57	Misc	Misc	-015	X	X	X	X	X	X							

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/30/17	1400			3/30/17	1400
Date:	Time:	Relinquished by:	Received by:	Date	Time
3/30/17	1655			03/30/17	1655

Remarks: GENERAL CHEMISTRY TO INCLUDE pH, specific conductance, cations/anions. ON THE "EP" SAMPLES - PLEASE PLACE ALL THE TDS ON A SEPARATE FORM - DO NOT COMBINE WITH THE QUARTERLY.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 05, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 1st QTR Ground Water OrderNo.: 1703F34

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 15 sample(s) on 3/30/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 7:00:00 AM
Lab ID: 1703F34-001
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.096	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Toluene	0.16	0.089	1.0	J	µg/L	1	4/3/2017 4:22:27 PM	R41853
Ethylbenzene	ND	0.11	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Naphthalene	ND	0.083	2.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Acetone	2.1	0.88	10	J	µg/L	1	4/3/2017 4:22:27 PM	R41853
Bromobenzene	ND	0.14	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Bromodichloromethane	ND	0.18	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Bromoform	ND	0.21	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Bromomethane	ND	0.78	3.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
2-Butanone	ND	1.1	10		µg/L	1	4/3/2017 4:22:27 PM	R41853
Carbon disulfide	ND	0.60	10		µg/L	1	4/3/2017 4:22:27 PM	R41853
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Chlorobenzene	ND	0.11	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Chloroethane	ND	0.23	2.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Chloroform	ND	0.089	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Chloromethane	ND	0.21	3.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Dibromochloromethane	ND	0.078	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Dibromomethane	ND	0.12	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	4/3/2017 4:22:27 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 7:00:00 AM
Lab ID: 1703F34-001
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
2-Hexanone	ND	0.66	10		µg/L	1	4/3/2017 4:22:27 PM	R41853
Isopropylbenzene	ND	0.098	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	4/3/2017 4:22:27 PM	R41853
Methylene Chloride	ND	0.11	3.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
n-Butylbenzene	ND	0.16	3.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
n-Propylbenzene	ND	0.13	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Styrene	ND	0.16	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Vinyl chloride	ND	0.18	1.0		µg/L	1	4/3/2017 4:22:27 PM	R41853
Xylenes, Total	ND	0.32	1.5		µg/L	1	4/3/2017 4:22:27 PM	R41853
Surr: 1,2-Dichloroethane-d4	90.1	0	70-130		%Rec	1	4/3/2017 4:22:27 PM	R41853
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	4/3/2017 4:22:27 PM	R41853
Surr: Dibromofluoromethane	96.0	0	70-130		%Rec	1	4/3/2017 4:22:27 PM	R41853
Surr: Toluene-d8	98.8	0	70-130		%Rec	1	4/3/2017 4:22:27 PM	R41853

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP-1 to EP-2
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 8:40:00 AM
Lab ID: 1703F34-002
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	11	0.36	1.0		mg/L	1	4/6/2017 1:13:31 PM	31110
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	4/6/2017 1:13:31 PM	31110
Surr: DNOP	106	0	72.4-157		%Rec	1	4/6/2017 1:13:31 PM	31110
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	470	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	1.9	0.96	5.0	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
Toluene	2.2	0.89	5.0	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2,4-Trimethylbenzene	2.8	1.0	5.0	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1-Methylnaphthalene	9.9	1.6	20	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
2-Methylnaphthalene	12	1.5	20	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
Acetone	1200	88	1000		µg/L	100	4/3/2017 4:51:24 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Bromomethane	11	7.8	15	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
2-Butanone	58	11	50	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Carbon disulfide	20	6.0	50	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Chlorobenzene	2.0	1.1	5.0	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP-1 to EP-2
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 8:40:00 AM
Lab ID: 1703F34-002
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
n-Butylbenzene	3.2	1.6	15	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:20:10 PM	R41853
Xylenes, Total	3.5	3.2	7.5	JD	µg/L	10	4/3/2017 5:20:10 PM	R41853
Surr: 1,2-Dichloroethane-d4	94.6	0	70-130	D	%Rec	10	4/3/2017 5:20:10 PM	R41853
Surr: 4-Bromofluorobenzene	113	0	70-130	D	%Rec	10	4/3/2017 5:20:10 PM	R41853
Surr: Dibromofluoromethane	95.7	0	70-130	D	%Rec	10	4/3/2017 5:20:10 PM	R41853
Surr: Toluene-d8	98.5	0	70-130	D	%Rec	10	4/3/2017 5:20:10 PM	R41853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	1.2	0.097	0.50	D	mg/L	10	4/3/2017 5:20:10 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP-1 to EP-2
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 8:40:00 AM
Lab ID: 1703F34-002 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Surr: BFB	102	0	70-130	D	%Rec	10	4/3/2017 5:20:10 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	1330	20	20		mg/l	2	4/4/2017	R42566
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	3760	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 8:45:00 AM
Lab ID: 1703F34-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	35	1.0	2.0	*	mg/L	20	4/5/2017 2:47:44 PM	R41934
Chloride	3500	120	250		mg/L	500	4/7/2017 9:58:50 PM	R41969
Bromide	1.5	0.61	2.0	J	mg/L	20	4/5/2017 2:47:44 PM	R41934
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	4/7/2017 9:46:25 PM	R41969
Sulfate	1200	48	250		mg/L	500	4/7/2017 9:58:50 PM	R41969
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	4/7/2017 8:07:06 PM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.22	0.00085	0.0020		mg/L	1	4/5/2017 8:57:39 PM	A41931
Cadmium	ND	0.0010	0.0020		mg/L	1	4/5/2017 8:57:39 PM	A41931
Calcium	310	5.0	10		mg/L	10	4/5/2017 8:59:44 PM	A41931
Chromium	0.013	0.0010	0.0060		mg/L	1	4/5/2017 8:57:39 PM	A41931
Copper	ND	0.0032	0.0060		mg/L	1	4/5/2017 8:57:39 PM	A41931
Iron	1.1	0.20	0.20	*	mg/L	10	4/5/2017 8:59:44 PM	A41931
Magnesium	85	0.50	1.0		mg/L	1	4/5/2017 8:57:39 PM	A41931
Manganese	0.34	0.00038	0.0020	*	mg/L	1	4/5/2017 8:57:39 PM	A41931
Potassium	260	5.0	10		mg/L	10	4/5/2017 8:59:44 PM	A41931
Silver	ND	0.00088	0.0050		mg/L	1	4/5/2017 8:57:39 PM	A41931
Sodium	2500	50	100		mg/L	100	4/6/2017 6:24:28 PM	A41953
Zinc	0.017	0.0011	0.010		mg/L	1	4/5/2017 8:57:39 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.24	0.00079	0.0020		mg/L	1	4/7/2017 3:37:45 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:09:11 PM	31104
Chromium	0.0075	0.0027	0.0060		mg/L	1	4/7/2017 3:37:45 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 3:37:45 AM	31104
Iron	1.4	0.20	0.20	*	mg/L	10	4/12/2017 7:16:28 PM	31177
Manganese	0.35	0.00027	0.0020	*	mg/L	1	4/7/2017 3:37:45 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 3:37:45 AM	31104
Zinc	0.024	0.0027	0.010		mg/L	1	4/12/2017 7:14:26 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.015	0.00089	0.0050	*	mg/L	5	4/11/2017 8:02:11 PM	C42036
Lead	ND	0.00084	0.0025		mg/L	5	4/11/2017 8:02:11 PM	C42036
Selenium	0.026	0.0019	0.0050		mg/L	5	4/11/2017 8:02:11 PM	C42036
Uranium	0.0013	0.00025	0.0025	J	mg/L	5	4/12/2017 6:20:03 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.018	0.0011	0.0050	*	mg/L	5	4/12/2017 2:28:54 PM	31177
Lead	0.00087	0.00041	0.0025	J	mg/L	5	4/12/2017 2:28:54 PM	31177
Selenium	0.032	0.00094	0.0050		mg/L	5	4/12/2017 2:28:54 PM	31177

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Collection Date: 3/30/2017 8:45:00 AM
Lab ID: 1703F34-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Uranium	0.0017	0.00087	0.0025	J	mg/L	5	4/12/2017 2:28:54 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00014	0.000037	0.00020	J	mg/L	1	4/13/2017 8:19:05 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	410	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Benzoic acid	51	20	100	JD	µg/L	1	4/6/2017 2:21:42 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Bis(2-ethylhexyl)phthalate	39	24	50	JD	µg/L	1	4/6/2017 2:21:42 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059

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Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2,4-Dimethylphenol	26	14	50	JD	µg/L	1	4/6/2017 2:21:42 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
3+4-Methylphenol	36	16	50	JD	µg/L	1	4/6/2017 2:21:42 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Phenol	50	16	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059

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Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 2:21:42 PM	31059
Surr: 2-Fluorophenol	22.8	0	15-98.1	D	%Rec	1	4/6/2017 2:21:42 PM	31059
Surr: Phenol-d5	19.4	0	15-80.7	D	%Rec	1	4/6/2017 2:21:42 PM	31059
Surr: 2,4,6-Tribromophenol	35.4	0	15-112	D	%Rec	1	4/6/2017 2:21:42 PM	31059
Surr: Nitrobenzene-d5	62.9	0	27.2-90.7	D	%Rec	1	4/6/2017 2:21:42 PM	31059
Surr: 2-Fluorobiphenyl	40.7	0	23.3-85.6	D	%Rec	1	4/6/2017 2:21:42 PM	31059
Surr: 4-Terphenyl-d14	38.6	0	27.6-107	D	%Rec	1	4/6/2017 2:21:42 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	13	0.96	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Toluene	22	0.89	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Ethylbenzene	6.8	1.1	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2,4-Trimethylbenzene	8.5	1.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,3,5-Trimethylbenzene	3.1	1.2	5.0	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1-Methylnaphthalene	6.1	1.6	20	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
2-Methylnaphthalene	7.9	1.5	20	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
Acetone	140	8.8	50	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Bromomethane	14	7.8	15	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
2-Butanone	ND	11	50	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Carbon disulfide	27	6.0	50	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Isopropylbenzene	2.1	0.98	5.0	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
n-Butylbenzene	3.5	1.6	15	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
n-Propylbenzene	3.3	1.3	5.0	JD	µg/L	10	4/3/2017 5:48:57 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Xylenes, Total	23	3.2	7.5	D	µg/L	10	4/3/2017 5:48:57 PM	R41853
Surr: 1,2-Dichloroethane-d4	92.6	0	70-130	D	%Rec	10	4/3/2017 5:48:57 PM	R41853
Surr: 4-Bromofluorobenzene	113	0	70-130	D	%Rec	10	4/3/2017 5:48:57 PM	R41853
Surr: Dibromofluoromethane	102	0	70-130	D	%Rec	10	4/3/2017 5:48:57 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 8:45:00 AM
Lab ID: 1703F34-003 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Toluene-d8	97.1	0	70-130	D	%Rec	10	4/3/2017 5:48:57 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	1030	20	20		mg/l	2	4/5/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	17000	10	10		µmhos/c	10	4/4/2017 6:23:42 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.58			H	pH units	1	4/4/2017 2:07:49 PM	R41894
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	9430	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:10:00 AM
Lab ID: 1703F34-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	10	1.0	2.0	*	mg/L	20	4/7/2017 9:46:36 AM	R41969
Chloride	5000	1200	2500		mg/L	5E+	4/7/2017 9:59:01 AM	R41969
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/31/2017 8:37:40 PM	A41794
Bromide	2.5	0.15	0.50		mg/L	5	3/31/2017 8:25:16 PM	A41794
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/31/2017 8:25:16 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/31/2017 8:25:16 PM	A41794
Sulfate	1200	190	1000		mg/L	2E+	4/10/2017 7:45:47 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.22	0.00085	0.0020		mg/L	1	4/5/2017 9:01:46 PM	A41931
Cadmium	ND	0.0010	0.0020		mg/L	1	4/5/2017 9:01:46 PM	A41931
Calcium	370	5.0	10		mg/L	10	4/5/2017 9:03:36 PM	A41931
Chromium	0.0095	0.0010	0.0060		mg/L	1	4/5/2017 9:01:46 PM	A41931
Copper	ND	0.0032	0.0060		mg/L	1	4/5/2017 9:01:46 PM	A41931
Iron	0.50	0.020	0.020	*	mg/L	1	4/5/2017 9:01:46 PM	A41931
Magnesium	100	5.0	10		mg/L	10	4/5/2017 9:03:36 PM	A41931
Manganese	0.35	0.00038	0.0020	*	mg/L	1	4/5/2017 9:01:46 PM	A41931
Potassium	330	5.0	10		mg/L	10	4/5/2017 9:03:36 PM	A41931
Silver	ND	0.00088	0.0050		mg/L	1	4/5/2017 9:01:46 PM	A41931
Sodium	3000	50	100		mg/L	100	4/6/2017 6:27:14 PM	A41953
Zinc	0.030	0.0011	0.010		mg/L	1	4/5/2017 9:01:46 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.22	0.00079	0.0020		mg/L	1	4/7/2017 3:43:09 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:13:08 PM	31104
Chromium	0.0072	0.0027	0.0060		mg/L	1	4/7/2017 3:43:09 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 3:43:09 AM	31104
Iron	0.69	0.020	0.020	*	mg/L	1	4/12/2017 7:18:33 PM	31177
Manganese	0.35	0.00027	0.0020	*	mg/L	1	4/7/2017 3:43:09 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 3:43:09 AM	31104
Zinc	0.016	0.0027	0.010		mg/L	1	4/12/2017 7:18:33 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.016	0.00089	0.0050	*	mg/L	5	4/11/2017 8:12:28 PM	C42036
Lead	ND	0.00084	0.0025		mg/L	5	4/11/2017 8:12:28 PM	C42036
Selenium	0.028	0.0019	0.0050		mg/L	5	4/11/2017 8:12:28 PM	C42036
Uranium	0.0013	0.00025	0.0025	J	mg/L	5	4/12/2017 6:26:10 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.018	0.0011	0.0050	*	mg/L	5	4/12/2017 2:31:54 PM	31177
Lead	0.00063	0.00041	0.0025	J	mg/L	5	4/12/2017 2:31:54 PM	31177

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:10:00 AM
Lab ID: 1703F34-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Selenium	0.030	0.00094	0.0050		mg/L	5	4/12/2017 2:31:54 PM	31177
Uranium	0.0011	0.00087	0.0025	J	mg/L	5	4/12/2017 2:31:54 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000079	0.000037	0.00020	J	mg/L	1	4/13/2017 8:21:01 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	280	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Benzoic acid	37	20	100	JD	µg/L	1	4/6/2017 2:50:02 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Bis(2-ethylhexyl)phthalate	32	24	50	JD	µg/L	1	4/6/2017 2:50:02 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:10:00 AM
Lab ID: 1703F34-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
3+4-Methylphenol	34	16	50	JD	µg/L	1	4/6/2017 2:50:02 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Phenol	22	16	50	JD	µg/L	1	4/6/2017 2:50:02 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:10:00 AM
Lab ID: 1703F34-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 2:50:02 PM	31059
Surr: 2-Fluorophenol	25.8	0	15-98.1	D	%Rec	1	4/6/2017 2:50:02 PM	31059
Surr: Phenol-d5	21.2	0	15-80.7	D	%Rec	1	4/6/2017 2:50:02 PM	31059
Surr: 2,4,6-Tribromophenol	34.1	0	15-112	D	%Rec	1	4/6/2017 2:50:02 PM	31059
Surr: Nitrobenzene-d5	70.9	0	27.2-90.7	D	%Rec	1	4/6/2017 2:50:02 PM	31059
Surr: 2-Fluorobiphenyl	52.2	0	23.3-85.6	D	%Rec	1	4/6/2017 2:50:02 PM	31059
Surr: 4-Terphenyl-d14	49.6	0	27.6-107	D	%Rec	1	4/6/2017 2:50:02 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	4.0	0.96	5.0	JD	µg/L	10	4/3/2017 6:18:21 PM	R41853
Toluene	6.9	0.89	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Ethylbenzene	3.2	1.1	5.0	JD	µg/L	10	4/3/2017 6:18:21 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2,4-Trimethylbenzene	4.1	1.0	5.0	JD	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,3,5-Trimethylbenzene	1.6	1.2	5.0	JD	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Acetone	120	8.8	50	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
2-Butanone	27	11	50	JD	µg/L	10	4/3/2017 6:18:21 PM	R41853
Carbon disulfide	23	6.0	50	JD	µg/L	10	4/3/2017 6:18:21 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 6:18:21 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:10:00 AM
Lab ID: 1703F34-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Xylenes, Total	9.2	3.2	7.5	D	µg/L	10	4/3/2017 6:18:21 PM	R41853
Surr: 1,2-Dichloroethane-d4	95.4	0	70-130	D	%Rec	10	4/3/2017 6:18:21 PM	R41853
Surr: 4-Bromofluorobenzene	108	0	70-130	D	%Rec	10	4/3/2017 6:18:21 PM	R41853

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:10:00 AM
Lab ID: 1703F34-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Dibromofluoromethane	98.1	0	70-130	D	%Rec	10	4/3/2017 6:18:21 PM	R41853
Surr: Toluene-d8	97.3	0	70-130	D	%Rec	10	4/3/2017 6:18:21 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	717	10	10		mg/l	1	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	23000	10	10		µmhos/c	10	4/4/2017 2:15:51 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.92			H	pH units	1	4/3/2017 2:56:19 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	10800	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:20:00 AM
Lab ID: 1703F34-005 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	37	1.0	2.0	*	mg/L	20	4/5/2017 3:12:33 PM	R41934
Chloride	4300	120	250		mg/L	500	4/7/2017 10:23:39 PM	R41969
Bromide	10	0.61	2.0		mg/L	20	4/5/2017 3:12:33 PM	R41934
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	4/7/2017 10:11:15 PM	R41969
Sulfate	1100	48	250		mg/L	500	4/7/2017 10:23:39 PM	R41969
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	4/7/2017 8:19:31 PM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.22	0.00085	0.0020		mg/L	1	4/5/2017 9:05:38 PM	A41931
Cadmium	ND	0.0010	0.0020		mg/L	1	4/5/2017 9:05:38 PM	A41931
Calcium	350	5.0	10		mg/L	10	4/5/2017 9:07:31 PM	A41931
Chromium	0.0090	0.0010	0.0060		mg/L	1	4/5/2017 9:05:38 PM	A41931
Copper	ND	0.0032	0.0060		mg/L	1	4/5/2017 9:05:38 PM	A41931
Iron	0.61	0.020	0.020	*	mg/L	1	4/5/2017 9:05:38 PM	A41931
Magnesium	99	5.0	10		mg/L	10	4/5/2017 9:07:31 PM	A41931
Manganese	0.34	0.00038	0.0020	*	mg/L	1	4/5/2017 9:05:38 PM	A41931
Potassium	310	5.0	10		mg/L	10	4/5/2017 9:07:31 PM	A41931
Silver	ND	0.00088	0.0050		mg/L	1	4/5/2017 9:05:38 PM	A41931
Sodium	2900	50	100		mg/L	100	4/6/2017 6:34:16 PM	A41953
Zinc	0.035	0.0011	0.010		mg/L	1	4/5/2017 9:05:38 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.23	0.00079	0.0020		mg/L	1	4/7/2017 3:48:31 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:15:09 PM	31104
Chromium	0.0063	0.0027	0.0060		mg/L	1	4/7/2017 3:48:31 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 3:48:31 AM	31104
Iron	0.76	0.020	0.020	*	mg/L	1	4/12/2017 7:20:22 PM	31177
Manganese	0.35	0.00027	0.0020	*	mg/L	1	4/7/2017 3:48:31 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 3:48:31 AM	31104
Zinc	0.016	0.0027	0.010		mg/L	1	4/12/2017 7:20:22 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.015	0.00089	0.0050	*	mg/L	5	4/11/2017 8:27:58 PM	C42036
Lead	ND	0.00084	0.0025		mg/L	5	4/11/2017 8:27:58 PM	C42036
Selenium	0.029	0.0019	0.0050		mg/L	5	4/11/2017 8:27:58 PM	C42036
Uranium	0.0011	0.00025	0.0025	J	mg/L	5	4/12/2017 6:29:13 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.015	0.0011	0.0050	*	mg/L	5	4/12/2017 2:34:55 PM	31177
Lead	0.00062	0.00041	0.0025	J	mg/L	5	4/12/2017 2:34:55 PM	31177
Selenium	0.027	0.00094	0.0050		mg/L	5	4/12/2017 2:34:55 PM	31177

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:20:00 AM
Lab ID: 1703F34-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Uranium	0.0011	0.00087	0.0025	J	mg/L	5	4/12/2017 2:34:55 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000091	0.000037	0.00020	J	mg/L	1	4/13/2017 8:22:57 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	390	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Benzoic acid	40	20	100	JD	µg/L	1	4/6/2017 3:18:25 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Bis(2-ethylhexyl)phthalate	31	24	50	JD	µg/L	1	4/6/2017 3:18:25 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:20:00 AM
Lab ID: 1703F34-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
3+4-Methylphenol	36	16	50	JD	µg/L	1	4/6/2017 3:18:25 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Phenol	32	16	50	JD	µg/L	1	4/6/2017 3:18:25 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:20:00 AM
Lab ID: 1703F34-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 3:18:25 PM	31059
Surr: 2-Fluorophenol	23.7	0	15-98.1	D	%Rec	1	4/6/2017 3:18:25 PM	31059
Surr: Phenol-d5	19.8	0	15-80.7	D	%Rec	1	4/6/2017 3:18:25 PM	31059
Surr: 2,4,6-Tribromophenol	33.5	0	15-112	D	%Rec	1	4/6/2017 3:18:25 PM	31059
Surr: Nitrobenzene-d5	59.7	0	27.2-90.7	D	%Rec	1	4/6/2017 3:18:25 PM	31059
Surr: 2-Fluorobiphenyl	39.7	0	23.3-85.6	D	%Rec	1	4/6/2017 3:18:25 PM	31059
Surr: 4-Terphenyl-d14	44.7	0	27.6-107	D	%Rec	1	4/6/2017 3:18:25 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	7.1	0.96	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Toluene	13	0.89	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Ethylbenzene	4.5	1.1	5.0	JD	µg/L	10	4/3/2017 6:47:45 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2,4-Trimethylbenzene	5.7	1.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,3,5-Trimethylbenzene	2.3	1.2	5.0	JD	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Acetone	130	8.8	50	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
2-Butanone	26	11	50	JD	µg/L	10	4/3/2017 6:47:45 PM	R41853
Carbon disulfide	23	6.0	50	JD	µg/L	10	4/3/2017 6:47:45 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:20:00 AM
Lab ID: 1703F34-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Xylenes, Total	14	3.2	7.5	D	µg/L	10	4/3/2017 6:47:45 PM	R41853
Surr: 1,2-Dichloroethane-d4	93.9	0	70-130	D	%Rec	10	4/3/2017 6:47:45 PM	R41853
Surr: 4-Bromofluorobenzene	107	0	70-130	D	%Rec	10	4/3/2017 6:47:45 PM	R41853
Surr: Dibromofluoromethane	95.5	0	70-130	D	%Rec	10	4/3/2017 6:47:45 PM	R41853

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:20:00 AM
Lab ID: 1703F34-005 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Toluene-d8	96.6	0	70-130	D	%Rec	10	4/3/2017 6:47:45 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	802	10	10		mg/l	1	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	19000	10	10		µmhos/c	10	4/4/2017 2:23:53 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.78			H	pH units	1	4/3/2017 3:04:20 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	10300	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:45:00 AM
Lab ID: 1703F34-006 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	20	1.0	2.0	*	mg/L	20	4/7/2017 10:11:25 AM	R41969
Chloride	7700	250	500		mg/L	1E+	4/7/2017 10:23:50 AM	R41969
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/31/2017 9:02:29 PM	A41794
Bromide	5.4	0.15	0.50		mg/L	5	3/31/2017 8:50:05 PM	A41794
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/31/2017 8:50:05 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/31/2017 8:50:05 PM	A41794
Sulfate	1900	96	500		mg/L	1E+	4/7/2017 10:23:50 AM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.17	0.00085	0.0020		mg/L	1	4/5/2017 9:09:35 PM	A41931
Cadmium	ND	0.0010	0.0020		mg/L	1	4/5/2017 9:09:35 PM	A41931
Calcium	560	5.0	10		mg/L	10	4/5/2017 9:11:25 PM	A41931
Chromium	0.010	0.0010	0.0060		mg/L	1	4/5/2017 9:09:35 PM	A41931
Copper	ND	0.0032	0.0060		mg/L	1	4/5/2017 9:09:35 PM	A41931
Iron	0.15	0.020	0.020		mg/L	1	4/5/2017 9:09:35 PM	A41931
Magnesium	210	5.0	10		mg/L	10	4/5/2017 9:11:25 PM	A41931
Manganese	0.62	0.00038	0.0020	*	mg/L	1	4/5/2017 9:09:35 PM	A41931
Potassium	260	5.0	10		mg/L	10	4/5/2017 9:11:25 PM	A41931
Silver	ND	0.00088	0.0050		mg/L	1	4/5/2017 9:09:35 PM	A41931
Sodium	5200	50	100		mg/L	100	4/6/2017 6:37:01 PM	A41953
Zinc	0.024	0.0011	0.010		mg/L	1	4/5/2017 9:09:35 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.18	0.00079	0.0020		mg/L	1	4/7/2017 3:53:54 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:17:09 PM	31104
Chromium	0.0094	0.0027	0.0060		mg/L	1	4/7/2017 3:53:54 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 3:53:54 AM	31104
Iron	0.33	0.020	0.020	*	mg/L	1	4/12/2017 7:28:47 PM	31177
Manganese	0.66	0.00027	0.0020	*	mg/L	1	4/7/2017 3:53:54 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 3:53:54 AM	31104
Zinc	0.0084	0.0027	0.010	J	mg/L	1	4/12/2017 7:28:47 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.029	0.00089	0.0050	*	mg/L	5	4/11/2017 8:43:24 PM	C42036
Lead	ND	0.00084	0.0025		mg/L	5	4/11/2017 8:43:24 PM	C42036
Selenium	0.051	0.0019	0.0050	*	mg/L	5	4/11/2017 8:43:24 PM	C42036
Uranium	0.0026	0.00025	0.0025		mg/L	5	4/12/2017 6:32:17 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.032	0.0011	0.0050	*	mg/L	5	4/12/2017 2:37:55 PM	31177
Lead	0.00080	0.00041	0.0025	J	mg/L	5	4/12/2017 2:37:55 PM	31177

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:45:00 AM
Lab ID: 1703F34-006 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Selenium	0.056	0.00094	0.0050	*	mg/L	5	4/12/2017 2:37:55 PM	31177
Uranium	0.0025	0.00087	0.0025		mg/L	5	4/12/2017 2:37:55 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000059	0.000037	0.00020	J	mg/L	1	4/13/2017 8:24:53 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	32	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	52	10.00	10.00	H	MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Benzoic acid	31	20	100	JD	µg/L	1	4/6/2017 3:47:06 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Bis(2-ethylhexyl)phthalate	33	24	50	JD	µg/L	1	4/6/2017 3:47:06 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:45:00 AM
Lab ID: 1703F34-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
3+4-Methylphenol	ND	16	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Phenol	ND	16	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:45:00 AM
Lab ID: 1703F34-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 3:47:06 PM	31059
Surr: 2-Fluorophenol	21.4	0	15-98.1	D	%Rec	1	4/6/2017 3:47:06 PM	31059
Surr: Phenol-d5	19.8	0	15-80.7	D	%Rec	1	4/6/2017 3:47:06 PM	31059
Surr: 2,4,6-Tribromophenol	35.3	0	15-112	D	%Rec	1	4/6/2017 3:47:06 PM	31059
Surr: Nitrobenzene-d5	58.0	0	27.2-90.7	D	%Rec	1	4/6/2017 3:47:06 PM	31059
Surr: 2-Fluorobiphenyl	49.4	0	23.3-85.6	D	%Rec	1	4/6/2017 3:47:06 PM	31059
Surr: 4-Terphenyl-d14	49.8	0	27.6-107	D	%Rec	1	4/6/2017 3:47:06 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.96	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Toluene	ND	0.89	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2,4-Trimethylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Acetone	17	8.8	50	JD	µg/L	10	4/3/2017 7:16:54 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
2-Butanone	17	11	50	JD	µg/L	10	4/3/2017 7:16:54 PM	R41853
Carbon disulfide	ND	6.0	50	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 7:16:54 PM	R41853

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:45:00 AM
Lab ID: 1703F34-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	4/3/2017 7:16:54 PM	R41853
Surr: 1,2-Dichloroethane-d4	93.1	0	70-130	D	%Rec	10	4/3/2017 7:16:54 PM	R41853
Surr: 4-Bromofluorobenzene	105	0	70-130	D	%Rec	10	4/3/2017 7:16:54 PM	R41853

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:45:00 AM
Lab ID: 1703F34-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Dibromofluoromethane	99.3	0	70-130	D	%Rec	10	4/3/2017 7:16:54 PM	R41853
Surr: Toluene-d8	96.8	0	70-130	D	%Rec	10	4/3/2017 7:16:54 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	990	10	10		mg/l	1	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	33000	10	10		µmhos/c	10	4/4/2017 2:27:54 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.80			H	pH units	1	4/3/2017 3:08:29 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	17500	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:55:00 AM
Lab ID: 1703F34-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	22	1.0	2.0	*	mg/L	20	4/7/2017 10:36:14 AM	R41969
Chloride	7200	250	500		mg/L	1E+	4/7/2017 10:48:38 AM	R41969
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/31/2017 9:27:19 PM	A41794
Bromide	5.5	0.15	0.50		mg/L	5	3/31/2017 9:14:55 PM	A41794
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/31/2017 9:14:55 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/31/2017 9:14:55 PM	A41794
Sulfate	1800	96	500		mg/L	1E+	4/7/2017 10:48:38 AM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.19	0.0085	0.020		mg/L	10	4/5/2017 9:23:21 PM	A41931
Cadmium	ND	0.010	0.020		mg/L	10	4/5/2017 9:23:21 PM	A41931
Calcium	530	5.0	10		mg/L	10	4/5/2017 9:23:21 PM	A41931
Chromium	ND	0.010	0.060		mg/L	10	4/5/2017 9:23:21 PM	A41931
Copper	ND	0.032	0.060		mg/L	10	4/5/2017 9:23:21 PM	A41931
Iron	ND	0.20	0.20		mg/L	10	4/5/2017 9:23:21 PM	A41931
Magnesium	200	5.0	10		mg/L	10	4/5/2017 9:23:21 PM	A41931
Manganese	0.72	0.0038	0.020	*	mg/L	10	4/5/2017 9:23:21 PM	A41931
Potassium	240	5.0	10		mg/L	10	4/5/2017 9:23:21 PM	A41931
Silver	ND	0.0088	0.050		mg/L	10	4/5/2017 9:23:21 PM	A41931
Sodium	5300	50	100		mg/L	100	4/6/2017 10:10:13 PM	C41953
Zinc	0.042	0.011	0.10	J	mg/L	10	4/5/2017 9:23:21 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.18	0.00079	0.0020		mg/L	1	4/7/2017 3:59:14 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:19:11 PM	31104
Chromium	0.0093	0.0027	0.0060		mg/L	1	4/7/2017 3:59:14 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 3:59:14 AM	31104
Iron	0.38	0.020	0.020	*	mg/L	1	4/12/2017 7:30:44 PM	31177
Manganese	0.66	0.00027	0.0020	*	mg/L	1	4/7/2017 3:59:14 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 3:59:14 AM	31104
Zinc	0.0097	0.0027	0.010	J	mg/L	1	4/12/2017 7:30:44 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.031	0.00089	0.0050	*	mg/L	5	4/11/2017 8:48:32 PM	C42036
Lead	ND	0.00084	0.0025		mg/L	5	4/11/2017 8:48:32 PM	C42036
Selenium	0.054	0.0019	0.0050	*	mg/L	5	4/11/2017 8:48:32 PM	C42036
Uranium	0.0026	0.00025	0.0025		mg/L	5	4/12/2017 6:35:20 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.031	0.0011	0.0050	*	mg/L	5	4/12/2017 2:43:57 PM	31177
Lead	0.00070	0.00041	0.0025	J	mg/L	5	4/12/2017 2:43:57 PM	31177

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Client Sample ID: EP-6
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Collection Date: 3/30/2017 9:55:00 AM
Lab ID: 1703F34-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Selenium	0.058	0.0037	0.020	*	mg/L	20	4/12/2017 2:46:57 PM	31177
Uranium	0.0026	0.00087	0.0025		mg/L	5	4/12/2017 2:43:57 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000059	0.000037	0.00020	J	mg/L	1	4/13/2017 8:26:50 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	30	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	10	10.00	10.00		MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Benzoic acid	31	20	100	JD	µg/L	1	4/6/2017 4:15:34 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Bis(2-ethylhexyl)phthalate	33	24	50	JD	µg/L	1	4/6/2017 4:15:34 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:55:00 AM
Lab ID: 1703F34-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
3+4-Methylphenol	ND	16	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Phenol	ND	16	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:55:00 AM
Lab ID: 1703F34-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 4:15:34 PM	31059
Surr: 2-Fluorophenol	23.9	0	15-98.1	D	%Rec	1	4/6/2017 4:15:34 PM	31059
Surr: Phenol-d5	19.3	0	15-80.7	D	%Rec	1	4/6/2017 4:15:34 PM	31059
Surr: 2,4,6-Tribromophenol	39.7	0	15-112	D	%Rec	1	4/6/2017 4:15:34 PM	31059
Surr: Nitrobenzene-d5	59.7	0	27.2-90.7	D	%Rec	1	4/6/2017 4:15:34 PM	31059
Surr: 2-Fluorobiphenyl	45.6	0	23.3-85.6	D	%Rec	1	4/6/2017 4:15:34 PM	31059
Surr: 4-Terphenyl-d14	43.0	0	27.6-107	D	%Rec	1	4/6/2017 4:15:34 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.96	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Toluene	ND	0.89	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2,4-Trimethylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Acetone	17	8.8	50	JD	µg/L	10	4/3/2017 7:46:21 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
2-Butanone	17	11	50	JD	µg/L	10	4/3/2017 7:46:21 PM	R41853
Carbon disulfide	ND	6.0	50	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 7:46:21 PM	R41853

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:55:00 AM
Lab ID: 1703F34-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	4/3/2017 7:46:21 PM	R41853
Surr: 1,2-Dichloroethane-d4	93.3	0	70-130	D	%Rec	10	4/3/2017 7:46:21 PM	R41853
Surr: 4-Bromofluorobenzene	104	0	70-130	D	%Rec	10	4/3/2017 7:46:21 PM	R41853

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 9:55:00 AM
Lab ID: 1703F34-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Dibromofluoromethane	98.0	0	70-130	D	%Rec	10	4/3/2017 7:46:21 PM	R41853
Surr: Toluene-d8	96.3	0	70-130	D	%Rec	10	4/3/2017 7:46:21 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	981	10	10		mg/l	1	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	33000	10	10		µmhos/c	10	4/4/2017 2:31:55 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.79			H	pH units	1	4/3/2017 3:12:29 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	19200	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:15:00 AM
Lab ID: 1703F34-008 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	11	2.5	5.0	*	mg/L	50	4/7/2017 5:00:56 PM	R41969
Chloride	49000	1200	2500		mg/L	5E+	4/7/2017 5:13:21 PM	R41969
Bromide	33	0.61	2.0		mg/L	20	3/31/2017 9:52:08 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	3/31/2017 9:52:08 PM	A41794
Sulfate	9100	480	2500		mg/L	5E+	4/7/2017 5:13:21 PM	R41969
Nitrate+Nitrite as N	ND	5.2	40		mg/L	200	4/7/2017 8:31:55 PM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.18	0.0085	0.020		mg/L	10	4/5/2017 9:27:24 PM	A41931
Cadmium	ND	0.010	0.020		mg/L	10	4/5/2017 9:27:24 PM	A41931
Calcium	1200	50	100		mg/L	100	4/27/2017 4:19:56 PM	A42438
Chromium	0.015	0.010	0.060	J	mg/L	10	4/5/2017 9:27:24 PM	A41931
Copper	ND	0.032	0.060		mg/L	10	4/5/2017 9:27:24 PM	A41931
Iron	ND	0.20	0.20		mg/L	10	4/5/2017 9:27:24 PM	A41931
Magnesium	1500	50	100		mg/L	100	4/27/2017 4:19:56 PM	A42438
Manganese	0.19	0.0038	0.020	*	mg/L	10	4/5/2017 9:27:24 PM	A41931
Potassium	1800	50	100		mg/L	100	4/27/2017 4:19:56 PM	A42438
Silver	ND	0.0088	0.050		mg/L	10	4/5/2017 9:27:24 PM	A41931
Sodium	50000	500	1000		mg/L	1E+	4/27/2017 4:21:21 PM	A42438
Zinc	0.053	0.011	0.10	J	mg/L	10	4/5/2017 9:27:24 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.16	0.0040	0.010		mg/L	5	4/7/2017 5:21:15 PM	31104
Cadmium	ND	0.0074	0.010		mg/L	5	4/7/2017 5:21:15 PM	31104
Chromium	ND	0.013	0.030		mg/L	5	4/7/2017 5:21:15 PM	31104
Copper	ND	0.015	0.030		mg/L	5	4/7/2017 5:21:15 PM	31104
Iron	0.72	0.20	0.20	*	mg/L	10	4/12/2017 7:34:39 PM	31177
Manganese	0.71	0.0014	0.010	*	mg/L	5	4/7/2017 5:21:15 PM	31104
Silver	ND	0.0077	0.025		mg/L	5	4/19/2017 8:17:09 PM	31177
Zinc	0.018	0.013	0.050	J	mg/L	5	4/19/2017 8:17:09 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.16	0.0089	0.050	*	mg/L	50	4/12/2017 6:38:23 PM	B42080
Lead	ND	0.0084	0.025		mg/L	50	4/12/2017 6:38:23 PM	B42080
Selenium	0.28	0.019	0.050	*	mg/L	50	4/12/2017 6:38:23 PM	B42080
Uranium	0.0053	0.0025	0.025	J	mg/L	50	4/12/2017 6:38:23 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.18	0.011	0.050	*	mg/L	50	4/12/2017 2:52:58 PM	31177
Lead	ND	0.0041	0.025		mg/L	50	4/12/2017 2:52:58 PM	31177
Selenium	0.30	0.0094	0.050	*	mg/L	50	4/12/2017 2:52:58 PM	31177

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:15:00 AM
Lab ID: 1703F34-008 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Uranium	ND	0.0087	0.025		mg/L	50	4/12/2017 2:52:58 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000040	0.000037	0.00020	J	mg/L	1	4/13/2017 8:28:48 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	18	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	<1	1.000	1.000		MPN/100	1	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Benzoic acid	36	20	100	JD	µg/L	1	4/14/2017 4:23:54 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Bis(2-ethylhexyl)phthalate	28	24	50	JD	µg/L	1	4/14/2017 4:23:54 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Dibenzofuran	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:15:00 AM
Lab ID: 1703F34-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
3+4-Methylphenol	ND	16	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Phenol	ND	16	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Pyridine	ND	11	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:15:00 AM
Lab ID: 1703F34-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/14/2017 4:23:54 PM	31059
Surr: 2-Fluorophenol	28.1	0	15-98.1	D	%Rec	1	4/14/2017 4:23:54 PM	31059
Surr: Phenol-d5	23.6	0	15-80.7	D	%Rec	1	4/14/2017 4:23:54 PM	31059
Surr: 2,4,6-Tribromophenol	31.8	0	15-112	D	%Rec	1	4/14/2017 4:23:54 PM	31059
Surr: Nitrobenzene-d5	53.8	0	27.2-90.7	D	%Rec	1	4/14/2017 4:23:54 PM	31059
Surr: 2-Fluorobiphenyl	31.2	0	23.3-85.6	D	%Rec	1	4/14/2017 4:23:54 PM	31059
Surr: 4-Terphenyl-d14	22.0	0	27.6-107	SD	%Rec	1	4/14/2017 4:23:54 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.96	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Toluene	ND	0.89	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2,4-Trimethylbenzene	2.3	1.0	5.0	JD	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Acetone	9.5	8.8	50	JD	µg/L	10	4/3/2017 8:15:42 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
2-Butanone	16	11	50	JD	µg/L	10	4/3/2017 8:15:42 PM	R41853
Carbon disulfide	ND	6.0	50	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:15:00 AM
Lab ID: 1703F34-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	4/3/2017 8:15:42 PM	R41853
Surr: 1,2-Dichloroethane-d4	91.9	0	70-130	D	%Rec	10	4/3/2017 8:15:42 PM	R41853
Surr: 4-Bromofluorobenzene	107	0	70-130	D	%Rec	10	4/3/2017 8:15:42 PM	R41853
Surr: Dibromofluoromethane	97.5	0	70-130	D	%Rec	10	4/3/2017 8:15:42 PM	R41853

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Client Sample ID: EP-7
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:15:00 AM
Lab ID: 1703F34-008 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Toluene-d8	100	0	70-130	D	%Rec	10	4/3/2017 8:15:42 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	3150	200	200		mg/l	20	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	190000	100	100		µmhos/c	100	4/4/2017 2:35:52 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	8.07			H	pH units	1	4/3/2017 3:16:22 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	105000	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:25:00 AM
Lab ID: 1703F34-009 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	11	2.5	5.0	*	mg/L	50	4/7/2017 5:25:45 PM	R41969
Chloride	49000	1200	2500		mg/L	5E+	4/7/2017 5:38:10 PM	R41969
Bromide	34	0.61	2.0		mg/L	20	3/31/2017 10:41:47 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	3/31/2017 10:41:47 PM	A41794
Sulfate	10000	480	2500		mg/L	5E+	4/7/2017 5:38:10 PM	R41969
Nitrate+Nitrite as N	ND	5.2	40		mg/L	200	4/7/2017 8:44:20 PM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.20	0.0085	0.020		mg/L	10	4/5/2017 9:31:12 PM	A41931
Cadmium	ND	0.010	0.020		mg/L	10	4/5/2017 9:31:12 PM	A41931
Calcium	1200	50	100		mg/L	100	4/27/2017 4:23:54 PM	A42438
Chromium	0.014	0.010	0.060	J	mg/L	10	4/5/2017 9:31:12 PM	A41931
Copper	ND	0.032	0.060		mg/L	10	4/5/2017 9:31:12 PM	A41931
Iron	ND	0.20	0.20		mg/L	10	4/5/2017 9:31:12 PM	A41931
Magnesium	1500	50	100		mg/L	100	4/27/2017 4:23:54 PM	A42438
Manganese	0.37	0.0038	0.020	*	mg/L	10	4/5/2017 9:31:12 PM	A41931
Potassium	1800	50	100		mg/L	100	4/27/2017 4:23:54 PM	A42438
Silver	ND	0.0088	0.050		mg/L	10	4/5/2017 9:31:12 PM	A41931
Sodium	53000	500	1000		mg/L	1E+	4/27/2017 4:25:18 PM	A42438
Zinc	0.055	0.011	0.10	J	mg/L	10	4/5/2017 9:31:12 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.18	0.0040	0.010		mg/L	5	4/7/2017 5:23:16 PM	31104
Cadmium	ND	0.0074	0.010		mg/L	5	4/7/2017 5:23:16 PM	31104
Chromium	0.018	0.013	0.030	J	mg/L	5	4/7/2017 5:23:16 PM	31104
Copper	ND	0.015	0.030		mg/L	5	4/7/2017 5:23:16 PM	31104
Iron	0.31	0.20	0.20	*	mg/L	10	4/12/2017 7:38:29 PM	31177
Manganese	0.59	0.0014	0.010	*	mg/L	5	4/7/2017 5:23:16 PM	31104
Silver	ND	0.0077	0.025		mg/L	5	4/19/2017 8:18:58 PM	31177
Zinc	0.019	0.013	0.050	J	mg/L	5	4/19/2017 8:18:58 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.15	0.0089	0.050	*	mg/L	50	4/12/2017 6:50:41 PM	B42080
Lead	ND	0.0084	0.025		mg/L	50	4/12/2017 6:50:41 PM	B42080
Selenium	0.27	0.019	0.050	*	mg/L	50	4/12/2017 6:50:41 PM	B42080
Uranium	0.0053	0.0025	0.025	J	mg/L	50	4/12/2017 6:50:41 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.17	0.011	0.050	*	mg/L	50	4/12/2017 3:05:04 PM	31177
Lead	ND	0.0041	0.025		mg/L	50	4/12/2017 3:05:04 PM	31177
Selenium	0.32	0.0094	0.050	*	mg/L	50	4/12/2017 3:05:04 PM	31177

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200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Uranium	ND	0.0087	0.025		mg/L	50	4/12/2017 3:05:04 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000042	0.000037	0.00020	J	mg/L	1	4/13/2017 8:30:47 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	21	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	<1	1.000	1.000		MPN/100	1	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Benzoic acid	33	20	100	JD	µg/L	1	4/14/2017 4:52:02 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Bis(2-ethylhexyl)phthalate	30	24	50	JD	µg/L	1	4/14/2017 4:52:02 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Di-n-octyl phthalate	31	23	50	JD	µg/L	1	4/14/2017 4:52:02 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Dibenzofuran	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
3+4-Methylphenol	ND	16	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Phenol	ND	16	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Pyridine	ND	11	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/14/2017 4:52:02 PM	31059
Surr: 2-Fluorophenol	30.7	0	15-98.1	D	%Rec	1	4/14/2017 4:52:02 PM	31059
Surr: Phenol-d5	25.5	0	15-80.7	D	%Rec	1	4/14/2017 4:52:02 PM	31059
Surr: 2,4,6-Tribromophenol	41.4	0	15-112	D	%Rec	1	4/14/2017 4:52:02 PM	31059
Surr: Nitrobenzene-d5	64.8	0	27.2-90.7	D	%Rec	1	4/14/2017 4:52:02 PM	31059
Surr: 2-Fluorobiphenyl	37.4	0	23.3-85.6	D	%Rec	1	4/14/2017 4:52:02 PM	31059
Surr: 4-Terphenyl-d14	19.4	0	27.6-107	SD	%Rec	1	4/14/2017 4:52:02 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.96	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Toluene	ND	0.89	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2,4-Trimethylbenzene	2.5	1.0	5.0	JD	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Acetone	9.2	8.8	50	JD	µg/L	10	4/3/2017 8:45:01 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
2-Butanone	ND	11	50	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Carbon disulfide	ND	6.0	50	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853

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EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	4/3/2017 8:45:01 PM	R41853
Surr: 1,2-Dichloroethane-d4	91.3	0	70-130	D	%Rec	10	4/3/2017 8:45:01 PM	R41853
Surr: 4-Bromofluorobenzene	107	0	70-130	D	%Rec	10	4/3/2017 8:45:01 PM	R41853
Surr: Dibromofluoromethane	97.4	0	70-130	D	%Rec	10	4/3/2017 8:45:01 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 10:25:00 AM
Lab ID: 1703F34-009
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Toluene-d8	94.1	0	70-130	D	%Rec	10	4/3/2017 8:45:01 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	4120	200	200		mg/l	20	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	190000	100	100		µmhos/c	100	4/4/2017 2:40:16 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	8.02			H	pH units	1	4/3/2017 3:20:19 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	104000	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:10:00 AM
Lab ID: 1703F34-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	21	1.0	2.0	*	mg/L	20	4/7/2017 5:50:34 PM	R41969
Chloride	4900	120	250		mg/L	500	4/7/2017 6:02:59 PM	R41969
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/31/2017 11:06:37 PM	A41794
Bromide	4.6	0.15	0.50		mg/L	5	3/31/2017 10:54:12 PM	A41794
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/31/2017 10:54:12 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/31/2017 10:54:12 PM	A41794
Sulfate	1600	48	250		mg/L	500	4/7/2017 6:02:59 PM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.12	0.00085	0.0020		mg/L	1	4/5/2017 9:33:03 PM	A41931
Cadmium	ND	0.0010	0.0020		mg/L	1	4/5/2017 9:33:03 PM	A41931
Calcium	370	5.0	10		mg/L	10	4/5/2017 9:34:52 PM	A41931
Chromium	0.010	0.0010	0.0060		mg/L	1	4/5/2017 9:33:03 PM	A41931
Copper	ND	0.0032	0.0060		mg/L	1	4/5/2017 9:33:03 PM	A41931
Iron	0.30	0.020	0.020		mg/L	1	4/5/2017 9:33:03 PM	A41931
Magnesium	130	5.0	10		mg/L	10	4/5/2017 9:34:52 PM	A41931
Manganese	0.36	0.00038	0.0020	*	mg/L	1	4/5/2017 9:33:03 PM	A41931
Potassium	270	5.0	10		mg/L	10	4/5/2017 9:34:52 PM	A41931
Silver	ND	0.00088	0.0050		mg/L	1	4/5/2017 9:33:03 PM	A41931
Sodium	3800	50	100		mg/L	100	4/6/2017 10:24:29 PM	C41953
Zinc	0.0076	0.0011	0.010	J	mg/L	1	4/5/2017 9:33:03 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.12	0.00079	0.0020		mg/L	1	4/7/2017 4:25:00 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:31:51 PM	31104
Chromium	0.0079	0.0027	0.0060		mg/L	1	4/7/2017 4:25:00 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 4:25:00 AM	31104
Iron	0.70	0.020	0.020	*	mg/L	1	4/12/2017 7:40:18 PM	31177
Manganese	0.41	0.00027	0.0020	*	mg/L	1	4/7/2017 4:25:00 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 4:25:00 AM	31104
Zinc	0.0074	0.0027	0.010	J	mg/L	1	4/12/2017 7:40:18 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.023	0.00089	0.0050	*	mg/L	5	4/11/2017 9:03:58 PM	C42036
Lead	ND	0.00084	0.0025		mg/L	5	4/11/2017 9:03:58 PM	C42036
Selenium	0.042	0.0019	0.0050		mg/L	5	4/11/2017 9:03:58 PM	C42036
Uranium	0.0012	0.00025	0.0025	J	mg/L	5	4/12/2017 6:56:47 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.026	0.0011	0.0050	*	mg/L	5	4/12/2017 3:08:05 PM	31177
Lead	0.00050	0.00041	0.0025	J	mg/L	5	4/12/2017 3:08:05 PM	31177

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:10:00 AM
Lab ID: 1703F34-010 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Selenium	0.048	0.00094	0.0050		mg/L	5	4/12/2017 3:08:05 PM	31177
Uranium	0.0011	0.00087	0.0025	J	mg/L	5	4/12/2017 3:08:05 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000060	0.000037	0.00020	J	mg/L	1	4/13/2017 8:32:45 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	59	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	10	10.00	10.00		MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Benzoic acid	32	20	100	JD	µg/L	1	4/6/2017 5:40:14 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Bis(2-ethylhexyl)phthalate	27	24	50	JD	µg/L	1	4/6/2017 5:40:14 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:10:00 AM
Lab ID: 1703F34-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
3+4-Methylphenol	ND	16	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Phenol	ND	16	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:10:00 AM
Lab ID: 1703F34-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 5:40:14 PM	31059
Surr: 2-Fluorophenol	39.6	0	15-98.1	D	%Rec	1	4/6/2017 5:40:14 PM	31059
Surr: Phenol-d5	29.8	0	15-80.7	D	%Rec	1	4/6/2017 5:40:14 PM	31059
Surr: 2,4,6-Tribromophenol	61.9	0	15-112	D	%Rec	1	4/6/2017 5:40:14 PM	31059
Surr: Nitrobenzene-d5	57.3	0	27.2-90.7	D	%Rec	1	4/6/2017 5:40:14 PM	31059
Surr: 2-Fluorobiphenyl	50.0	0	23.3-85.6	D	%Rec	1	4/6/2017 5:40:14 PM	31059
Surr: 4-Terphenyl-d14	53.3	0	27.6-107	D	%Rec	1	4/6/2017 5:40:14 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.96	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Toluene	ND	0.89	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2,4-Trimethylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Acetone	11	8.8	50	JD	µg/L	10	4/3/2017 9:14:10 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
2-Butanone	ND	11	50	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Carbon disulfide	ND	6.0	50	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 9:14:10 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:10:00 AM
Lab ID: 1703F34-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	4/3/2017 9:14:10 PM	R41853
Surr: 1,2-Dichloroethane-d4	87.4	0	70-130	D	%Rec	10	4/3/2017 9:14:10 PM	R41853
Surr: 4-Bromofluorobenzene	104	0	70-130	D	%Rec	10	4/3/2017 9:14:10 PM	R41853

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:10:00 AM
Lab ID: 1703F34-010 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Dibromofluoromethane	96.3	0	70-130	D	%Rec	10	4/3/2017 9:14:10 PM	R41853
Surr: Toluene-d8	97.5	0	70-130	D	%Rec	10	4/3/2017 9:14:10 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	721	10	10		mg/l	1	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	26000	10	10		µmhos/c	10	4/4/2017 2:44:45 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.91			H	pH units	1	4/3/2017 3:24:15 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	13600	591	1000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:20:00 AM
Lab ID: 1703F34-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	20	1.0	2.0	*	mg/L	20	4/7/2017 6:15:24 PM	R41969
Chloride	4300	120	250		mg/L	500	4/7/2017 6:27:49 PM	R41969
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/31/2017 11:31:26 PM	A41794
Bromide	2.7	0.15	0.50		mg/L	5	3/31/2017 11:19:01 PM	A41794
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/31/2017 11:19:01 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/31/2017 11:19:01 PM	A41794
Sulfate	1400	48	250		mg/L	500	4/7/2017 6:27:49 PM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.19	0.00085	0.0020		mg/L	1	4/5/2017 9:36:55 PM	A41931
Cadmium	ND	0.0010	0.0020		mg/L	1	4/5/2017 9:36:55 PM	A41931
Calcium	340	5.0	10		mg/L	10	4/5/2017 9:38:45 PM	A41931
Chromium	0.0086	0.0010	0.0060		mg/L	1	4/5/2017 9:36:55 PM	A41931
Copper	ND	0.0032	0.0060		mg/L	1	4/5/2017 9:36:55 PM	A41931
Iron	0.49	0.020	0.020	*	mg/L	1	4/5/2017 9:36:55 PM	A41931
Magnesium	100	5.0	10		mg/L	10	4/5/2017 9:38:45 PM	A41931
Manganese	0.38	0.00038	0.0020	*	mg/L	1	4/5/2017 9:36:55 PM	A41931
Potassium	290	5.0	10		mg/L	10	4/5/2017 9:38:45 PM	A41931
Silver	ND	0.00088	0.0050		mg/L	1	4/5/2017 9:36:55 PM	A41931
Sodium	3100	50	100		mg/L	100	4/6/2017 10:27:14 PM	C41953
Zinc	0.017	0.0011	0.010		mg/L	1	4/5/2017 9:36:55 PM	A41931
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.21	0.00079	0.0020		mg/L	1	4/7/2017 4:30:23 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:33:59 PM	31104
Chromium	0.0083	0.0027	0.0060		mg/L	1	4/7/2017 4:30:23 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 4:30:23 AM	31104
Iron	0.93	0.020	0.020	*	mg/L	1	4/12/2017 7:42:08 PM	31177
Manganese	0.37	0.00027	0.0020	*	mg/L	1	4/7/2017 4:30:23 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 4:30:23 AM	31104
Zinc	0.018	0.0027	0.010		mg/L	1	4/12/2017 7:42:08 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.017	0.00089	0.0050	*	mg/L	5	4/12/2017 7:09:01 PM	B42080
Lead	ND	0.00084	0.0025		mg/L	5	4/12/2017 7:09:01 PM	B42080
Selenium	0.030	0.0019	0.0050		mg/L	5	4/12/2017 7:09:01 PM	B42080
Uranium	0.0021	0.00025	0.0025	J	mg/L	5	4/12/2017 7:09:01 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.017	0.0011	0.0050	*	mg/L	5	4/12/2017 3:14:06 PM	31177
Lead	0.00087	0.00041	0.0025	J	mg/L	5	4/12/2017 3:14:06 PM	31177

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:20:00 AM
Lab ID: 1703F34-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Selenium	0.030	0.00094	0.0050		mg/L	5	4/12/2017 3:14:06 PM	31177
Uranium	0.0012	0.00087	0.0025	J	mg/L	5	4/12/2017 3:14:06 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000096	0.000037	0.00020	J	mg/L	1	4/13/2017 8:59:36 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	260	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	>24196	10.00	10.00		MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Benzoic acid	44	20	100	JD	µg/L	1	4/6/2017 6:08:26 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Bis(2-ethylhexyl)phthalate	31	24	50	JD	µg/L	1	4/6/2017 6:08:26 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:20:00 AM
Lab ID: 1703F34-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
3+4-Methylphenol	41	16	50	JD	µg/L	1	4/6/2017 6:08:26 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Phenol	45	16	50	JD	µg/L	1	4/6/2017 6:08:26 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:20:00 AM
Lab ID: 1703F34-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 6:08:26 PM	31059
Surr: 2-Fluorophenol	26.2	0	15-98.1	D	%Rec	1	4/6/2017 6:08:26 PM	31059
Surr: Phenol-d5	22.4	0	15-80.7	D	%Rec	1	4/6/2017 6:08:26 PM	31059
Surr: 2,4,6-Tribromophenol	34.9	0	15-112	D	%Rec	1	4/6/2017 6:08:26 PM	31059
Surr: Nitrobenzene-d5	68.6	0	27.2-90.7	D	%Rec	1	4/6/2017 6:08:26 PM	31059
Surr: 2-Fluorobiphenyl	47.7	0	23.3-85.6	D	%Rec	1	4/6/2017 6:08:26 PM	31059
Surr: 4-Terphenyl-d14	49.8	0	27.6-107	D	%Rec	1	4/6/2017 6:08:26 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	6.8	0.96	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Toluene	12	0.89	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Ethylbenzene	4.2	1.1	5.0	JD	µg/L	10	4/3/2017 9:43:01 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2,4-Trimethylbenzene	5.5	1.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Acetone	87	8.8	50	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Bromomethane	9.1	7.8	15	JD	µg/L	10	4/3/2017 9:43:01 PM	R41853
2-Butanone	25	11	50	JD	µg/L	10	4/3/2017 9:43:01 PM	R41853
Carbon disulfide	23	6.0	50	JD	µg/L	10	4/3/2017 9:43:01 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 9:43:01 PM	R41853

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:20:00 AM
Lab ID: 1703F34-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Xylenes, Total	13	3.2	7.5	D	µg/L	10	4/3/2017 9:43:01 PM	R41853
Surr: 1,2-Dichloroethane-d4	90.8	0	70-130	D	%Rec	10	4/3/2017 9:43:01 PM	R41853
Surr: 4-Bromofluorobenzene	111	0	70-130	D	%Rec	10	4/3/2017 9:43:01 PM	R41853

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:20:00 AM
Lab ID: 1703F34-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Dibromofluoromethane	96.9	0	70-130	D	%Rec	10	4/3/2017 9:43:01 PM	R41853
Surr: Toluene-d8	96.1	0	70-130	D	%Rec	10	4/3/2017 9:43:01 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	694	10	10		mg/l	1	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	20000	10	10		µmhos/c	10	4/4/2017 2:48:41 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.78			H	pH units	1	4/3/2017 3:28:09 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	10600	118	200	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:38:00 AM
Lab ID: 1703F34-012 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	11	2.5	5.0	*	mg/L	50	4/7/2017 6:40:13 PM	R41969
Chloride	64000	1200	2500		mg/L	5E+	4/7/2017 7:17:27 PM	R41969
Bromide	38	0.61	2.0		mg/L	20	3/31/2017 11:56:15 PM	A41794
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	3/31/2017 11:56:15 PM	A41794
Sulfate	12000	480	2500		mg/L	5E+	4/7/2017 7:17:27 PM	R41969
Nitrate+Nitrite as N	ND	5.2	40		mg/L	200	4/12/2017 7:38:35 PM	R42066
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.20	0.0085	0.020		mg/L	10	4/6/2017 7:07:41 PM	A41953
Cadmium	ND	0.010	0.020		mg/L	10	4/6/2017 7:07:41 PM	A41953
Calcium	1200	50	100		mg/L	100	4/27/2017 4:27:50 PM	A42438
Chromium	0.017	0.010	0.060	J	mg/L	10	4/6/2017 7:07:41 PM	A41953
Copper	ND	0.032	0.060		mg/L	10	4/6/2017 7:07:41 PM	A41953
Iron	ND	0.20	0.20		mg/L	10	4/6/2017 7:07:41 PM	A41953
Magnesium	1500	50	100		mg/L	100	4/27/2017 4:27:50 PM	A42438
Manganese	0.13	0.0038	0.020	*	mg/L	10	4/6/2017 7:07:41 PM	A41953
Potassium	1900	50	100		mg/L	100	4/27/2017 4:27:50 PM	A42438
Silver	ND	0.0088	0.050		mg/L	10	4/6/2017 7:07:41 PM	A41953
Sodium	54000	500	1000		mg/L	1E+	4/27/2017 4:29:14 PM	A42438
Zinc	0.071	0.011	0.10	J	mg/L	10	4/6/2017 7:07:41 PM	A41953
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.17	0.0040	0.010		mg/L	5	4/7/2017 5:35:43 PM	31104
Cadmium	ND	0.0074	0.010		mg/L	5	4/7/2017 5:35:43 PM	31104
Chromium	ND	0.013	0.030		mg/L	5	4/7/2017 5:35:43 PM	31104
Copper	ND	0.015	0.030		mg/L	5	4/7/2017 5:35:43 PM	31104
Iron	0.31	0.20	0.20	*	mg/L	10	4/13/2017 6:15:07 PM	31177
Manganese	0.55	0.0014	0.010	*	mg/L	5	4/7/2017 5:35:43 PM	31104
Silver	ND	0.0077	0.025		mg/L	5	4/14/2017 4:22:14 PM	31177
Zinc	0.016	0.013	0.050	J	mg/L	5	4/19/2017 8:27:58 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.12	0.0089	0.050	*	mg/L	50	4/14/2017 3:27:04 PM	B42148
Lead	ND	0.0084	0.025		mg/L	50	4/14/2017 3:27:04 PM	B42148
Selenium	0.17	0.019	0.050	*	mg/L	50	4/14/2017 3:27:04 PM	B42148
Uranium	0.0061	0.0025	0.025	J	mg/L	50	4/14/2017 3:27:04 PM	B42148
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.17	0.011	0.050	*	mg/L	50	4/12/2017 3:26:08 PM	31177
Lead	ND	0.0041	0.025		mg/L	50	4/12/2017 3:26:08 PM	31177
Selenium	0.31	0.0094	0.050	*	mg/L	50	4/12/2017 3:26:08 PM	31177

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:38:00 AM
Lab ID: 1703F34-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Uranium	ND	0.0087	0.025		mg/L	50	4/12/2017 3:26:08 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000047	0.000037	0.00020	J	mg/L	1	4/13/2017 9:01:36 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	18	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	<10	10.00	10.00		MPN/100	10	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Acenaphthylene	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Aniline	ND	15	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Anthracene	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Azobenzene	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Benz(a)anthracene	ND	19	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Benzo(a)pyrene	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Benzoic acid	31	20	100	JD	µg/L	1	4/6/2017 6:36:39 PM	31059
Benzyl alcohol	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Bis(2-ethylhexyl)phthalate	33	24	50	JD	µg/L	1	4/6/2017 6:36:39 PM	31059
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Carbazole	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
4-Chloroaniline	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2-Chloronaphthalene	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2-Chlorophenol	ND	38	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Chrysene	ND	19	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Dibenzofuran	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:38:00 AM
Lab ID: 1703F34-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Diethyl phthalate	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Dimethyl phthalate	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Fluoranthene	ND	21	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Fluorene	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Hexachlorobenzene	ND	19	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Hexachloroethane	ND	6.0	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Isophorone	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
1-Methylnaphthalene	ND	17	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2-Methylnaphthalene	ND	16	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2-Methylphenol	ND	17	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
3+4-Methylphenol	ND	16	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Naphthalene	ND	14	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2-Nitroaniline	ND	25	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
3-Nitroaniline	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
4-Nitroaniline	ND	20	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Nitrobenzene	ND	18	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2-Nitrophenol	ND	26	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
4-Nitrophenol	ND	27	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Pentachlorophenol	ND	25	100	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Phenanthrene	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Phenol	ND	16	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Pyrene	ND	22	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Pyridine	ND	11	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:38:00 AM
Lab ID: 1703F34-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	4/6/2017 6:36:39 PM	31059
Surr: 2-Fluorophenol	18.1	0	15-98.1	D	%Rec	1	4/6/2017 6:36:39 PM	31059
Surr: Phenol-d5	18.2	0	15-80.7	D	%Rec	1	4/6/2017 6:36:39 PM	31059
Surr: 2,4,6-Tribromophenol	31.5	0	15-112	D	%Rec	1	4/6/2017 6:36:39 PM	31059
Surr: Nitrobenzene-d5	55.6	0	27.2-90.7	D	%Rec	1	4/6/2017 6:36:39 PM	31059
Surr: 2-Fluorobiphenyl	38.5	0	23.3-85.6	D	%Rec	1	4/6/2017 6:36:39 PM	31059
Surr: 4-Terphenyl-d14	26.1	0	27.6-107	SD	%Rec	1	4/6/2017 6:36:39 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.96	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Toluene	ND	0.89	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2,4-Trimethylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Acetone	12	8.8	50	JD	µg/L	10	4/3/2017 10:12:12 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
2-Butanone	17	11	50	JD	µg/L	10	4/3/2017 10:12:12 PM	R41853
Carbon disulfide	ND	6.0	50	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:38:00 AM
Lab ID: 1703F34-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	4/3/2017 10:12:12 PM	R41853
Surr: 1,2-Dichloroethane-d4	90.0	0	70-130	D	%Rec	10	4/3/2017 10:12:12 PM	R41853
Surr: 4-Bromofluorobenzene	109	0	70-130	D	%Rec	10	4/3/2017 10:12:12 PM	R41853
Surr: Dibromofluoromethane	97.9	0	70-130	D	%Rec	10	4/3/2017 10:12:12 PM	R41853

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 11:38:00 AM
Lab ID: 1703F34-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Toluene-d8	101	0	70-130	D	%Rec	10	4/3/2017 10:12:12 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	5430	200	200		mg/l	20	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	190000	100	100		µmhos/c	100	4/4/2017 2:52:36 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	8.07			H	pH units	1	4/3/2017 3:32:09 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	99100	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:05:00 PM
Lab ID: 1703F34-013 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	13	2.5	5.0	*	mg/L	50	4/7/2017 7:29:52 PM	R41969
Chloride	58000	1200	2500		mg/L	5E+	4/7/2017 7:42:17 PM	R41969
Bromide	23	0.61	2.0		mg/L	20	4/1/2017 12:21:04 AM	A41794
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	4/1/2017 12:21:04 AM	A41794
Sulfate	5600	480	2500		mg/L	5E+	4/7/2017 7:42:17 PM	R41969
Nitrate+Nitrite as N	ND	5.2	40		mg/L	200	4/7/2017 10:36:04 PM	R41969
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.27	0.0085	0.020		mg/L	10	4/11/2017 5:34:31 PM	A42051
Cadmium	ND	0.010	0.020		mg/L	10	4/11/2017 5:34:31 PM	A42051
Calcium	850	5.0	10		mg/L	10	4/11/2017 5:34:31 PM	A42051
Chromium	ND	0.010	0.060		mg/L	10	4/11/2017 5:34:31 PM	A42051
Copper	ND	0.032	0.060		mg/L	10	4/11/2017 5:34:31 PM	A42051
Iron	ND	0.20	0.20		mg/L	10	4/11/2017 5:34:31 PM	A42051
Magnesium	1300	50	100		mg/L	100	4/27/2017 4:36:06 PM	A42438
Manganese	1.1	0.0038	0.020	*	mg/L	10	4/11/2017 5:34:31 PM	A42051
Potassium	1500	50	100		mg/L	100	4/27/2017 4:36:06 PM	A42438
Silver	ND	0.0088	0.050		mg/L	10	4/11/2017 5:34:31 PM	A42051
Sodium	47000	500	1000		mg/L	1E+	4/27/2017 4:37:28 PM	A42438
Zinc	0.081	0.011	0.10	J	mg/L	10	4/11/2017 5:34:31 PM	A42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.26	0.0040	0.010		mg/L	5	4/7/2017 5:37:46 PM	31104
Cadmium	ND	0.0074	0.010		mg/L	5	4/7/2017 5:37:46 PM	31104
Chromium	ND	0.013	0.030		mg/L	5	4/7/2017 5:37:46 PM	31104
Copper	ND	0.015	0.030		mg/L	5	4/7/2017 5:37:46 PM	31104
Iron	1.8	0.20	0.20	*	mg/L	10	4/13/2017 6:17:34 PM	31177
Manganese	1.4	0.0027	0.020	*	mg/L	10	4/7/2017 4:52:54 AM	31104
Silver	ND	0.0077	0.025		mg/L	5	4/14/2017 4:25:39 PM	31177
Zinc	0.022	0.013	0.050	J	mg/L	5	4/19/2017 8:29:44 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.10	0.0089	0.050	*	mg/L	50	4/14/2017 3:34:42 PM	B42148
Lead	ND	0.0084	0.025		mg/L	50	4/14/2017 3:34:42 PM	B42148
Selenium	0.12	0.019	0.050	*	mg/L	50	4/14/2017 3:34:42 PM	B42148
Uranium	0.0025	0.0025	0.025	J	mg/L	50	4/14/2017 3:34:42 PM	B42148
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.13	0.011	0.050	*	mg/L	50	4/12/2017 3:38:13 PM	31177
Lead	ND	0.0041	0.025		mg/L	50	4/12/2017 3:38:13 PM	31177
Selenium	0.23	0.0094	0.050	*	mg/L	50	4/12/2017 3:38:13 PM	31177

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:05:00 PM
Lab ID: 1703F34-013
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Uranium	ND	0.0087	0.025		mg/L	50	4/12/2017 3:38:13 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000047	0.000037	0.00020	J	mg/L	1	4/13/2017 9:03:36 AM	31202
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	30	2.0	2.0		mg/L	1	4/5/2017 1:49:00 PM	31012
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **LGT**	
E. Coli	<1	1.000	1.000		MPN/100	1	3/31/2017 5:48:00 PM	31004
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Acenaphthylene	ND	3.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Aniline	ND	3.1	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Anthracene	ND	3.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Azobenzene	ND	4.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Benzoic acid	6.1	3.9	20	J	µg/L	1	4/6/2017 7:04:53 PM	31059
Benzyl alcohol	ND	4.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Bis(2-ethylhexyl)phthalate	6.2	4.8	10	J	µg/L	1	4/6/2017 7:04:53 PM	31059
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Carbazole	ND	4.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
4-Chloroaniline	ND	3.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2-Chlorophenol	ND	7.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Chrysene	ND	3.8	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Dibenzofuran	ND	4.1	10		µg/L	1	4/6/2017 7:04:53 PM	31059

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:05:00 PM
Lab ID: 1703F34-013
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/6/2017 7:04:53 PM	31059
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/6/2017 7:04:53 PM	31059
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Diethyl phthalate	ND	4.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/6/2017 7:04:53 PM	31059
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/6/2017 7:04:53 PM	31059
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/6/2017 7:04:53 PM	31059
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/6/2017 7:04:53 PM	31059
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Fluoranthene	ND	4.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Fluorene	ND	4.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Hexachloroethane	ND	1.2	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Isophorone	ND	4.4	10		µg/L	1	4/6/2017 7:04:53 PM	31059
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2-Methylphenol	ND	3.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/6/2017 7:04:53 PM	31059
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Naphthalene	ND	2.9	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2-Nitroaniline	ND	4.9	10		µg/L	1	4/6/2017 7:04:53 PM	31059
3-Nitroaniline	ND	4.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
4-Nitroaniline	ND	4.0	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Nitrobenzene	ND	3.6	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2-Nitrophenol	ND	5.2	10		µg/L	1	4/6/2017 7:04:53 PM	31059
4-Nitrophenol	ND	5.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Pentachlorophenol	ND	4.9	20		µg/L	1	4/6/2017 7:04:53 PM	31059
Phenanthrene	ND	4.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Phenol	ND	3.1	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Pyrene	ND	4.4	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Pyridine	ND	2.3	10		µg/L	1	4/6/2017 7:04:53 PM	31059

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:05:00 PM
Lab ID: 1703F34-013
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/6/2017 7:04:53 PM	31059
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/6/2017 7:04:53 PM	31059
Surr: 2-Fluorophenol	15.1	0	15-98.1		%Rec	1	4/6/2017 7:04:53 PM	31059
Surr: Phenol-d5	23.6	0	15-80.7		%Rec	1	4/6/2017 7:04:53 PM	31059
Surr: 2,4,6-Tribromophenol	20.3	0	15-112		%Rec	1	4/6/2017 7:04:53 PM	31059
Surr: Nitrobenzene-d5	63.9	0	27.2-90.7		%Rec	1	4/6/2017 7:04:53 PM	31059
Surr: 2-Fluorobiphenyl	34.3	0	23.3-85.6		%Rec	1	4/6/2017 7:04:53 PM	31059
Surr: 4-Terphenyl-d14	26.1	0	27.6-107	S	%Rec	1	4/6/2017 7:04:53 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.96	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Toluene	ND	0.89	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Ethylbenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2,4-Trimethylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,3,5-Trimethylbenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2-Dichloroethane (EDC)	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Naphthalene	ND	0.83	10	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Acetone	12	8.8	50	JD	µg/L	10	4/3/2017 10:41:31 PM	R41853
Bromobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Bromoform	ND	2.1	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Bromomethane	ND	7.8	15	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
2-Butanone	ND	11	50	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Carbon disulfide	ND	6.0	50	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Chloroethane	ND	2.3	10	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Chloroform	ND	0.89	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Chloromethane	ND	2.1	15	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
cis-1,3-Dichloropropene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Dibromochloromethane	ND	0.78	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:05:00 PM
Lab ID: 1703F34-013
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromomethane	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2-Dichlorobenzene	ND	1.2	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,3-Dichlorobenzene	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Dichlorodifluoromethane	ND	3.2	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,1-Dichloroethane	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,3-Dichloropropane	ND	1.6	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
2,2-Dichloropropane	ND	1.2	10	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,1-Dichloropropene	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Hexachlorobutadiene	ND	3.7	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
2-Hexanone	ND	6.6	50	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Isopropylbenzene	ND	0.98	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
4-Isopropyltoluene	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Methylene Chloride	ND	1.1	15	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
n-Butylbenzene	ND	1.6	15	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
n-Propylbenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
sec-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Styrene	ND	1.6	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,1,1,2-Tetrachloroethane	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Tetrachloroethene (PCE)	ND	1.5	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
trans-1,3-Dichloropropene	ND	0.89	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2,3-Trichlorobenzene	ND	1.1	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2,4-Trichlorobenzene	ND	1.3	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Trichloroethene (TCE)	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	4/3/2017 10:41:31 PM	R41853
Surr: 1,2-Dichloroethane-d4	90.9	0	70-130	D	%Rec	10	4/3/2017 10:41:31 PM	R41853
Surr: 4-Bromofluorobenzene	104	0	70-130	D	%Rec	10	4/3/2017 10:41:31 PM	R41853
Surr: Dibromofluoromethane	100	0	70-130	D	%Rec	10	4/3/2017 10:41:31 PM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:05:00 PM
Lab ID: 1703F34-013
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Toluene-d8	100	0	70-130	D	%Rec	10	4/3/2017 10:41:31 PM	R41853
EPA METHOD 410.4: COD							Analyst: **SUB**	
Chemical Oxygen Demand	5590	200	200		mg/l	20	4/4/2017	R42566
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	180000	100	100		µmhos/c	100	4/4/2017 2:57:04 PM	R41894
SM4500-H+B / 9040C: PH							Analyst: **JRR**	
pH	7.65			H	pH units	1	4/3/2017 3:36:02 PM	R41861
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	88800	1180	2000	*D	mg/L	1	4/8/2017 2:06:00 PM	31114

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-4
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:20:00 PM
Lab ID: 1703F34-014
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Nitrogen, Nitrate (As N)	0.51	0.022	0.10		mg/L	1	4/1/2017 12:58:18 AM	A41794
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.013	0.00085	0.0020		mg/L	1	4/6/2017 10:53:02 PM	C41953
Cadmium	ND	0.0010	0.0020		mg/L	1	4/6/2017 10:53:02 PM	C41953
Chromium	ND	0.0010	0.0060		mg/L	1	4/6/2017 10:53:02 PM	C41953
Copper	ND	0.0032	0.0060		mg/L	1	4/6/2017 10:53:02 PM	C41953
Iron	0.074	0.020	0.020		mg/L	1	4/6/2017 10:53:02 PM	C41953
Manganese	0.00088	0.00038	0.0020	J	mg/L	1	4/6/2017 10:53:02 PM	C41953
Silver	ND	0.00088	0.0050		mg/L	1	4/6/2017 10:53:02 PM	C41953
Zinc	0.031	0.0011	0.010		mg/L	1	4/6/2017 10:53:02 PM	C41953
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.012	0.00079	0.0020		mg/L	1	4/7/2017 4:55:26 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:39:47 PM	31104
Chromium	ND	0.0027	0.0060		mg/L	1	4/7/2017 4:55:26 AM	31104
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 5:39:47 PM	31104
Iron	0.15	0.020	0.020		mg/L	1	4/12/2017 7:57:26 PM	31177
Manganese	0.00087	0.00027	0.0020	J	mg/L	1	4/7/2017 4:55:26 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 4:55:26 AM	31104
Zinc	ND	0.0027	0.010		mg/L	1	4/12/2017 7:57:26 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0030	0.00018	0.0010		mg/L	1	4/12/2017 7:36:34 PM	B42080
Lead	ND	0.00017	0.00050		mg/L	1	4/12/2017 7:36:34 PM	B42080
Selenium	0.0018	0.00039	0.0010		mg/L	1	4/12/2017 7:36:34 PM	B42080
Uranium	0.0015	0.000050	0.00050		mg/L	1	4/12/2017 7:36:34 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0032	0.00021	0.0010		mg/L	1	4/12/2017 2:06:36 PM	31177
Lead	ND	0.000081	0.00050		mg/L	1	4/12/2017 2:06:36 PM	31177
Selenium	0.0013	0.00094	0.0050	J	mg/L	5	4/12/2017 3:41:14 PM	31177
Uranium	0.0015	0.00017	0.00050		mg/L	1	4/12/2017 2:06:36 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000052	0.000037	0.00020	J	mg/L	1	4/13/2017 9:05:36 AM	31202
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Acenaphthylene	ND	3.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Aniline	ND	3.1	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Anthracene	ND	3.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 3/30/2017 12:20:00 PM
Lab ID: 1703F34-014
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Azobenzene	ND	4.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Benzoic acid	7.4	3.9	20	J	µg/L	1	4/6/2017 7:33:02 PM	31059
Benzyl alcohol	ND	4.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Bis(2-ethylhexyl)phthalate	6.9	4.8	10	J	µg/L	1	4/6/2017 7:33:02 PM	31059
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Carbazole	ND	4.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
4-Chloroaniline	ND	3.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2-Chlorophenol	ND	7.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Chrysene	ND	3.8	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Dibenzofuran	ND	4.1	10		µg/L	1	4/6/2017 7:33:02 PM	31059
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/6/2017 7:33:02 PM	31059
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/6/2017 7:33:02 PM	31059
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Diethyl phthalate	ND	4.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/6/2017 7:33:02 PM	31059
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/6/2017 7:33:02 PM	31059
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/6/2017 7:33:02 PM	31059
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/6/2017 7:33:02 PM	31059
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Fluoranthene	ND	4.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Fluorene	ND	4.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059

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Lab ID: 1703F34-014
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Hexachloroethane	ND	1.2	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Isophorone	ND	4.4	10		µg/L	1	4/6/2017 7:33:02 PM	31059
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2-Methylphenol	ND	3.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/6/2017 7:33:02 PM	31059
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Naphthalene	ND	2.9	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2-Nitroaniline	ND	4.9	10		µg/L	1	4/6/2017 7:33:02 PM	31059
3-Nitroaniline	ND	4.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
4-Nitroaniline	ND	4.0	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Nitrobenzene	ND	3.6	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2-Nitrophenol	ND	5.2	10		µg/L	1	4/6/2017 7:33:02 PM	31059
4-Nitrophenol	ND	5.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Pentachlorophenol	ND	4.9	20		µg/L	1	4/6/2017 7:33:02 PM	31059
Phenanthrene	ND	4.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Phenol	ND	3.1	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Pyrene	ND	4.4	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Pyridine	ND	2.3	10		µg/L	1	4/6/2017 7:33:02 PM	31059
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/6/2017 7:33:02 PM	31059
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/6/2017 7:33:02 PM	31059
Surr: 2-Fluorophenol	30.1	0	15-98.1		%Rec	1	4/6/2017 7:33:02 PM	31059
Surr: Phenol-d5	25.1	0	15-80.7		%Rec	1	4/6/2017 7:33:02 PM	31059
Surr: 2,4,6-Tribromophenol	39.5	0	15-112		%Rec	1	4/6/2017 7:33:02 PM	31059
Surr: Nitrobenzene-d5	68.6	0	27.2-90.7		%Rec	1	4/6/2017 7:33:02 PM	31059
Surr: 2-Fluorobiphenyl	61.9	0	23.3-85.6		%Rec	1	4/6/2017 7:33:02 PM	31059
Surr: 4-Terphenyl-d14	35.2	0	27.6-107		%Rec	1	4/6/2017 7:33:02 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	ND	0.096	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Toluene	ND	0.089	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Ethylbenzene	ND	0.11	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Methyl tert-butyl ether (MTBE)	ND	0.15	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853

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Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:20:00 PM
Lab ID: 1703F34-014
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
1,2,4-Trimethylbenzene	ND	0.10	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,3,5-Trimethylbenzene	ND	0.12	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2-Dichloroethane (EDC)	ND	0.12	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2-Dibromoethane (EDB)	ND	0.13	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Naphthalene	ND	0.083	1.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
1-Methylnaphthalene	ND	0.16	2.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
2-Methylnaphthalene	ND	0.15	2.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Acetone	1.2	0.88	5.0	J	µg/L	1	4/3/2017 11:10:38 PM	R41853
Bromobenzene	ND	0.14	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Bromodichloromethane	ND	0.18	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Bromoform	ND	0.21	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Bromomethane	ND	0.78	1.5		µg/L	1	4/3/2017 11:10:38 PM	R41853
2-Butanone	ND	1.1	5.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Carbon disulfide	ND	0.60	5.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Carbon Tetrachloride	ND	0.11	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Chlorobenzene	ND	0.11	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Chloroethane	ND	0.23	1.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Chloroform	ND	0.089	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Chloromethane	ND	0.21	1.5		µg/L	1	4/3/2017 11:10:38 PM	R41853
2-Chlorotoluene	ND	0.40	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
4-Chlorotoluene	ND	0.40	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
cis-1,2-DCE	ND	0.20	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
cis-1,3-Dichloropropene	ND	0.10	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2-Dibromo-3-chloropropane	ND	1.4	1.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Dibromochloromethane	ND	0.078	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Dibromomethane	ND	0.12	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2-Dichlorobenzene	ND	0.12	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,3-Dichlorobenzene	ND	0.14	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,4-Dichlorobenzene	ND	0.40	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Dichlorodifluoromethane	ND	0.32	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,1-Dichloroethane	ND	0.10	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,1-Dichloroethene	ND	0.081	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2-Dichloropropane	ND	0.10	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,3-Dichloropropane	ND	0.16	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
2,2-Dichloropropane	ND	0.12	1.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,1-Dichloropropene	ND	0.13	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Hexachlorobutadiene	ND	0.37	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
2-Hexanone	ND	0.66	5.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Isopropylbenzene	ND	0.098	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
4-Isopropyltoluene	ND	0.14	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
4-Methyl-2-pentanone	ND	0.71	5.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Methylene Chloride	ND	0.11	1.5		µg/L	1	4/3/2017 11:10:38 PM	R41853
n-Butylbenzene	ND	0.16	1.5		µg/L	1	4/3/2017 11:10:38 PM	R41853
n-Propylbenzene	ND	0.13	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
sec-Butylbenzene	ND	0.10	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Styrene	ND	0.16	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
tert-Butylbenzene	ND	0.10	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,1,1,2-Tetrachloroethane	ND	0.11	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,1,2,2-Tetrachloroethane	ND	0.14	1.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Tetrachloroethene (PCE)	ND	0.15	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
trans-1,2-DCE	ND	0.18	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
trans-1,3-Dichloropropene	ND	0.089	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2,3-Trichlorobenzene	ND	0.11	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2,4-Trichlorobenzene	ND	0.13	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,1,1-Trichloroethane	ND	0.073	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,1,2-Trichloroethane	ND	0.14	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Trichloroethene (TCE)	ND	0.18	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Trichlorofluoromethane	ND	0.18	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
1,2,3-Trichloropropane	ND	0.39	1.0		µg/L	1	4/3/2017 11:10:38 PM	R41853
Vinyl chloride	ND	0.18	0.50		µg/L	1	4/3/2017 11:10:38 PM	R41853
Xylenes, Total	ND	0.32	0.75		µg/L	1	4/3/2017 11:10:38 PM	R41853
Surr: 1,2-Dichloroethane-d4	85.6	0	70-130		%Rec	1	4/3/2017 11:10:38 PM	R41853
Surr: 4-Bromofluorobenzene	112	0	70-130		%Rec	1	4/3/2017 11:10:38 PM	R41853
Surr: Dibromofluoromethane	96.2	0	70-130		%Rec	1	4/3/2017 11:10:38 PM	R41853
Surr: Toluene-d8	98.8	0	70-130		%Rec	1	4/3/2017 11:10:38 PM	R41853
EPA 335.4: TOTAL CYANIDE SUBBED							Analyst: **SUB**	
Cyanide	ND	0.00500	0.00500		mg/l	1	4/5/2017	R42566

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Hall Environmental Analysis Laboratory, Inc.

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Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:40:00 PM
Lab ID: 1703F34-015
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	5.8	0.36	1.0		mg/L	1	4/6/2017 1:41:01 PM	31110
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	4/6/2017 1:41:01 PM	31110
Surr: DNOP	104	0	72.4-157		%Rec	1	4/6/2017 1:41:01 PM	31110
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.27	0.050	0.10		mg/L	1	4/7/2017 7:54:41 PM	R41969
Chloride	160	5.0	10		mg/L	20	4/1/2017 2:00:22 AM	A41794
Nitrogen, Nitrite (As N)	ND	0.019	0.10		mg/L	1	4/1/2017 1:23:07 AM	A41794
Bromide	2.2	0.031	0.10		mg/L	1	4/1/2017 1:23:07 AM	A41794
Nitrogen, Nitrate (As N)	0.064	0.022	0.10	J	mg/L	1	4/1/2017 1:23:07 AM	A41794
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	4/1/2017 1:23:07 AM	A41794
Sulfate	4.1	0.096	0.50		mg/L	1	4/1/2017 1:23:07 AM	A41794
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.4	0.0085	0.020		mg/L	10	4/6/2017 11:04:34 PM	C41953
Cadmium	ND	0.0010	0.0020		mg/L	1	4/6/2017 11:01:42 PM	C41953
Calcium	39	0.50	1.0		mg/L	1	4/6/2017 11:01:42 PM	C41953
Chromium	ND	0.0010	0.0060		mg/L	1	4/6/2017 11:01:42 PM	C41953
Copper	ND	0.0032	0.0060		mg/L	1	4/6/2017 11:01:42 PM	C41953
Iron	0.50	0.020	0.020	*	mg/L	1	4/6/2017 11:01:42 PM	C41953
Magnesium	6.2	0.50	1.0		mg/L	1	4/6/2017 11:01:42 PM	C41953
Manganese	0.69	0.00038	0.0020	*	mg/L	1	4/6/2017 11:01:42 PM	C41953
Potassium	4.8	0.50	1.0		mg/L	1	4/6/2017 11:01:42 PM	C41953
Silver	ND	0.00088	0.0050		mg/L	1	4/6/2017 11:01:42 PM	C41953
Sodium	260	5.0	10		mg/L	10	4/6/2017 11:04:34 PM	C41953
Zinc	0.030	0.0011	0.010		mg/L	1	4/6/2017 11:01:42 PM	C41953
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.4	0.0079	0.020	*	mg/L	10	4/7/2017 5:01:59 AM	31104
Cadmium	ND	0.0015	0.0020		mg/L	1	4/7/2017 5:41:48 PM	31104
Chromium	0.0061	0.0027	0.0060		mg/L	1	4/7/2017 5:00:15 AM	31104
Copper	0.0069	0.0030	0.0060		mg/L	1	4/7/2017 5:41:48 PM	31104
Iron	6.3	0.20	0.20	*	mg/L	10	4/12/2017 8:01:09 PM	31177
Manganese	2.5	0.0027	0.020	*	mg/L	10	4/7/2017 5:01:59 AM	31104
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 5:00:15 AM	31104
Zinc	0.014	0.0027	0.010		mg/L	1	4/12/2017 7:59:29 PM	31177
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0084	0.00089	0.0050		mg/L	5	4/12/2017 7:45:43 PM	B42080
Lead	0.00053	0.00017	0.00050		mg/L	1	4/12/2017 7:42:40 PM	B42080
Selenium	ND	0.0077	0.020		mg/L	20	4/14/2017 3:38:23 PM	B42148

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Uranium	0.0028	0.000050	0.00050		mg/L	1	4/12/2017 7:42:40 PM	B42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.010	0.0011	0.0050	*	mg/L	5	4/12/2017 3:44:14 PM	31177
Lead	0.0092	0.000081	0.00050		mg/L	1	4/12/2017 2:09:37 PM	31177
Selenium	0.013	0.00094	0.0050		mg/L	5	4/12/2017 3:44:14 PM	31177
Uranium	0.0042	0.00017	0.00050		mg/L	1	4/12/2017 2:09:37 PM	31177
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000062	0.000037	0.00020	J	mg/L	1	4/13/2017 9:11:32 AM	31202
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Acenaphthylene	ND	3.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Aniline	ND	3.1	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Anthracene	ND	3.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Azobenzene	ND	4.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Benzoic acid	19	3.9	20	J	µg/L	1	4/6/2017 8:01:07 PM	31059
Benzyl alcohol	ND	4.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Bis(2-ethylhexyl)phthalate	6.7	4.8	10	J	µg/L	1	4/6/2017 8:01:07 PM	31059
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Carbazole	ND	4.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
4-Chloroaniline	ND	3.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2-Chlorophenol	ND	7.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Chrysene	ND	3.8	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Di-n-octyl phthalate	5.1	4.7	10	J	µg/L	1	4/6/2017 8:01:07 PM	31059
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Dibenzofuran	ND	4.1	10		µg/L	1	4/6/2017 8:01:07 PM	31059

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/6/2017 8:01:07 PM	31059
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/6/2017 8:01:07 PM	31059
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Diethyl phthalate	ND	4.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/6/2017 8:01:07 PM	31059
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/6/2017 8:01:07 PM	31059
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/6/2017 8:01:07 PM	31059
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/6/2017 8:01:07 PM	31059
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Fluoranthene	ND	4.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Fluorene	ND	4.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Hexachloroethane	ND	1.2	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Isophorone	ND	4.4	10		µg/L	1	4/6/2017 8:01:07 PM	31059
1-Methylnaphthalene	45	3.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2-Methylnaphthalene	28	3.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2-Methylphenol	ND	3.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/6/2017 8:01:07 PM	31059
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Naphthalene	58	2.9	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2-Nitroaniline	ND	4.9	10		µg/L	1	4/6/2017 8:01:07 PM	31059
3-Nitroaniline	ND	4.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
4-Nitroaniline	ND	4.0	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Nitrobenzene	ND	3.6	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2-Nitrophenol	ND	5.2	10		µg/L	1	4/6/2017 8:01:07 PM	31059
4-Nitrophenol	ND	5.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Pentachlorophenol	ND	4.9	20		µg/L	1	4/6/2017 8:01:07 PM	31059
Phenanthrene	ND	4.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Phenol	7.1	3.1	10	J	µg/L	1	4/6/2017 8:01:07 PM	31059
Pyrene	ND	4.4	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Pyridine	ND	2.3	10		µg/L	1	4/6/2017 8:01:07 PM	31059

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/6/2017 8:01:07 PM	31059
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/6/2017 8:01:07 PM	31059
Surr: 2-Fluorophenol	24.2	0	15-98.1		%Rec	1	4/6/2017 8:01:07 PM	31059
Surr: Phenol-d5	19.6	0	15-80.7		%Rec	1	4/6/2017 8:01:07 PM	31059
Surr: 2,4,6-Tribromophenol	31.3	0	15-112		%Rec	1	4/6/2017 8:01:07 PM	31059
Surr: Nitrobenzene-d5	63.6	0	27.2-90.7		%Rec	1	4/6/2017 8:01:07 PM	31059
Surr: 2-Fluorobiphenyl	40.3	0	23.3-85.6		%Rec	1	4/6/2017 8:01:07 PM	31059
Surr: 4-Terphenyl-d14	39.1	0	27.6-107		%Rec	1	4/6/2017 8:01:07 PM	31059
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Benzene	8600	9.6	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Toluene	24	8.9	50	JD	µg/L	100	4/4/2017 12:09:13 AM	R41853
Ethylbenzene	380	11	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Methyl tert-butyl ether (MTBE)	100	15	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2,4-Trimethylbenzene	ND	10	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,3,5-Trimethylbenzene	ND	12	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2-Dichloroethane (EDC)	ND	12	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2-Dibromoethane (EDB)	ND	13	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Naphthalene	130	8.3	100	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1-Methylnaphthalene	88	16	200	JD	µg/L	100	4/4/2017 12:09:13 AM	R41853
2-Methylnaphthalene	61	15	200	JD	µg/L	100	4/4/2017 12:09:13 AM	R41853
Acetone	ND	88	500	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Bromobenzene	ND	14	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Bromodichloromethane	ND	18	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Bromoform	ND	21	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Bromomethane	ND	78	150	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
2-Butanone	ND	110	500	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Carbon disulfide	ND	60	500	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Carbon Tetrachloride	ND	11	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Chlorobenzene	ND	11	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Chloroethane	ND	23	100	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Chloroform	ND	8.9	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Chloromethane	ND	21	150	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
2-Chlorotoluene	ND	40	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
4-Chlorotoluene	ND	40	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
cis-1,2-DCE	ND	20	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
cis-1,3-Dichloropropene	ND	10	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2-Dibromo-3-chloropropane	ND	140	100	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Dibromochloromethane	ND	7.8	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853

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EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Dibromomethane	ND	12	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2-Dichlorobenzene	ND	12	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,3-Dichlorobenzene	ND	14	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,4-Dichlorobenzene	ND	40	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Dichlorodifluoromethane	ND	32	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,1-Dichloroethane	ND	10	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,1-Dichloroethene	ND	8.1	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2-Dichloropropane	ND	10	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,3-Dichloropropane	ND	16	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
2,2-Dichloropropane	ND	12	100	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,1-Dichloropropene	ND	13	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Hexachlorobutadiene	ND	37	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
2-Hexanone	ND	66	500	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Isopropylbenzene	20	9.8	50	JD	µg/L	100	4/4/2017 12:09:13 AM	R41853
4-Isopropyltoluene	ND	14	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
4-Methyl-2-pentanone	ND	71	500	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Methylene Chloride	ND	11	150	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
n-Butylbenzene	ND	16	150	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
n-Propylbenzene	45	13	50	JD	µg/L	100	4/4/2017 12:09:13 AM	R41853
sec-Butylbenzene	ND	10	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Styrene	ND	16	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
tert-Butylbenzene	ND	10	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,1,1,2-Tetrachloroethane	ND	11	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,1,2,2-Tetrachloroethane	ND	14	100	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Tetrachloroethene (PCE)	ND	15	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
trans-1,2-DCE	ND	18	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
trans-1,3-Dichloropropene	ND	8.9	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2,3-Trichlorobenzene	ND	11	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2,4-Trichlorobenzene	ND	13	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,1,1-Trichloroethane	ND	7.3	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,1,2-Trichloroethane	ND	14	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Trichloroethene (TCE)	ND	18	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Trichlorofluoromethane	ND	18	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
1,2,3-Trichloropropane	ND	39	100	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Vinyl chloride	ND	18	50	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Xylenes, Total	100	32	75	D	µg/L	100	4/4/2017 12:09:13 AM	R41853
Surr: 1,2-Dichloroethane-d4	88.4	0	70-130	D	%Rec	100	4/4/2017 12:09:13 AM	R41853
Surr: 4-Bromofluorobenzene	104	0	70-130	D	%Rec	100	4/4/2017 12:09:13 AM	R41853
Surr: Dibromofluoromethane	102	0	70-130	D	%Rec	100	4/4/2017 12:09:13 AM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 1st QTR Ground Water
Collection Date: 3/30/2017 12:40:00 PM
Lab ID: 1703F34-015
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **AG**	
Surr: Toluene-d8	98.0	0	70-130	D	%Rec	100	4/4/2017 12:09:13 AM	R41853
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	26	0.97	5.0	D	mg/L	100	4/4/2017 12:09:13 AM	R41853
Surr: BFB	97.9	0	70-130	D	%Rec	100	4/4/2017 12:09:13 AM	R41853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1330		20.0	2	04/04/2017 16:00	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1030		20.0	2	04/05/2017 15:19	WG967407

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	717		10.0	1	04/04/2017 16:01	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	802		10.0	1	04/04/2017 16:01	WG967032

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	990		10.0	1	04/04/2017 16:01	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	981		10.0	1	04/04/2017 16:03	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	3150		200	20	04/04/2017 16:03	WG967032

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	4120		200	20	04/04/2017 18:16	WG967150

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	721		10.0	1	04/04/2017 18:16	WG967150

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	694		10.0	1	04/04/2017 18:16	WG967150

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	5430		200	20	04/04/2017 18:16	WG967150

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	5590		200	20	04/04/2017 18:16	WG967150

Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	04/05/2017 16:42	WG967152

Method Blank (MB)

(MB) R3208168-1 04/04/17 15:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L899935-01 Original Sample (OS) • Duplicate (DUP)

(OS) L899935-01 04/04/17 15:57 • (DUP) R3208168-6 04/04/17 15:57

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	80.8	81.9	1	1		20

L900009-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900009-01 04/04/17 15:59 • (DUP) R3208168-7 04/04/17 15:59

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	211	215	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208168-2 04/04/17 15:56 • (LCSD) R3208168-3 04/04/17 15:56

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	252	252	104	104	90-110			0	20

L899728-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899728-01 04/04/17 15:56 • (MS) R3208168-4 04/04/17 15:56 • (MSD) R3208168-5 04/04/17 15:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	16.8	429	432	103	104	1	80-120			0	20

Method Blank (MB)

(MB) R3208215-1 04/04/17 18:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
COD	U		3	10.0

L900033-02 Original Sample (OS) • Duplicate (DUP)

(OS) L900033-02 04/04/17 18:17 • (DUP) R3208215-6 04/04/17 18:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	ND	7.99	1	0		20

L900094-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900094-01 04/04/17 18:19 • (DUP) R3208215-7 04/04/17 18:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	76.2	75.9	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208215-2 04/04/17 18:15 • (LCSD) R3208215-3 04/04/17 18:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
COD	242	252	252	104	104	90-110			0	20

L900033-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L900033-01 04/04/17 18:16 • (MS) R3208215-4 04/04/17 18:17 • (MSD) R3208215-5 04/04/17 18:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	400	14.6	396	392	95	94	1	80-120			1	20

Method Blank (MB)

(MB) R3208484-1 04/05/17 15:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L900276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900276-01 04/05/17 15:22 • (DUP) R3208484-6 04/05/17 15:22

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	15.2	15.3	1	0		20

L900361-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900361-01 04/05/17 15:24 • (DUP) R3208484-7 04/05/17 15:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	63.2	65.8	1	4		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208484-2 04/05/17 15:18 • (LCSD) R3208484-3 04/05/17 15:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	233	235	96	97	90-110			1	20

L900199-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L900199-01 04/05/17 15:19 • (MS) R3208484-4 04/05/17 15:19 • (MSD) R3208484-5 04/05/17 15:20

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	ND	415	415	101	101	1	80-120			0	20

Method Blank (MB)

(MB) R3208541-1 04/05/17 16:12

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L899920-02 Original Sample (OS) • Duplicate (DUP)

(OS) L899920-02 04/05/17 16:21 • (DUP) R3208541-4 04/05/17 16:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L900032-13 Original Sample (OS) • Duplicate (DUP)

(OS) L900032-13 04/05/17 16:42 • (DUP) R3208541-7 04/05/17 16:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208541-2 04/05/17 16:14 • (LCSD) R3208541-3 04/05/17 16:15

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.102	0.103	102	103	85-115			1	20

L900029-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L900029-01 04/05/17 16:36 • (MS) R3208541-5 04/05/17 16:37 • (MSD) R3208541-6 04/05/17 16:39

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	ND	ND	0	0	1	75-125	J5	J5	0	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41931**	RunNo: **41931**
Prep Date:	Analysis Date: **4/5/2017**	SeqNo: **1316627** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41931**	RunNo: **41931**
Prep Date:	Analysis Date: **4/5/2017**	SeqNo: **1316628** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	109	50	150			
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0070	0.0060	0.006000	0	117	50	150			
Copper	0.0066	0.0060	0.006000	0	110	50	150			
Iron	0.022	0.020	0.02000	0	110	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Potassium	0.52	1.0	0.5000	0	103	50	150			J
Silver	0.0050	0.0050	0.005000	0	101	50	150			
Zinc	0.0054	0.010	0.005000	0	108	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41931**	RunNo: **41931**
Prep Date:	Analysis Date: **4/5/2017**	SeqNo: **1316629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	99.0	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	99.5	85	115			
Copper	0.50	0.0060	0.5000	0	99.3	85	115			
Iron	0.50	0.020	0.5000	0	99.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41931**	RunNo: **41931**
Prep Date:	Analysis Date: **4/5/2017**	SeqNo: **1316629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.48	0.0020	0.5000	0	96.2	85	115			
Potassium	50	1.0	50.00	0	99.1	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.48	0.010	0.5000	0	96.7	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41953**	RunNo: **41953**
Prep Date:	Analysis Date: **4/6/2017**	SeqNo: **1317443** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41953**	RunNo: **41953**
Prep Date:	Analysis Date: **4/6/2017**	SeqNo: **1317444** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	95.0	50	150			J
Cadmium	0.0029	0.0020	0.002000	0	144	50	150			
Chromium	0.0062	0.0060	0.006000	0	104	50	150			
Copper	0.0073	0.0060	0.006000	0	121	50	150			
Iron	0.019	0.020	0.02000	0	93.2	50	150			J
Manganese	0.0019	0.0020	0.002000	0	95.5	50	150			J
Silver	0.0044	0.0050	0.005000	0	87.0	50	150			J
Sodium	0.46	1.0	0.5000	0	91.1	50	150			J
Zinc	0.0056	0.010	0.005000	0	111	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41953**	RunNo: **41953**
Prep Date:	Analysis Date: **4/6/2017**	SeqNo: **1317445** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.5	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.2	85	115			
Chromium	0.48	0.0060	0.5000	0	95.5	85	115			
Copper	0.49	0.0060	0.5000	0	98.5	85	115			
Iron	0.48	0.020	0.5000	0	96.4	85	115			
Manganese	0.47	0.0020	0.5000	0	94.3	85	115			
Silver	0.097	0.0050	0.1000	0	96.6	85	115			
Sodium	49	1.0	50.00	0	98.3	85	115			
Zinc	0.47	0.010	0.5000	0	93.0	85	115			

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C41953**	RunNo: **41953**
Prep Date:	Analysis Date: **4/6/2017**	SeqNo: **1317488** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C41953**	RunNo: **41953**
Prep Date:	Analysis Date: **4/6/2017**	SeqNo: **1317489** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0024	0.0020	0.002000	0	118	50	150			
Cadmium	0.0015	0.0020	0.002000	0	74.5	50	150			J
Calcium	0.50	1.0	0.5000	0	101	50	150			J
Chromium	0.0062	0.0060	0.006000	0	103	50	150			
Copper	0.0066	0.0060	0.006000	0	110	50	150			
Iron	0.025	0.020	0.02000	0	124	50	150			
Magnesium	0.53	1.0	0.5000	0	105	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **LCSLL-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C41953**	RunNo: **41953**
Prep Date:	Analysis Date: **4/6/2017**	SeqNo: **1317489** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0020	0.0020	0.002000	0	97.5	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Silver	0.0050	0.0050	0.005000	0	99.6	50	150			J
Sodium	0.41	1.0	0.5000	0	81.6	50	150			J
Zinc	0.0050	0.010	0.005000	0	101	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41953**	RunNo: **41953**
Prep Date:	Analysis Date: **4/6/2017**	SeqNo: **1317490** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.1	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.3	85	115			
Calcium	48	1.0	50.00	0	95.7	85	115			
Chromium	0.48	0.0060	0.5000	0	96.5	85	115			
Copper	0.49	0.0060	0.5000	0	98.4	85	115			
Iron	0.48	0.020	0.5000	0	95.7	85	115			
Magnesium	49	1.0	50.00	0	98.4	85	115			
Manganese	0.47	0.0020	0.5000	0	94.2	85	115			
Potassium	48	1.0	50.00	0	96.2	85	115			
Silver	0.097	0.0050	0.1000	0	97.5	85	115			
Sodium	49	1.0	50.00	0	98.4	85	115			
Zinc	0.47	0.010	0.5000	0	93.9	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320627** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320628** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	92.0	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	105	50	150			
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0060	0.0060	0.006000	0	100	50	150			
Copper	0.0067	0.0060	0.006000	0	112	50	150			
Iron	0.017	0.020	0.02000	0	84.5	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0049	0.0050	0.005000	0	98.0	50	150			J
Zinc	0.0054	0.010	0.005000	0	109	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.1	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.6	85	115			
Calcium	50	1.0	50.00	0	99.0	85	115			
Chromium	0.48	0.0060	0.5000	0	95.1	85	115			
Copper	0.47	0.0060	0.5000	0	94.2	85	115			
Iron	0.47	0.020	0.5000	0	94.2	85	115			
Manganese	0.47	0.0020	0.5000	0	93.2	85	115			
Silver	0.097	0.0050	0.1000	0	97.0	85	115			
Zinc	0.47	0.010	0.5000	0	93.1	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A42438**	RunNo: **42438**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1334323** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A42438**	RunNo: **42438**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1334324** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A42438**	RunNo: **42438**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1334324** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.52	1.0	0.5000	0	104	50	150			J
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Potassium	0.53	1.0	0.5000	0	106	50	150			J
Sodium	0.36	1.0	0.5000	0	72.4	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A42438**	RunNo: **42438**
Prep Date:	Analysis Date: **4/27/2017**	SeqNo: **1334325** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	97.1	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Potassium	50	1.0	50.00	0	99.7	85	115			
Sodium	51	1.0	50.00	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID	**MB-31104**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**31104**	RunNo:	**41953**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1317918**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Silver	ND	0.0050								

Sample ID	**LCSLL-31104**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**31104**	RunNo:	**41953**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1317919**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	106	50	150			
Chromium	0.0058	0.0060	0.006000	0	97.3	50	150			J
Copper	0.0057	0.0060	0.006000	0	95.3	50	150			J
Manganese	0.0019	0.0020	0.002000	0	94.0	50	150			J
Silver	0.0052	0.0050	0.005000	0	103	50	150			

Sample ID	**LCS-31104**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**31104**	RunNo:	**41953**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1317920**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	102	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	98.4	85	115			
Silver	0.11	0.0050	0.1000	0	113	85	115			

Sample ID	**MB-31104**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**31104**	RunNo:	**41999**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1319218**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								

Sample ID	**LCSLL-31104**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**31104**	RunNo:	**41999**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1319219**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID	**LCSLL-31104**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**31104**		RunNo:	**41999**				
Prep Date:	**4/5/2017**	Analysis Date:	**4/7/2017**		SeqNo:	**1319219**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.0018	0.0020	0.002000	0	90.0	50	150			J

Sample ID	**LCS-31104**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**31104**		RunNo:	**41999**				
Prep Date:	**4/5/2017**	Analysis Date:	**4/7/2017**		SeqNo:	**1319220**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	105	85	115			

Sample ID	**MB-31177**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PBW**	Batch ID:	**31177**		RunNo:	**42088**				
Prep Date:	**4/11/2017**	Analysis Date:	**4/12/2017**		SeqNo:	**1321925**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LCSLL-31177**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**31177**		RunNo:	**42088**				
Prep Date:	**4/11/2017**	Analysis Date:	**4/12/2017**		SeqNo:	**1321926**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.025	0.020	0.02000	0	123	50	150			
Silver	0.0049	0.0050	0.005000	0	98.4	50	150			J
Zinc	0.0050	0.010	0.005000	0	100	50	150			J

Sample ID	**LCS-31177**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**31177**		RunNo:	**42088**				
Prep Date:	**4/11/2017**	Analysis Date:	**4/12/2017**		SeqNo:	**1321927**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.47	0.020	0.5000	0	93.5	85	115			
Silver	0.097	0.0050	0.1000	0	97.3	85	115			
Zinc	0.45	0.010	0.5000	0	90.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID	**1703F34-003EMSLL**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-2**	Batch ID:	**C42036**		RunNo:	**42036**				
Prep Date:		Analysis Date:	**4/11/2017**		SeqNo:	**1320317**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.14	0.0050	0.1250	0.01503	104	70	130			
Lead	0.072	0.0025	0.06250	0	115	70	130			
Selenium	0.14	0.0050	0.1250	0.02650	93.3	70	130			

Sample ID	**1703F34-005GMSDL**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-4**	Batch ID:	**C42036**		RunNo:	**42036**				
Prep Date:		Analysis Date:	**4/11/2017**		SeqNo:	**1320320**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.15	0.0050	0.1250	0.01530	105	70	130	0.563	20	
Lead	0.074	0.0025	0.06250	0	118	70	130	0.776	20	
Selenium	0.15	0.0050	0.1250	0.02876	97.1	70	130	0.956	20	

Sample ID	**1703F34-005GMSLL**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-4**	Batch ID:	**C42036**		RunNo:	**42036**				
Prep Date:		Analysis Date:	**4/11/2017**		SeqNo:	**1320322**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.15	0.0050	0.1250	0.01530	105	70	130			
Lead	0.073	0.0025	0.06250	0	117	70	130			
Selenium	0.15	0.0050	0.1250	0.02876	95.9	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**C42036**		RunNo:	**42036**				
Prep Date:		Analysis Date:	**4/11/2017**		SeqNo:	**1320333**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	103	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID	**LCSLL**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**C42036**		RunNo:	**42036**				
Prep Date:		Analysis Date:	**4/11/2017**		SeqNo:	**1320334**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00093	0.0010	0.001000	0	93.4	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.6	50	150			J
Selenium	0.0010	0.0010	0.001000	0	100	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C42036**	RunNo: **42036**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320335** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **1703F34-003EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **EP-2**	Batch ID: **B42080**	RunNo: **42080**
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1321670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.075	0.0025	0.06250	0.001294	118	70	130			

Sample ID **1703F34-011GMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **EP-12B**	Batch ID: **B42080**	RunNo: **42080**
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1321682** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.14	0.0050	0.1250	0.01667	96.1	70	130	0.0244	20	
Lead	0.067	0.0025	0.06250	0	107	70	130	0.400	20	
Selenium	0.14	0.0050	0.1250	0.03017	84.7	70	130	0.225	20	
Uranium	0.076	0.0025	0.06250	0.002124	117	70	130	0.330	20	

Sample ID **1703F34-011GMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **EP-12B**	Batch ID: **B42080**	RunNo: **42080**
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1321685** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.14	0.0050	0.1250	0.01667	96.1	70	130			
Lead	0.067	0.0025	0.06250	0	107	70	130			
Selenium	0.14	0.0050	0.1250	0.03017	84.5	70	130			
Uranium	0.075	0.0025	0.06250	0.002124	117	70	130			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B42080**	RunNo: **42080**
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1321717** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.6	85	115			
Lead	0.012	0.00050	0.01250	0	96.4	85	115			
Selenium	0.023	0.0010	0.02500	0	93.7	85	115			
Uranium	0.012	0.00050	0.01250	0	96.7	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B42080**	RunNo: **42080**
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1321719** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00088	0.0010	0.001000	0	87.9	50	150			J
Lead	0.00046	0.00050	0.0005000	0	92.1	50	150			J
Selenium	0.00079	0.0010	0.001000	0	78.9	50	150			J
Uranium	0.00043	0.00050	0.0005000	0	85.5	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B42080**	RunNo: **42080**
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1321721** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B42148**	RunNo: **42148**
Prep Date:	Analysis Date: **4/14/2017**	SeqNo: **1323907** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.1	85	115			
Lead	0.012	0.00050	0.01250	0	95.5	85	115			
Selenium	0.024	0.0010	0.02500	0	95.3	85	115			
Uranium	0.012	0.00050	0.01250	0	97.2	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B42148**	RunNo: **42148**
Prep Date:	Analysis Date: **4/14/2017**	SeqNo: **1323908** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00080	0.0010	0.001000	0	80.0	50	150			J
Lead	0.00046	0.00050	0.0005000	0	92.9	50	150			J
Selenium	0.00083	0.0010	0.001000	0	83.3	50	150			J
Uranium	0.00042	0.00050	0.0005000	0	84.1	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B42148**	RunNo: **42148**
Prep Date:	Analysis Date: **4/14/2017**	SeqNo: **1323909** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B42148**	RunNo: **42148**
Prep Date:	Analysis Date: **4/14/2017**	SeqNo: **1323909** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID	**MB-31177**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**31177**	RunNo:	**42058**					
Prep Date:	**4/11/2017**	Analysis Date:	**4/12/2017**	SeqNo:	**1321024**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-31177**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**31177**	RunNo:	**42058**					
Prep Date:	**4/11/2017**	Analysis Date:	**4/12/2017**	SeqNo:	**1321026**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.7	85	115			
Lead	0.012	0.00050	0.01250	0	98.2	85	115			
Selenium	0.023	0.0010	0.02500	0	90.7	85	115			
Uranium	0.012	0.00050	0.01250	0	97.4	85	115			

Sample ID	**MSLCSLL-31177**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**31177**	RunNo:	**42058**					
Prep Date:	**4/11/2017**	Analysis Date:	**4/12/2017**	SeqNo:	**1321028**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00089	0.0010	0.001000	0	88.6	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.5	50	150			J
Selenium	0.00096	0.0010	0.001000	0	96.0	50	150			J
Uranium	0.00041	0.00050	0.0005000	0	81.8	50	150			J

Sample ID	**1703F34-011BMSLL**	SampType:	**MSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**EP-12B**	Batch ID:	**31177**	RunNo:	**42058**					
Prep Date:	**4/11/2017**	Analysis Date:	**4/12/2017**	SeqNo:	**1321408**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.043	0.0050	0.02500	0.01682	106	70	130			
Lead	0.015	0.0025	0.01250	0.0008673	110	70	130			
Selenium	0.048	0.0050	0.02500	0.03008	73.3	70	130			
Uranium	0.016	0.0025	0.01250	0.001224	121	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID	**MB-31202**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**31202**	RunNo:	**42090**					
Prep Date:	**4/12/2017**	Analysis Date:	**4/13/2017**	SeqNo:	**1322045**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000055	0.00020								J

Sample ID	**LCS-31202**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**31202**	RunNo:	**42090**					
Prep Date:	**4/12/2017**	Analysis Date:	**4/13/2017**	SeqNo:	**1322046**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.4	80	120			

Sample ID	**1703F34-014EMS**	SampType:	**MS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PW-4**	Batch ID:	**31202**	RunNo:	**42090**					
Prep Date:	**4/12/2017**	Analysis Date:	**4/13/2017**	SeqNo:	**1322061**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	.00005244	105	75	125			

Sample ID	**1703F34-014EMSD**	SampType:	**MSD**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PW-4**	Batch ID:	**31202**	RunNo:	**42090**					
Prep Date:	**4/12/2017**	Analysis Date:	**4/13/2017**	SeqNo:	**1322062**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	.00005244	107	75	125	2.27	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41794**	RunNo: **41794**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1313464** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41794**	RunNo: **41794**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1313465** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	93.0	90	110			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	92.6	90	110			
Bromide	2.3	0.10	2.500	0	92.9	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	96.1	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	96.7	90	110			
Sulfate	9.4	0.50	10.00	0	93.7	90	110			

Sample ID **1703F34-015DMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **OW-57**	Batch ID: **A41794**	RunNo: **41794**
Prep Date:	Analysis Date: **4/1/2017**	SeqNo: **1313497** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	1.2	0.10	1.000	0	121	76.7	103			S
Bromide	4.5	0.10	2.500	2.222	90.5	80.8	108			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.06400	96.8	84.9	115			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	100	77.3	106			
Sulfate	14	0.50	10.00	4.117	97.1	83.1	118			

Sample ID **1703F34-015DMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **OW-57**	Batch ID: **A41794**	RunNo: **41794**
Prep Date:	Analysis Date: **4/1/2017**	SeqNo: **1313498** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	1.2	0.10	1.000	0	121	76.7	103	0.505	20	S
Bromide	4.5	0.10	2.500	2.222	89.4	80.8	108	0.575	20	
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.06400	96.8	84.9	115	0.0282	20	
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	101	77.3	106	0.468	20	
Sulfate	14	0.50	10.00	4.117	97.1	83.1	118	0.00519	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41934**	RunNo: **41934**
Prep Date:	Analysis Date: **4/5/2017**	SeqNo: **1316753** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41934**	RunNo: **41934**
Prep Date:	Analysis Date: **4/5/2017**	SeqNo: **1316754** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.9	90	110			
Bromide	2.4	0.10	2.500	0	94.7	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41969**	RunNo: **41969**
Prep Date:	Analysis Date: **4/7/2017**	SeqNo: **1318733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41969**	RunNo: **41969**
Prep Date:	Analysis Date: **4/7/2017**	SeqNo: **1318734** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	103	90	110			
Chloride	4.9	0.50	5.000	0	97.3	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.8	90	110			
Sulfate	9.8	0.50	10.00	0	98.3	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.3	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R42002**	RunNo: **42002**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R42002**	RunNo: **42002**							
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319671**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	97.8	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R42066**	RunNo: **42066**							
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1322122**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R42066**	RunNo: **42066**							
Prep Date:	Analysis Date: **4/12/2017**	SeqNo: **1322123**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **MB-31110**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **31110**	RunNo: **41932**
Prep Date: **4/6/2017**	Analysis Date: **4/6/2017**	SeqNo: **1316692** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.98		1.000		98.2	72.4	157			

Sample ID **LCS-31110**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **31110**	RunNo: **41932**
Prep Date: **4/6/2017**	Analysis Date: **4/6/2017**	SeqNo: **1316693** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	105	82.8	146			
Surr: DNOP	0.51		0.5000		101	72.4	157			

Sample ID **1703F34-002BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **STP-1 to EP-2**	Batch ID: **31110**	RunNo: **41932**
Prep Date: **4/6/2017**	Analysis Date: **4/6/2017**	SeqNo: **1316960** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	17	1.0	5.000	10.93	118	87.2	145			
Surr: DNOP	0.52		0.5000		105	72.4	157			

Sample ID **1703F34-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **STP-1 to EP-2**	Batch ID: **31110**	RunNo: **41932**
Prep Date: **4/6/2017**	Analysis Date: **4/6/2017**	SeqNo: **1316977** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	17	1.0	5.000	10.93	116	87.2	145	0.642	20	
Surr: DNOP	0.53		0.5000		106	72.4	157	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41853**	RunNo: **41853**
Prep Date:	Analysis Date: **4/3/2017**	SeqNo: **1313950** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	0.12	1.0								J
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	0.21	1.0								J
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	0.15	1.0								J
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41853**	RunNo: **41853**
Prep Date:	Analysis Date: **4/3/2017**	SeqNo: **1313950** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R41853**	RunNo: **41853**
Prep Date:	Analysis Date: **4/3/2017**	SeqNo: **1313954** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	97.8	70	130			
Chlorobenzene	19	1.0	20.00	0	93.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R41853**	RunNo: **41853**
Prep Date:	Analysis Date: **4/3/2017**	SeqNo: **1313954** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19	1.0	20.00	0	94.7	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	87.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	9.6		10.00		96.2	70	130			

Sample ID **1703f34-003a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **EP-2**	Batch ID: **R41853**	RunNo: **41853**
Prep Date:	Analysis Date: **4/4/2017**	SeqNo: **1313960** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	210	10	200.0	13.45	99.2	70	130			
Toluene	200	10	200.0	22.37	88.0	70	130			
Chlorobenzene	170	10	200.0	0	87.2	70	130			
1,1-Dichloroethene	170	10	200.0	0	86.7	70	130			
Trichloroethene (TCE)	170	10	200.0	0	84.7	70	130			
Surr: 1,2-Dichloroethane-d4	90		100.0		90.1	70	130			
Surr: 4-Bromofluorobenzene	100		100.0		104	70	130			
Surr: Dibromofluoromethane	97		100.0		96.5	70	130			
Surr: Toluene-d8	92		100.0		91.8	70	130			

Sample ID **1703f34-003a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **EP-2**	Batch ID: **R41853**	RunNo: **41853**
Prep Date:	Analysis Date: **4/4/2017**	SeqNo: **1313961** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	210	10	200.0	13.45	97.3	70	130	1.78	20	
Toluene	200	10	200.0	22.37	87.1	70	130	0.932	20	
Chlorobenzene	170	10	200.0	0	85.4	70	130	2.09	20	
1,1-Dichloroethene	170	10	200.0	0	85.4	70	130	1.61	20	
Trichloroethene (TCE)	160	10	200.0	0	80.2	70	130	5.45	20	
Surr: 1,2-Dichloroethane-d4	90		100.0		90.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	110		100.0		108	70	130	0	0	
Surr: Dibromofluoromethane	96		100.0		96.2	70	130	0	0	
Surr: Toluene-d8	93		100.0		93.1	70	130	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID **lcs-31059**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **31059**	RunNo: **42041**
Prep Date: **4/4/2017**	Analysis Date: **4/6/2017**	SeqNo: **1320415** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	65	10	100.0	0	64.6	42.9	100			
4-Chloro-3-methylphenol	160	10	200.0	0	78.9	36.2	110			
2-Chlorophenol	150	10	200.0	0	74.7	33.4	97.8			
1,4-Dichlorobenzene	58	10	100.0	0	57.6	32.8	79.3			
2,4-Dinitrotoluene	63	10	100.0	0	63.0	34.9	107			
N-Nitrosodi-n-propylamine	83	10	100.0	0	82.8	30.7	111			
4-Nitrophenol	95	10	200.0	0	47.4	15	91.9			
Pentachlorophenol	120	20	200.0	0	58.6	33.3	93.5			
Phenol	110	10	200.0	0	56.0	20.9	86.4			
Pyrene	73	10	100.0	0	73.3	45.6	111			
1,2,4-Trichlorobenzene	60	10	100.0	0	59.9	38.7	88.2			
Surr: 2-Fluorophenol	130		200.0		63.8	15	98.1			
Surr: Phenol-d5	110		200.0		56.2	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		74.8	15	112			
Surr: Nitrobenzene-d5	73		100.0		73.1	27.2	90.7			
Surr: 2-Fluorobiphenyl	69		100.0		68.7	23.3	85.6			
Surr: 4-Terphenyl-d14	64		100.0		63.6	27.6	107			

Sample ID **mb-31059**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **31059**	RunNo: **42041**
Prep Date: **4/4/2017**	Analysis Date: **4/6/2017**	SeqNo: **1320416** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	6.7	10								J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **mb-31059**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **31059**	RunNo: **42041**
Prep Date: **4/4/2017**	Analysis Date: **4/6/2017**	SeqNo: **1320416** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **mb-31059**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **31059**	RunNo: **42041**
Prep Date: **4/4/2017**	Analysis Date: **4/6/2017**	SeqNo: **1320416** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	130		200.0		64.7	15	98.1			
Surr: Phenol-d5	92		200.0		45.9	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		80.0	15	112			
Surr: Nitrobenzene-d5	86		100.0		86.4	27.2	90.7			
Surr: 2-Fluorobiphenyl	74		100.0		73.9	23.3	85.6			
Surr: 4-Terphenyl-d14	68		100.0		67.7	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID	**MB-31012**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**31012**	RunNo:	**41921**					
Prep Date:	**3/31/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316447**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	**MB--31012**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**31012**	RunNo:	**41921**					
Prep Date:	**3/31/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316448**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	**LCS-31012**	SampType:	**LCS**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSW**	Batch ID:	**31012**	RunNo:	**41921**					
Prep Date:	**3/31/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316449**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	130	2.0	198.0	0	67.2	46.8	115			

Sample ID	**LCSD-31012**	SampType:	**LCSD**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSS02**	Batch ID:	**31012**	RunNo:	**41921**					
Prep Date:	**3/31/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316450**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	130	2.0	198.0	0	64.9	46.8	115	3.44	30.1	

Sample ID	**1703F34-002CDUP**	SampType:	**DUP**	TestCode:	**SM5210B: BOD**					
Client ID:	**STP-1 to EP-2**	Batch ID:	**31012**	RunNo:	**41921**					
Prep Date:	**3/31/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316452**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	400	2.0						16.3	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID	**MB-31004**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**
Client ID:	**PBW**	Batch ID:	**31004**	RunNo:	**41829**
Prep Date:	**3/30/2017**	Analysis Date:	**3/31/2017**	SeqNo:	**1313068** Units: **MPN/100mL**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID	**1703f34-004f dup**	SampType:	**dup**	TestCode:	**SM2510B: Specific Conductance**					
Client ID:	**EP-3**	Batch ID:	**R41894**	RunNo:	**41894**					
Prep Date:		Analysis Date:	**4/4/2017**	SeqNo:	**1315556**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	20000	10						14.7	20	

Sample ID	**1703f34-003g dup**	SampType:	**dup**	TestCode:	**SM2510B: Specific Conductance**					
Client ID:	**EP-2**	Batch ID:	**R41894**	RunNo:	**41894**					
Prep Date:		Analysis Date:	**4/4/2017**	SeqNo:	**1315576**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	17000	10						1.31	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**

12-Jun-18

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR Ground Water

Sample ID	**rb**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**A41853**	RunNo:	**41853**					
Prep Date:		Analysis Date:	**4/3/2017**	SeqNo:	**1313998**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	9.6		10.00		96.1	70	130			

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**A41853**	RunNo:	**41853**					
Prep Date:		Analysis Date:	**4/3/2017**	SeqNo:	**1314001**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	10		10.00		101	70	130			

Sample ID	**1703f34-002a ms**	SampType:	**MS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**STP-1 to EP-2**	Batch ID:	**A41853**	RunNo:	**41853**					
Prep Date:		Analysis Date:	**4/4/2017**	SeqNo:	**1314010**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	98		100.0		98.2	70	130			

Sample ID	**1703f34-002a msd**	SampType:	**MSD**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**STP-1 to EP-2**	Batch ID:	**A41853**	RunNo:	**41853**					
Prep Date:		Analysis Date:	**4/4/2017**	SeqNo:	**1314011**	Units:	**%Rec**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	98		100.0		98.3	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID	**1703f34-004f dup**	SampType:	**dup**		TestCode:	**SM4500-H+B / 9040C: pH**					
Client ID:	**EP-3**	Batch ID:	**R41861**		RunNo:	**41861**					
Prep Date:		Analysis Date:	**4/3/2017**		SeqNo:	**1314280**	Units:	**pH units**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
pH	7.93									H	

Sample ID	**1703f34-003g dup**	SampType:	**dup**		TestCode:	**SM4500-H+B / 9040C: pH**					
Client ID:	**EP-2**	Batch ID:	**R41894**		RunNo:	**41894**					
Prep Date:		Analysis Date:	**4/4/2017**		SeqNo:	**1315584**	Units:	**pH units**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
pH	7.59									H	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F34**
12-Jun-18

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR Ground Water

Sample ID **MB-31114**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **31114**	RunNo: **41979**
Prep Date: **4/6/2017**	Analysis Date: **4/8/2017**	SeqNo: **1318231** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	14.0	20.0								J

Sample ID **LCS-31114**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **31114**	RunNo: **41979**
Prep Date: **4/6/2017**	Analysis Date: **4/8/2017**	SeqNo: **1318232** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1703F34 RcptNo: 1

Received By: Andy Jansson 3/30/2017 4:55:00 PM

Completed By: Ashley Gallegos 3/30/2017 5:32:45 PM

Reviewed By: AJ 04/03/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	AJ ~~Yes ✔~~	No ✔	
9. Was preservative added to bottles?	Yes ✔	~~No ✔~~ AJ	NA
10. VOA vials have zero headspace?	Yes ✔	No	No VOA Vials
11. Were any sample containers received broken?	Yes	No ✔	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH: 4 (0) 1 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted? yes
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by: AJ/ENM

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: ____ Date: ____

By Whom: ____ Via: eMail Phone Fax In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks: For metals analysis: added 1mL HNO3 to -004B, -005B, -011B for acceptable pH. Held 24 hours prior to analysis.

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

~~3/30/17~~ @ AJ

03/31/17 @ 0952 ~~AJ~~ FNM

Chain-of-Custody Record

Corrected COC

Client:	Western Refining Company
	GALLUP REFINERY
Mailing Address:	92 Giant Crossing Road, Gallup, NM 87301
Phone #:	505-722-3833
Email or Fax#:	505-863-0930
QA/QC Package:	☐ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other
☐ EDD (Type)	

Turn-Around Time: X Standard ☐ Rush

Project Name: 2017 1ST QTR GROUND WATER

Project #:

Project Manager: C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703134	Analysis Request: 8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GRO/DRO/MRO)	8270	MAJOR CATIONS/ANIONS	CYANIDE	BOD/COD/TDS	GENERAL CHEMISTRY	E-COLI	NITRATES		Air Bubbles (Y or N)
03 dog																			
10/30/2017	700	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001	X												
10/30/2017	840	aqueous	STP-1 TO EP-2	Misc	Misc	-002	X			X				X					
10/30/2017	845	aqueous	EP-2	Misc	Misc	-003	X	X	X		X			X	X	X			
10/30/2017	910	aqueous	EP-3	Misc	Misc	-004	X	X	X	X	X			X	X	X			
10/30/2017	920	aqueous	EP-4	Misc	Misc	-005	X			X	X			X	X	X			
10/30/2017	945	aqueous	EP-5	Misc	Misc	-006	X			X	X			X	X	X			
10/30/2017	955	aqueous	EP-6	Misc	Misc	-007	X			X	X			X	X	X			
10/30/2017	1015	aqueous	EP-7	Misc	Misc	-008	X			X	X			X	X	X			
10/30/2017	1025	aqueous	EP-11	Misc	Misc	-009	X			X	X			X	X	X			
10/30/2017	1110	aqueous	EP-12A	Misc	Misc	-010	X			X	X			X	X	X			
10/30/2017	1120	aqueous	EP-12B	Misc	Misc	-011	X			X	X			X	X	X			
10/30/2017	1138	aqueous	EP-8	Misc	Misc	-012	X			X	X			X	X	X			
10/30/2017	1205	aqueous	EP-9	Misc	Misc	-013	X			X	X			X	X	X			
10/30/2017	1220	aqueous	PW-4	Misc	Misc	-014	X	X	X		X		X				X		
10/30/2017	1240	aqueous	OW-57	Misc	Misc	-015	X	X	X	X	X	X							

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/30/17	1400			3/30/17	1400
Date:	Time:	Relinquished by:	Received by:	Date	Time
3/30/17	1655			03/30/17	1655

Remarks: GENERAL CHEMISTRY TO INCLUDE pH, specific conductance, cations/anions. ON THE "EP" SAMPLES - PLEASE PLACE ALL THE TDS ON A SEPARATE FORM - DO NOT COMBINE WITH THE QUARTERLY.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 25, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 1st QTR MKTF Wells OrderNo.: 1703F35

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 3/30/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 7:00:00 AM
Lab ID: 1703F35-001
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Toluene	0.12	0.089	1.0	J	µg/L	1	3/31/2017 4:30:47 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Acetone	ND	0.88	10		µg/L	1	3/31/2017 4:30:47 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 4:30:47 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 4:30:47 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 4:30:47 PM	W41801

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 7:00:00 AM
Lab ID: 1703F35-001
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 4:30:47 PM	W41801
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 4:30:47 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 4:30:47 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 4:30:47 PM	W41801
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	3/31/2017 4:30:47 PM	W41801
Surr: 4-Bromofluorobenzene	92.1	0	70-130		%Rec	1	3/31/2017 4:30:47 PM	W41801
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	3/31/2017 4:30:47 PM	W41801
Surr: Toluene-d8	105	0	70-130		%Rec	1	3/31/2017 4:30:47 PM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:20:00 AM
Lab ID: 1703F35-002
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	4/5/2017 5:10:48 PM	31085
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/31/2017 9:27:01 PM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/31/2017 9:27:01 PM	31011
Surr: DNOP	132	0	72.4-157		%Rec	1	3/31/2017 9:27:01 PM	31011
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.80	0.050	0.10		mg/L	1	3/31/2017 6:10:57 PM	R41802
Chloride	740	25	50		mg/L	100	4/7/2017 11:10:30 PM	A41988
Bromide	0.37	0.031	0.10		mg/L	1	3/31/2017 6:10:57 PM	R41802
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/31/2017 6:10:57 PM	R41802
Sulfate	360	9.6	50		mg/L	100	4/7/2017 11:10:30 PM	A41988
Nitrate+Nitrite as N	0.24	0.13	1.0	J	mg/L	5	4/10/2017 8:10:37 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.039	0.00085	0.0020		mg/L	1	4/10/2017 9:32:23 PM	B42022
Cadmium	ND	0.0010	0.0020		mg/L	1	4/10/2017 9:32:23 PM	B42022
Calcium	88	2.5	5.0		mg/L	5	4/10/2017 9:46:40 PM	B42022
Chromium	ND	0.0010	0.0060		mg/L	1	4/10/2017 9:32:23 PM	B42022
Copper	ND	0.0032	0.0060		mg/L	1	4/10/2017 9:32:23 PM	B42022
Iron	0.087	0.020	0.020		mg/L	1	4/10/2017 9:32:23 PM	B42022
Magnesium	17	0.50	1.0		mg/L	1	4/10/2017 9:32:23 PM	B42022
Manganese	0.044	0.00038	0.0020		mg/L	1	4/10/2017 9:32:23 PM	B42022
Potassium	0.53	0.50	1.0	J	mg/L	1	4/10/2017 9:32:23 PM	B42022
Silver	ND	0.00088	0.0050		mg/L	1	4/10/2017 9:32:23 PM	B42022
Sodium	860	5.0	10		mg/L	10	4/10/2017 9:52:45 PM	B42022
Zinc	0.021	0.0011	0.010		mg/L	1	4/10/2017 9:32:23 PM	B42022
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.33	0.00079	0.0020		mg/L	1	4/7/2017 5:45:42 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/14/2017 4:03:01 PM	31124
Chromium	0.0078	0.0027	0.0060		mg/L	1	4/7/2017 5:45:42 PM	31124
Copper	0.0043	0.0030	0.0060	J	mg/L	1	4/7/2017 5:45:42 PM	31124
Iron	7.9	0.20	0.20	*	mg/L	10	4/14/2017 4:04:43 PM	31124
Manganese	0.50	0.00027	0.0020	*	mg/L	1	4/7/2017 5:45:42 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 5:45:42 PM	31124
Zinc	0.021	0.0027	0.010		mg/L	1	4/7/2017 5:45:42 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0013	0.00089	0.0050	J	mg/L	5	4/14/2017 3:41:27 PM	B42148
Lead	0.00037	0.00017	0.00050	J	mg/L	1	4/12/2017 8:04:07 PM	C42080

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:20:00 AM
Lab ID: 1703F35-002
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.0055	0.0019	0.0050		mg/L	5	4/14/2017 3:41:27 PM	B42148
Uranium	0.033	0.00025	0.0025	*	mg/L	5	4/14/2017 3:41:27 PM	B42148
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0035	0.00021	0.0010		mg/L	1	4/10/2017 6:03:16 PM	31124
Lead	0.0093	0.00041	0.0025		mg/L	5	4/10/2017 6:06:16 PM	31124
Selenium	0.0073	0.00019	0.0010		mg/L	1	4/10/2017 6:03:16 PM	31124
Uranium	0.033	0.00087	0.0025	*	mg/L	5	4/10/2017 6:06:16 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000042	0.000037	0.00020	J	mg/L	1	4/14/2017 8:24:48 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Benzoic acid	6.3	3.9	20	J	µg/L	1	4/5/2017 11:30:39 AM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Bis(2-ethylhexyl)phthalate	6.1	4.8	10	J	µg/L	1	4/5/2017 11:30:39 AM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:20:00 AM
Lab ID: 1703F35-002
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 11:30:39 AM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 11:30:39 AM	31035
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 11:30:39 AM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 11:30:39 AM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 11:30:39 AM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 11:30:39 AM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 11:30:39 AM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 11:30:39 AM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 11:30:39 AM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 11:30:39 AM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 11:30:39 AM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 11:30:39 AM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Phenol	ND	3.1	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 11:30:39 AM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:20:00 AM
Lab ID: 1703F35-002
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 11:30:39 AM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 11:30:39 AM	31035
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 11:30:39 AM	31035
Surr: 2-Fluorophenol	15.9	0	15-98.1		%Rec	1	4/5/2017 11:30:39 AM	31035
Surr: Phenol-d5	15.3	0	15-80.7		%Rec	1	4/5/2017 11:30:39 AM	31035
Surr: 2,4,6-Tribromophenol	33.4	0	15-112		%Rec	1	4/5/2017 11:30:39 AM	31035
Surr: Nitrobenzene-d5	46.9	0	27.2-90.7		%Rec	1	4/5/2017 11:30:39 AM	31035
Surr: 2-Fluorobiphenyl	50.2	0	23.3-85.6		%Rec	1	4/5/2017 11:30:39 AM	31035
Surr: 4-Terphenyl-d14	29.8	0	27.6-107		%Rec	1	4/5/2017 11:30:39 AM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Toluene	ND	0.089	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Methyl tert-butyl ether (MTBE)	2.8	0.15	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2-Dichloroethane (EDC)	3.8	0.12	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Acetone	ND	0.88	10		µg/L	1	3/31/2017 7:22:30 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 7:22:30 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 7:22:30 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Chloroform	0.27	0.089	1.0	J	µg/L	1	3/31/2017 7:22:30 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
cis-1,2-DCE	8.8	0.20	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 7:22:30 PM	W41801

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Collection Date: 3/29/2017 9:20:00 AM
Lab ID: 1703F35-002 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,1-Dichloroethane	97	1.0	10		µg/L	10	3/31/2017 6:53:56 PM	W41801
1,1-Dichloroethene	6.6	0.081	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 7:22:30 PM	W41801
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 7:22:30 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Tetrachloroethene (PCE)	0.22	0.15	1.0	J	µg/L	1	3/31/2017 7:22:30 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,1,1-Trichloroethane	1.6	0.073	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,1,2-Trichloroethane	0.89	0.14	1.0	J	µg/L	1	3/31/2017 7:22:30 PM	W41801
Trichloroethene (TCE)	5.9	0.18	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 7:22:30 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 7:22:30 PM	W41801
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	1	3/31/2017 7:22:30 PM	W41801
Surr: 4-Bromofluorobenzene	93.7	0	70-130		%Rec	1	3/31/2017 7:22:30 PM	W41801

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:20:00 AM
Lab ID: 1703F35-002
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	3/31/2017 7:22:30 PM	W41801
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/31/2017 7:22:30 PM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.14	0.0097	0.050		mg/L	1	3/31/2017 7:22:30 PM	R41801
Surr: BFB	92.7	0	70-130		%Rec	1	3/31/2017 7:22:30 PM	R41801

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:44:00 AM
Lab ID: 1703F35-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.43	0.36	1.0	J	mg/L	1	3/31/2017 10:32:30 PM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/31/2017 10:32:30 PM	31011
Surr: DNOP	134	0	72.4-157		%Rec	1	3/31/2017 10:32:30 PM	31011
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.75	0.050	0.10		mg/L	1	3/31/2017 6:35:46 PM	R41802
Chloride	100	5.0	10		mg/L	20	3/31/2017 6:48:10 PM	R41802
Bromide	0.40	0.031	0.10		mg/L	1	3/31/2017 6:35:46 PM	R41802
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/31/2017 6:35:46 PM	R41802
Sulfate	640	1.9	10		mg/L	20	3/31/2017 6:48:10 PM	R41802
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	4/10/2017 8:23:02 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.032	0.00085	0.0020		mg/L	1	4/10/2017 9:54:42 PM	B42022
Cadmium	ND	0.0010	0.0020		mg/L	1	4/10/2017 9:54:42 PM	B42022
Calcium	72	0.50	1.0		mg/L	1	4/11/2017 5:40:28 PM	A42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/10/2017 9:54:42 PM	B42022
Copper	0.0053	0.0032	0.0060	J	mg/L	1	4/10/2017 9:54:42 PM	B42022
Iron	0.034	0.020	0.020		mg/L	1	4/10/2017 9:54:42 PM	B42022
Magnesium	10	0.50	1.0		mg/L	1	4/11/2017 5:40:28 PM	A42051
Manganese	0.35	0.00038	0.0020	*	mg/L	1	4/10/2017 9:54:42 PM	B42022
Potassium	ND	0.50	1.0		mg/L	1	4/11/2017 5:40:28 PM	A42051
Silver	ND	0.00088	0.0050		mg/L	1	4/10/2017 9:54:42 PM	B42022
Sodium	510	5.0	10		mg/L	10	4/11/2017 5:54:49 PM	A42051
Zinc	0.021	0.0011	0.010		mg/L	1	4/10/2017 9:54:42 PM	B42022
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.10	0.00079	0.0020		mg/L	1	4/7/2017 5:49:11 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/14/2017 4:06:28 PM	31124
Chromium	0.0040	0.0027	0.0060	J	mg/L	1	4/7/2017 5:49:11 PM	31124
Copper	0.0034	0.0030	0.0060	J	mg/L	1	4/7/2017 5:49:11 PM	31124
Iron	2.8	0.20	0.20	*	mg/L	10	4/14/2017 4:08:21 PM	31124
Manganese	0.47	0.00027	0.0020	*	mg/L	1	4/7/2017 5:49:11 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 5:49:11 PM	31124
Zinc	0.0059	0.0027	0.010	J	mg/L	1	4/7/2017 5:49:11 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0019	0.00018	0.0010		mg/L	1	4/12/2017 8:13:17 PM	C42080
Lead	0.00017	0.00017	0.00050	J	mg/L	1	4/12/2017 8:13:17 PM	C42080
Selenium	0.0038	0.00039	0.0010		mg/L	1	4/12/2017 8:13:17 PM	C42080
Uranium	0.012	0.000050	0.00050		mg/L	1	4/12/2017 8:13:17 PM	C42080

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:44:00 AM
Lab ID: 1703F35-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0019	0.00021	0.0010		mg/L	1	4/10/2017 6:09:17 PM	31124
Lead	0.0016	0.000081	0.00050		mg/L	1	4/10/2017 6:09:17 PM	31124
Selenium	0.0022	0.00019	0.0010		mg/L	1	4/10/2017 6:09:17 PM	31124
Uranium	0.012	0.00017	0.00050		mg/L	1	4/10/2017 6:09:17 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	4/14/2017 8:26:49 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Benzoic acid	6.2	3.9	20	J	µg/L	1	4/5/2017 11:58:18 AM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Bis(2-ethylhexyl)phthalate	6.1	4.8	10	J	µg/L	1	4/5/2017 11:58:18 AM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 11:58:18 AM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 11:58:18 AM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:44:00 AM
Lab ID: 1703F35-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 11:58:18 AM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 11:58:18 AM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 11:58:18 AM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 11:58:18 AM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 11:58:18 AM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 11:58:18 AM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 11:58:18 AM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 11:58:18 AM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 11:58:18 AM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 11:58:18 AM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Phenol	ND	3.1	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 11:58:18 AM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 11:58:18 AM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 11:58:18 AM	31035

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:44:00 AM
Lab ID: 1703F35-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 11:58:18 AM	31035
Surr: 2-Fluorophenol	20.9	0	15-98.1		%Rec	1	4/5/2017 11:58:18 AM	31035
Surr: Phenol-d5	17.3	0	15-80.7		%Rec	1	4/5/2017 11:58:18 AM	31035
Surr: 2,4,6-Tribromophenol	39.2	0	15-112		%Rec	1	4/5/2017 11:58:18 AM	31035
Surr: Nitrobenzene-d5	62.0	0	27.2-90.7		%Rec	1	4/5/2017 11:58:18 AM	31035
Surr: 2-Fluorobiphenyl	54.8	0	23.3-85.6		%Rec	1	4/5/2017 11:58:18 AM	31035
Surr: 4-Terphenyl-d14	38.7	0	27.6-107		%Rec	1	4/5/2017 11:58:18 AM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Toluene	ND	0.089	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Methyl tert-butyl ether (MTBE)	9.4	0.15	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Acetone	ND	0.88	10		µg/L	1	3/31/2017 4:59:13 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 4:59:13 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 4:59:13 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:44:00 AM
Lab ID: 1703F35-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 4:59:13 PM	W41801
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 4:59:13 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 4:59:13 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 4:59:13 PM	W41801
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	3/31/2017 4:59:13 PM	W41801
Surr: 4-Bromofluorobenzene	95.4	0	70-130		%Rec	1	3/31/2017 4:59:13 PM	W41801
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	3/31/2017 4:59:13 PM	W41801
Surr: Toluene-d8	105	0	70-130		%Rec	1	3/31/2017 4:59:13 PM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:44:00 AM
Lab ID: 1703F35-003
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.012	0.0097	0.050	J	mg/L	1	3/31/2017 4:59:13 PM	R41801
Surr: BFB	93.0	0	70-130		%Rec	1	3/31/2017 4:59:13 PM	R41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:20:00 AM
Lab ID: 1703F35-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/31/2017 10:54:13 PM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/31/2017 10:54:13 PM	31011
Surr: DNOP	136	0	72.4-157		%Rec	1	3/31/2017 10:54:13 PM	31011
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.050	0.10		mg/L	1	3/31/2017 7:00:34 PM	R41802
Chloride	5000	120	250		mg/L	500	4/7/2017 11:35:19 PM	A41988
Bromide	2.3	0.31	1.0		mg/L	10	4/7/2017 11:22:55 PM	A41988
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/31/2017 7:00:34 PM	R41802
Sulfate	600	1.9	10		mg/L	20	3/31/2017 7:12:59 PM	R41802
Nitrate+Nitrite as N	3.7	0.52	4.0	J	mg/L	20	4/10/2017 8:35:27 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.097	0.00085	0.0020		mg/L	1	4/11/2017 5:56:48 PM	A42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 5:56:48 PM	A42051
Calcium	500	5.0	10		mg/L	10	4/11/2017 5:58:43 PM	A42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 5:56:48 PM	A42051
Copper	ND	0.0032	0.0060		mg/L	1	4/11/2017 5:56:48 PM	A42051
Iron	0.034	0.020	0.020		mg/L	1	4/11/2017 5:56:48 PM	A42051
Magnesium	87	0.50	1.0		mg/L	1	4/11/2017 5:56:48 PM	A42051
Manganese	0.49	0.00038	0.0020	*	mg/L	1	4/11/2017 5:56:48 PM	A42051
Potassium	15	0.50	1.0		mg/L	1	4/11/2017 5:56:48 PM	A42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 5:56:48 PM	A42051
Sodium	3300	25	50		mg/L	50	4/21/2017 1:55:16 PM	A42290
Zinc	0.022	0.0011	0.010		mg/L	1	4/11/2017 5:56:48 PM	A42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.26	0.00079	0.0020		mg/L	1	4/7/2017 6:00:31 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/14/2017 4:15:27 PM	31124
Chromium	0.0054	0.0027	0.0060	J	mg/L	1	4/7/2017 6:00:31 PM	31124
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 6:00:31 PM	31124
Iron	9.8	0.20	0.20	*	mg/L	10	4/14/2017 4:17:03 PM	31124
Manganese	1.5	0.0027	0.020	*	mg/L	10	4/7/2017 6:02:47 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:00:31 PM	31124
Zinc	0.032	0.0027	0.010		mg/L	1	4/7/2017 6:00:31 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0040	0.00089	0.0050	J	mg/L	5	4/14/2017 3:50:37 PM	B42148
Lead	ND	0.00084	0.0025		mg/L	5	4/14/2017 3:50:37 PM	B42148
Selenium	0.015	0.0019	0.0050		mg/L	5	4/14/2017 3:50:37 PM	B42148
Uranium	0.077	0.0025	0.025	*	mg/L	50	4/14/2017 4:02:46 PM	B42148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:20:00 AM
Lab ID: 1703F35-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.015	0.0042	0.020	*J	mg/L	20	4/12/2017 12:37:57 PM	31124
Lead	0.0096	0.00041	0.0025		mg/L	5	4/10/2017 6:18:18 PM	31124
Selenium	0.022	0.00094	0.0050		mg/L	5	4/10/2017 6:18:18 PM	31124
Uranium	0.097	0.00087	0.0025	*	mg/L	5	4/10/2017 6:18:18 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000071	0.000037	0.00020	J	mg/L	1	4/14/2017 8:28:51 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Benzoic acid	6.4	3.9	20	J	µg/L	1	4/5/2017 12:25:46 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Bis(2-ethylhexyl)phthalate	6.3	4.8	10	J	µg/L	1	4/5/2017 12:25:46 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 12:25:46 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 12:25:46 PM	31035

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Lab ID: 1703F35-004
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Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 12:25:46 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 12:25:46 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 12:25:46 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 12:25:46 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 12:25:46 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 12:25:46 PM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 12:25:46 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 12:25:46 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 12:25:46 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 12:25:46 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Phenol	ND	3.1	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 12:25:46 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 12:25:46 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 12:25:46 PM	31035

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:20:00 AM
Lab ID: 1703F35-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 12:25:46 PM	31035
Surr: 2-Fluorophenol	22.6	0	15-98.1		%Rec	1	4/5/2017 12:25:46 PM	31035
Surr: Phenol-d5	18.8	0	15-80.7		%Rec	1	4/5/2017 12:25:46 PM	31035
Surr: 2,4,6-Tribromophenol	53.8	0	15-112		%Rec	1	4/5/2017 12:25:46 PM	31035
Surr: Nitrobenzene-d5	65.5	0	27.2-90.7		%Rec	1	4/5/2017 12:25:46 PM	31035
Surr: 2-Fluorobiphenyl	57.5	0	23.3-85.6		%Rec	1	4/5/2017 12:25:46 PM	31035
Surr: 4-Terphenyl-d14	30.8	0	27.6-107		%Rec	1	4/5/2017 12:25:46 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Toluene	ND	0.089	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Methyl tert-butyl ether (MTBE)	22	0.15	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2-Dichloroethane (EDC)	0.59	0.12	1.0	J	µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Acetone	1.8	0.88	10	J	µg/L	1	3/31/2017 5:27:54 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 5:27:54 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 5:27:54 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:20:00 AM
Lab ID: 1703F35-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,1-Dichloroethane	1.5	0.10	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,1-Dichloroethene	0.36	0.081	1.0	J	µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 5:27:54 PM	W41801
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 5:27:54 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 5:27:54 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 5:27:54 PM	W41801
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	3/31/2017 5:27:54 PM	W41801
Surr: 4-Bromofluorobenzene	92.3	0	70-130		%Rec	1	3/31/2017 5:27:54 PM	W41801
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	3/31/2017 5:27:54 PM	W41801
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/31/2017 5:27:54 PM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:20:00 AM
Lab ID: 1703F35-004
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.022	0.0097	0.050	J	mg/L	1	3/31/2017 5:27:54 PM	R41801
Surr: BFB	91.3	0	70-130		%Rec	1	3/31/2017 5:27:54 PM	R41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:15:00 AM
Lab ID: 1703F35-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	0.026	0.0064	0.010		µg/L	1	4/5/2017 5:25:58 PM	31085
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.74	0.36	1.0	J	mg/L	1	3/31/2017 11:16:11 PM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/31/2017 11:16:11 PM	31011
Surr: DNOP	137	0	72.4-157		%Rec	1	3/31/2017 11:16:11 PM	31011
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.050	0.10		mg/L	1	3/31/2017 7:50:12 PM	R41802
Chloride	800	25	50		mg/L	100	4/7/2017 11:47:44 PM	A41988
Bromide	0.78	0.031	0.10		mg/L	1	3/31/2017 7:50:12 PM	R41802
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/31/2017 7:50:12 PM	R41802
Sulfate	59	1.9	10		mg/L	20	3/31/2017 8:02:37 PM	R41802
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	4/10/2017 8:47:52 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.29	0.00085	0.0020		mg/L	1	4/11/2017 6:00:47 PM	A42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 6:00:47 PM	A42051
Calcium	180	5.0	10		mg/L	10	4/11/2017 6:02:46 PM	A42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 6:00:47 PM	A42051
Copper	ND	0.0032	0.0060		mg/L	1	4/11/2017 6:00:47 PM	A42051
Iron	0.55	0.020	0.020	*	mg/L	1	4/11/2017 6:00:47 PM	A42051
Magnesium	30	0.50	1.0		mg/L	1	4/11/2017 6:00:47 PM	A42051
Manganese	1.6	0.0038	0.020	*	mg/L	10	4/11/2017 6:02:46 PM	A42051
Potassium	3.5	0.50	1.0		mg/L	1	4/11/2017 6:00:47 PM	A42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 6:00:47 PM	A42051
Sodium	620	5.0	10		mg/L	10	4/11/2017 6:02:46 PM	A42051
Zinc	0.018	0.0011	0.010		mg/L	1	4/11/2017 6:00:47 PM	A42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.4	0.0079	0.020		mg/L	10	4/7/2017 6:07:56 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/12/2017 8:33:26 PM	31124
Chromium	0.028	0.0027	0.0060		mg/L	1	4/7/2017 6:05:28 PM	31124
Copper	0.037	0.0030	0.0060		mg/L	1	4/7/2017 6:05:28 PM	31124
Iron	24	1.0	1.0	*	mg/L	50	4/10/2017 8:36:20 PM	31124
Manganese	3.9	0.0027	0.020	*	mg/L	10	4/7/2017 6:07:56 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:05:28 PM	31124
Zinc	0.061	0.0027	0.010		mg/L	1	4/7/2017 6:05:28 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0031	0.00089	0.0050	J	mg/L	5	4/14/2017 4:05:49 PM	B42148
Lead	0.0012	0.00017	0.00050		mg/L	1	4/12/2017 8:19:24 PM	C42080

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:15:00 AM
Lab ID: 1703F35-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.0057	0.0019	0.0050		mg/L	5	4/14/2017 4:05:49 PM	B42148
Uranium	0.033	0.00025	0.0025	*	mg/L	5	4/14/2017 4:05:49 PM	B42148
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0060	0.00021	0.0010		mg/L	1	4/10/2017 6:21:19 PM	31124
Lead	0.043	0.00041	0.0025	*	mg/L	5	4/10/2017 6:24:19 PM	31124
Selenium	0.010	0.00094	0.0050		mg/L	5	4/10/2017 6:24:19 PM	31124
Uranium	0.030	0.00087	0.0025		mg/L	5	4/10/2017 6:24:19 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00013	0.000037	0.00020	J	mg/L	1	4/14/2017 8:30:44 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Benzoic acid	ND	3.9	20		µg/L	1	4/5/2017 12:53:32 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Bis(2-ethylhexyl)phthalate	7.6	4.8	10	J	µg/L	1	4/5/2017 12:53:32 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:15:00 AM
Lab ID: 1703F35-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 12:53:32 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 12:53:32 PM	31035
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 12:53:32 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 12:53:32 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 12:53:32 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 12:53:32 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 12:53:32 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 12:53:32 PM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 12:53:32 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 12:53:32 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 12:53:32 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 12:53:32 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Phenol	4.7	3.1	10	J	µg/L	1	4/5/2017 12:53:32 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 12:53:32 PM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:15:00 AM
Lab ID: 1703F35-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 12:53:32 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 12:53:32 PM	31035
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 12:53:32 PM	31035
Surr: 2-Fluorophenol	16.4	0	15-98.1		%Rec	1	4/5/2017 12:53:32 PM	31035
Surr: Phenol-d5	11.1	0	15-80.7	S	%Rec	1	4/5/2017 12:53:32 PM	31035
Surr: 2,4,6-Tribromophenol	30.5	0	15-112		%Rec	1	4/5/2017 12:53:32 PM	31035
Surr: Nitrobenzene-d5	54.1	0	27.2-90.7		%Rec	1	4/5/2017 12:53:32 PM	31035
Surr: 2-Fluorobiphenyl	48.8	0	23.3-85.6		%Rec	1	4/5/2017 12:53:32 PM	31035
Surr: 4-Terphenyl-d14	29.4	0	27.6-107		%Rec	1	4/5/2017 12:53:32 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	3000	19	200		µg/L	200	4/1/2017 1:34:17 AM	W41801
Toluene	15	1.8	20	J	µg/L	20	4/1/2017 2:02:50 AM	W41801
Ethylbenzene	42	2.2	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Methyl tert-butyl ether (MTBE)	190	3.0	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2,4-Trimethylbenzene	ND	2.1	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,3,5-Trimethylbenzene	ND	2.3	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2-Dichloroethane (EDC)	10	2.3	20	J	µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Naphthalene	ND	1.7	40		µg/L	20	4/1/2017 2:02:50 AM	W41801
1-Methylnaphthalene	ND	3.2	80		µg/L	20	4/1/2017 2:02:50 AM	W41801
2-Methylnaphthalene	ND	3.0	80		µg/L	20	4/1/2017 2:02:50 AM	W41801
Acetone	ND	18	200		µg/L	20	4/1/2017 2:02:50 AM	W41801
Bromobenzene	ND	2.8	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Bromodichloromethane	ND	3.5	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Bromoform	ND	4.2	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Bromomethane	ND	16	60		µg/L	20	4/1/2017 2:02:50 AM	W41801
2-Butanone	ND	23	200		µg/L	20	4/1/2017 2:02:50 AM	W41801
Carbon disulfide	ND	12	200		µg/L	20	4/1/2017 2:02:50 AM	W41801
Carbon Tetrachloride	ND	2.2	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Chlorobenzene	ND	2.1	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Chloroethane	ND	4.7	40		µg/L	20	4/1/2017 2:02:50 AM	W41801
Chloroform	ND	1.8	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Chloromethane	ND	4.3	60		µg/L	20	4/1/2017 2:02:50 AM	W41801
2-Chlorotoluene	ND	8.0	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
4-Chlorotoluene	ND	8.0	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
cis-1,2-DCE	22	4.1	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
cis-1,3-Dichloropropene	ND	2.0	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	4/1/2017 2:02:50 AM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:15:00 AM
Lab ID: 1703F35-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	1.6	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Dibromomethane	ND	2.4	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2-Dichlorobenzene	ND	2.4	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,3-Dichlorobenzene	ND	2.9	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Dichlorodifluoromethane	ND	6.5	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,1-Dichloroethane	79	2.1	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,1-Dichloroethene	35	1.6	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2-Dichloropropane	ND	2.0	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,3-Dichloropropane	ND	3.1	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
2,2-Dichloropropane	ND	2.4	40		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,1-Dichloropropene	ND	2.7	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Hexachlorobutadiene	ND	7.4	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
2-Hexanone	ND	13	200		µg/L	20	4/1/2017 2:02:50 AM	W41801
Isopropylbenzene	10	2.0	20	J	µg/L	20	4/1/2017 2:02:50 AM	W41801
4-Isopropyltoluene	ND	2.8	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
4-Methyl-2-pentanone	ND	14	200		µg/L	20	4/1/2017 2:02:50 AM	W41801
Methylene Chloride	ND	2.2	60		µg/L	20	4/1/2017 2:02:50 AM	W41801
n-Butylbenzene	ND	3.2	60		µg/L	20	4/1/2017 2:02:50 AM	W41801
n-Propylbenzene	18	2.6	20	J	µg/L	20	4/1/2017 2:02:50 AM	W41801
sec-Butylbenzene	6.9	2.0	20	J	µg/L	20	4/1/2017 2:02:50 AM	W41801
Styrene	ND	3.1	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
tert-Butylbenzene	ND	2.1	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,1,1,2-Tetrachloroethane	ND	2.2	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	4/1/2017 2:02:50 AM	W41801
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
trans-1,2-DCE	ND	3.7	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
trans-1,3-Dichloropropene	ND	1.8	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2,4-Trichlorobenzene	ND	2.7	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,1,1-Trichloroethane	3.1	1.5	20	J	µg/L	20	4/1/2017 2:02:50 AM	W41801
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Trichloroethene (TCE)	ND	3.5	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
Trichlorofluoromethane	ND	3.7	20		µg/L	20	4/1/2017 2:02:50 AM	W41801
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	4/1/2017 2:02:50 AM	W41801
Vinyl chloride	16	3.6	20	J	µg/L	20	4/1/2017 2:02:50 AM	W41801
Xylenes, Total	ND	6.5	30		µg/L	20	4/1/2017 2:02:50 AM	W41801
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	20	4/1/2017 2:02:50 AM	W41801
Surr: 4-Bromofluorobenzene	88.1	0	70-130		%Rec	20	4/1/2017 2:02:50 AM	W41801

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-24
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Collection Date: 3/29/2017 10:15:00 AM
Lab ID: 1703F35-005
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	99.0	0	70-130		%Rec	20	4/1/2017 2:02:50 AM	W41801
Surr: Toluene-d8	105	0	70-130		%Rec	20	4/1/2017 2:02:50 AM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	8.2	0.19	1.0		mg/L	20	4/1/2017 2:02:50 AM	R41801
Surr: BFB	87.2	0	70-130		%Rec	20	4/1/2017 2:02:50 AM	R41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:54:00 AM
Lab ID: 1703F35-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	4/5/2017 5:41:11 PM	31085
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.95	0.36	1.0	J	mg/L	1	3/31/2017 11:37:52 PM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/31/2017 11:37:52 PM	31011
Surr: DNOP	136	0	72.4-157		%Rec	1	3/31/2017 11:37:52 PM	31011
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.095	0.050	0.10	J	mg/L	1	3/31/2017 8:15:01 PM	R41802
Chloride	380	12	25		mg/L	50	4/11/2017 1:51:52 PM	R42053
Bromide	0.56	0.031	0.10		mg/L	1	3/31/2017 8:15:01 PM	R41802
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/31/2017 8:15:01 PM	R41802
Sulfate	100	1.9	10		mg/L	20	3/31/2017 8:27:26 PM	R41802
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	4/10/2017 9:00:16 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.27	0.00085	0.0020		mg/L	1	4/11/2017 6:04:45 PM	R42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 6:04:45 PM	R42051
Calcium	120	5.0	10		mg/L	10	4/11/2017 6:06:41 PM	R42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 6:04:45 PM	R42051
Copper	ND	0.0032	0.0060		mg/L	1	4/11/2017 6:04:45 PM	R42051
Iron	0.56	0.020	0.020	*	mg/L	1	4/11/2017 6:04:45 PM	R42051
Magnesium	21	0.50	1.0		mg/L	1	4/11/2017 6:04:45 PM	R42051
Manganese	2.6	0.0038	0.020	*	mg/L	10	4/11/2017 6:06:41 PM	R42051
Potassium	0.96	0.50	1.0	J	mg/L	1	4/11/2017 6:04:45 PM	R42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 6:04:45 PM	R42051
Sodium	540	5.0	10		mg/L	10	4/11/2017 6:06:41 PM	R42051
Zinc	0.020	0.0011	0.010		mg/L	1	4/11/2017 6:04:45 PM	R42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.58	0.00079	0.0020		mg/L	1	4/7/2017 6:10:23 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/14/2017 4:18:49 PM	31124
Chromium	0.0091	0.0027	0.0060		mg/L	1	4/7/2017 6:10:23 PM	31124
Copper	0.019	0.0030	0.0060		mg/L	1	4/7/2017 6:10:23 PM	31124
Iron	8.7	0.20	0.20	*	mg/L	10	4/14/2017 4:20:31 PM	31124
Manganese	3.7	0.0027	0.020	*	mg/L	10	4/7/2017 6:12:47 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:10:23 PM	31124
Zinc	0.021	0.0027	0.010		mg/L	1	4/7/2017 6:10:23 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0054	0.00018	0.0010		mg/L	1	4/12/2017 8:28:39 PM	C42080
Lead	0.00082	0.00017	0.00050		mg/L	1	4/12/2017 8:28:39 PM	C42080

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:54:00 AM
Lab ID: 1703F35-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.0076	0.00039	0.0010		mg/L	1	4/12/2017 8:28:39 PM	C42080
Uranium	0.029	0.00025	0.0025		mg/L	5	4/14/2017 4:11:56 PM	B42148
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0059	0.00021	0.0010		mg/L	1	4/10/2017 6:27:20 PM	31124
Lead	0.020	0.000081	0.00050	*	mg/L	1	4/10/2017 6:27:20 PM	31124
Selenium	0.0050	0.00019	0.0010		mg/L	1	4/10/2017 6:27:20 PM	31124
Uranium	0.028	0.00087	0.0025		mg/L	5	4/10/2017 6:36:25 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000070	0.000037	0.00020	J	mg/L	1	4/14/2017 8:32:39 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Benzoic acid	8.0	3.9	20	J	µg/L	1	4/5/2017 1:21:27 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Bis(2-ethylhexyl)phthalate	6.1	4.8	10	J	µg/L	1	4/5/2017 1:21:27 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:54:00 AM
Lab ID: 1703F35-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 1:21:27 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 1:21:27 PM	31035
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 1:21:27 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 1:21:27 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 1:21:27 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 1:21:27 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 1:21:27 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 1:21:27 PM	31035
1-Methylnaphthalene	3.5	3.3	10	J	µg/L	1	4/5/2017 1:21:27 PM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 1:21:27 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 1:21:27 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 1:21:27 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 1:21:27 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Phenol	5.3	3.1	10	J	µg/L	1	4/5/2017 1:21:27 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 1:21:27 PM	31035

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:54:00 AM
Lab ID: 1703F35-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 1:21:27 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 1:21:27 PM	31035
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 1:21:27 PM	31035
Surr: 2-Fluorophenol	17.8	0	15-98.1		%Rec	1	4/5/2017 1:21:27 PM	31035
Surr: Phenol-d5	12.8	0	15-80.7	S	%Rec	1	4/5/2017 1:21:27 PM	31035
Surr: 2,4,6-Tribromophenol	40.9	0	15-112		%Rec	1	4/5/2017 1:21:27 PM	31035
Surr: Nitrobenzene-d5	58.3	0	27.2-90.7		%Rec	1	4/5/2017 1:21:27 PM	31035
Surr: 2-Fluorobiphenyl	52.2	0	23.3-85.6		%Rec	1	4/5/2017 1:21:27 PM	31035
Surr: 4-Terphenyl-d14	41.1	0	27.6-107		%Rec	1	4/5/2017 1:21:27 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	780	4.8	50		µg/L	50	4/1/2017 2:31:35 AM	W41801
Toluene	4.5	0.45	5.0	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
Ethylbenzene	24	0.56	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Methyl tert-butyl ether (MTBE)	120	0.74	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2,4-Trimethylbenzene	1.4	0.52	5.0	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
1,3,5-Trimethylbenzene	ND	0.58	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2-Dichloroethane (EDC)	5.7	0.58	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Naphthalene	2.8	0.42	10	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
1-Methylnaphthalene	3.5	0.80	20	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
2-Methylnaphthalene	ND	0.76	20		µg/L	5	4/1/2017 2:59:59 AM	W41801
Acetone	ND	4.4	50		µg/L	5	4/1/2017 2:59:59 AM	W41801
Bromobenzene	ND	0.70	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Bromodichloromethane	ND	0.88	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Bromoform	ND	1.1	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Bromomethane	ND	3.9	15		µg/L	5	4/1/2017 2:59:59 AM	W41801
2-Butanone	ND	5.7	50		µg/L	5	4/1/2017 2:59:59 AM	W41801
Carbon disulfide	ND	3.0	50		µg/L	5	4/1/2017 2:59:59 AM	W41801
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Chlorobenzene	ND	0.53	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Chloroethane	ND	1.2	10		µg/L	5	4/1/2017 2:59:59 AM	W41801
Chloroform	ND	0.44	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Chloromethane	ND	1.1	15		µg/L	5	4/1/2017 2:59:59 AM	W41801
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
cis-1,2-DCE	20	1.0	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
cis-1,3-Dichloropropene	ND	0.50	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	4/1/2017 2:59:59 AM	W41801

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Qualifiers:

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:54:00 AM
Lab ID: 1703F35-006 **Matrix:** AQUEOUS **Received Date:** 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.39	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Dibromomethane	ND	0.60	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2-Dichlorobenzene	ND	0.60	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Dichlorodifluoromethane	ND	1.6	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,1-Dichloroethane	150	0.52	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,1-Dichloroethene	74	0.40	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
2,2-Dichloropropane	ND	0.60	10		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Hexachlorobutadiene	ND	1.9	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
2-Hexanone	ND	3.3	50		µg/L	5	4/1/2017 2:59:59 AM	W41801
Isopropylbenzene	27	0.49	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
4-Isopropyltoluene	ND	0.70	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	4/1/2017 2:59:59 AM	W41801
Methylene Chloride	ND	0.54	15		µg/L	5	4/1/2017 2:59:59 AM	W41801
n-Butylbenzene	11	0.80	15	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
n-Propylbenzene	25	0.66	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
sec-Butylbenzene	5.3	0.51	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Styrene	ND	0.78	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	4/1/2017 2:59:59 AM	W41801
Tetrachloroethene (PCE)	0.84	0.76	5.0	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
trans-1,3-Dichloropropene	ND	0.45	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,1,1-Trichloroethane	21	0.36	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,1,2-Trichloroethane	1.3	0.70	5.0	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
Trichloroethene (TCE)	17	0.88	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	4/1/2017 2:59:59 AM	W41801
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	4/1/2017 2:59:59 AM	W41801
Vinyl chloride	2.7	0.89	5.0	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
Xylenes, Total	4.3	1.6	7.5	J	µg/L	5	4/1/2017 2:59:59 AM	W41801
Surr: 1,2-Dichloroethane-d4	81.4	0	70-130		%Rec	5	4/1/2017 2:59:59 AM	W41801
Surr: 4-Bromofluorobenzene	86.7	0	70-130		%Rec	5	4/1/2017 2:59:59 AM	W41801

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 10:54:00 AM
Lab ID: 1703F35-006
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	76.4	0	70-130		%Rec	5	4/1/2017 2:59:59 AM	W41801
Surr: Toluene-d8	105	0	70-130		%Rec	5	4/1/2017 2:59:59 AM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	7.8	0.048	0.25		mg/L	5	4/1/2017 2:59:59 AM	R41801
Surr: BFB	90.0	0	70-130		%Rec	5	4/1/2017 2:59:59 AM	R41801

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:51:00 AM
Lab ID: 1703F35-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/31/2017 11:59:45 PM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/31/2017 11:59:45 PM	31011
Surr: DNOP	137	0	72.4-157		%Rec	1	3/31/2017 11:59:45 PM	31011
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.87	0.050	0.10		mg/L	1	3/31/2017 8:39:50 PM	R41802
Chloride	410	12	25		mg/L	50	4/8/2017 12:24:59 AM	A41988
Bromide	2.2	0.031	0.10		mg/L	1	3/31/2017 8:39:50 PM	R41802
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/31/2017 8:39:50 PM	R41802
Sulfate	160	1.9	10		mg/L	20	3/31/2017 8:52:15 PM	R41802
Nitrate+Nitrite as N	1.0	0.13	1.0		mg/L	5	4/10/2017 9:12:41 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.049	0.00085	0.0020		mg/L	1	4/11/2017 6:08:40 PM	A42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 6:08:40 PM	A42051
Calcium	43	0.50	1.0		mg/L	1	4/11/2017 6:08:40 PM	A42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 6:08:40 PM	A42051
Copper	ND	0.0032	0.0060		mg/L	1	4/11/2017 6:08:40 PM	A42051
Iron	0.11	0.020	0.020		mg/L	1	4/11/2017 6:08:40 PM	A42051
Magnesium	8.5	0.50	1.0		mg/L	1	4/11/2017 6:08:40 PM	A42051
Manganese	0.011	0.00038	0.0020		mg/L	1	4/11/2017 6:08:40 PM	A42051
Potassium	1.9	0.50	1.0		mg/L	1	4/11/2017 6:08:40 PM	A42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 6:08:40 PM	A42051
Sodium	550	5.0	10		mg/L	10	4/11/2017 6:10:38 PM	A42051
Zinc	0.016	0.0011	0.010		mg/L	1	4/11/2017 6:08:40 PM	A42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.36	0.00079	0.0020		mg/L	1	4/7/2017 6:15:24 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/12/2017 8:35:17 PM	31124
Chromium	0.0093	0.0027	0.0060		mg/L	1	4/7/2017 6:15:24 PM	31124
Copper	0.013	0.0030	0.0060		mg/L	1	4/7/2017 6:15:24 PM	31124
Iron	21	1.0	1.0	*	mg/L	50	4/10/2017 8:38:16 PM	31124
Manganese	0.89	0.00027	0.0020	*	mg/L	1	4/7/2017 6:15:24 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:15:24 PM	31124
Zinc	0.079	0.0027	0.010		mg/L	1	4/7/2017 6:15:24 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0029	0.00089	0.0050	J	mg/L	5	4/14/2017 4:14:59 PM	B42148
Lead	0.00042	0.00017	0.00050	J	mg/L	1	4/12/2017 8:31:42 PM	C42080
Selenium	0.0081	0.0039	0.010	J	mg/L	10	4/14/2017 4:18:02 PM	B42148
Uranium	0.16	0.00050	0.0050	*	mg/L	10	4/14/2017 4:18:02 PM	B42148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:51:00 AM
Lab ID: 1703F35-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0089	0.0011	0.0050		mg/L	5	4/10/2017 6:42:26 PM	31124
Lead	0.025	0.00041	0.0025	*	mg/L	5	4/10/2017 6:42:26 PM	31124
Selenium	0.014	0.00094	0.0050		mg/L	5	4/10/2017 6:42:26 PM	31124
Uranium	0.16	0.0017	0.0050	*	mg/L	10	4/12/2017 12:34:55 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000088	0.000037	0.00020	J	mg/L	1	4/14/2017 8:34:34 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Benzoic acid	6.5	3.9	20	J	µg/L	1	4/5/2017 1:49:24 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Bis(2-ethylhexyl)phthalate	6.6	4.8	10	J	µg/L	1	4/5/2017 1:49:24 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 1:49:24 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 1:49:24 PM	31035

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Lab ID: 1703F35-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 1:49:24 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 1:49:24 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 1:49:24 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 1:49:24 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 1:49:24 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 1:49:24 PM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 1:49:24 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 1:49:24 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 1:49:24 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 1:49:24 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Phenol	ND	3.1	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 1:49:24 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 1:49:24 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 1:49:24 PM	31035

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Client Sample ID: MKTF-28
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:51:00 AM
Lab ID: 1703F35-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 1:49:24 PM	31035
Surr: 2-Fluorophenol	56.8	0	15-98.1		%Rec	1	4/5/2017 1:49:24 PM	31035
Surr: Phenol-d5	38.9	0	15-80.7		%Rec	1	4/5/2017 1:49:24 PM	31035
Surr: 2,4,6-Tribromophenol	76.3	0	15-112		%Rec	1	4/5/2017 1:49:24 PM	31035
Surr: Nitrobenzene-d5	81.7	0	27.2-90.7		%Rec	1	4/5/2017 1:49:24 PM	31035
Surr: 2-Fluorobiphenyl	71.9	0	23.3-85.6		%Rec	1	4/5/2017 1:49:24 PM	31035
Surr: 4-Terphenyl-d14	65.0	0	27.6-107		%Rec	1	4/5/2017 1:49:24 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Toluene	ND	0.089	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Methyl tert-butyl ether (MTBE)	0.97	0.15	1.0	J	µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Acetone	1.9	0.88	10	J	µg/L	1	3/31/2017 5:56:36 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 5:56:36 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 5:56:36 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 5:56:36 PM	W41801
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 5:56:36 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 5:56:36 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 5:56:36 PM	W41801
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	3/31/2017 5:56:36 PM	W41801
Surr: 4-Bromofluorobenzene	93.5	0	70-130		%Rec	1	3/31/2017 5:56:36 PM	W41801
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	3/31/2017 5:56:36 PM	W41801
Surr: Toluene-d8	103	0	70-130		%Rec	1	3/31/2017 5:56:36 PM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 8:51:00 AM
Lab ID: 1703F35-007
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	3/31/2017 5:56:36 PM	R41801
Surr: BFB	92.0	0	70-130		%Rec	1	3/31/2017 5:56:36 PM	R41801

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:50:00 AM
Lab ID: 1703F35-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	4/5/2017 5:56:27 PM	31085
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.43	0.36	1.0	J	mg/L	1	4/1/2017 12:21:39 AM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	4/1/2017 12:21:39 AM	31011
Surr: DNOP	137	0	72.4-157		%Rec	1	4/1/2017 12:21:39 AM	31011
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.61	0.050	0.10		mg/L	1	4/10/2017 10:02:20 PM	R42002
Chloride	110	5.0	10		mg/L	20	4/10/2017 10:14:45 PM	R42002
Bromide	0.38	0.031	0.10		mg/L	1	4/10/2017 10:02:20 PM	R42002
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	4/10/2017 10:02:20 PM	R42002
Sulfate	680	1.9	10		mg/L	20	4/10/2017 10:14:45 PM	R42002
Nitrate+Nitrite as N	0.21	0.13	1.0	J	mg/L	5	4/10/2017 11:16:49 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.027	0.00085	0.0020		mg/L	1	4/11/2017 6:12:33 PM	R42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 6:12:33 PM	R42051
Calcium	72	0.50	1.0		mg/L	1	4/11/2017 6:12:33 PM	R42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 6:12:33 PM	R42051
Copper	ND	0.0032	0.0060		mg/L	1	4/11/2017 6:12:33 PM	R42051
Iron	ND	0.020	0.020		mg/L	1	4/11/2017 6:12:33 PM	R42051
Magnesium	10	0.50	1.0		mg/L	1	4/11/2017 6:12:33 PM	R42051
Manganese	0.37	0.00038	0.0020	*	mg/L	1	4/11/2017 6:12:33 PM	R42051
Potassium	ND	0.50	1.0		mg/L	1	4/11/2017 6:12:33 PM	R42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 6:12:33 PM	R42051
Sodium	520	5.0	10		mg/L	10	4/11/2017 6:21:00 PM	R42051
Zinc	0.018	0.0011	0.010		mg/L	1	4/11/2017 6:12:33 PM	R42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.080	0.00079	0.0020		mg/L	1	4/7/2017 6:20:25 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/12/2017 8:37:05 PM	31124
Chromium	ND	0.0027	0.0060		mg/L	1	4/7/2017 6:20:25 PM	31124
Copper	ND	0.0030	0.0060		mg/L	1	4/7/2017 6:20:25 PM	31124
Iron	1.8	0.20	0.20	*	mg/L	10	4/10/2017 8:52:53 PM	31124
Manganese	0.48	0.00027	0.0020	*	mg/L	1	4/7/2017 6:20:25 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:20:25 PM	31124
Zinc	0.0048	0.0027	0.010	J	mg/L	1	4/7/2017 6:20:25 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0018	0.00018	0.0010		mg/L	1	4/12/2017 8:34:46 PM	C42080
Lead	ND	0.00017	0.00050		mg/L	1	4/12/2017 8:34:46 PM	C42080

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:50:00 AM
Lab ID: 1703F35-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.0037	0.00039	0.0010		mg/L	1	4/12/2017 8:34:46 PM	C42080
Uranium	0.013	0.000050	0.00050		mg/L	1	4/12/2017 8:34:46 PM	C42080
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0016	0.00021	0.0010		mg/L	1	4/10/2017 6:45:26 PM	31124
Lead	0.0010	0.000081	0.00050		mg/L	1	4/10/2017 6:45:26 PM	31124
Selenium	0.0024	0.00019	0.0010		mg/L	1	4/10/2017 6:45:26 PM	31124
Uranium	0.012	0.00017	0.00050		mg/L	1	4/10/2017 6:45:26 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	4/14/2017 8:36:30 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Benzoic acid	6.3	3.9	20	J	µg/L	1	4/5/2017 2:17:23 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Bis(2-ethylhexyl)phthalate	6.4	4.8	10	J	µg/L	1	4/5/2017 2:17:23 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:50:00 AM
Lab ID: 1703F35-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 2:17:23 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 2:17:23 PM	31035
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 2:17:23 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 2:17:23 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 2:17:23 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 2:17:23 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 2:17:23 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 2:17:23 PM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 2:17:23 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 2:17:23 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 2:17:23 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 2:17:23 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Phenol	ND	3.1	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 2:17:23 PM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:50:00 AM
Lab ID: 1703F35-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 2:17:23 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 2:17:23 PM	31035
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 2:17:23 PM	31035
Surr: 2-Fluorophenol	41.7	0	15-98.1		%Rec	1	4/5/2017 2:17:23 PM	31035
Surr: Phenol-d5	27.0	0	15-80.7		%Rec	1	4/5/2017 2:17:23 PM	31035
Surr: 2,4,6-Tribromophenol	64.5	0	15-112		%Rec	1	4/5/2017 2:17:23 PM	31035
Surr: Nitrobenzene-d5	66.3	0	27.2-90.7		%Rec	1	4/5/2017 2:17:23 PM	31035
Surr: 2-Fluorobiphenyl	60.0	0	23.3-85.6		%Rec	1	4/5/2017 2:17:23 PM	31035
Surr: 4-Terphenyl-d14	57.1	0	27.6-107		%Rec	1	4/5/2017 2:17:23 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Toluene	ND	0.089	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Methyl tert-butyl ether (MTBE)	9.6	0.15	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Acetone	2.5	0.88	10	J	µg/L	1	3/31/2017 11:39:47 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 11:39:47 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 11:39:47 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 11:39:47 PM	W41801

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:50:00 AM
Lab ID: 1703F35-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 11:39:47 PM	W41801
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 11:39:47 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 11:39:47 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 11:39:47 PM	W41801
Surr: 1,2-Dichloroethane-d4	113	0	70-130		%Rec	1	3/31/2017 11:39:47 PM	W41801
Surr: 4-Bromofluorobenzene	88.5	0	70-130		%Rec	1	3/31/2017 11:39:47 PM	W41801

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Hall Environmental Analysis Laboratory, Inc.

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Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 9:50:00 AM
Lab ID: 1703F35-008
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	3/31/2017 11:39:47 PM	W41801
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/31/2017 11:39:47 PM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.013	0.0097	0.050	J	mg/L	1	3/31/2017 11:39:47 PM	R41801
Surr: BFB	89.0	0	70-130		%Rec	1	3/31/2017 11:39:47 PM	R41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 11:46:00 AM
Lab ID: 1703F35-009
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.52	0.36	1.0	J	mg/L	1	4/1/2017 12:43:23 AM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	4/1/2017 12:43:23 AM	31011
Surr: DNOP	140	0	72.4-157		%Rec	1	4/1/2017 12:43:23 AM	31011
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.10	0.050	0.10		mg/L	1	4/10/2017 10:27:10 PM	R42002
Chloride	630	12	25		mg/L	50	4/11/2017 2:04:16 PM	R42053
Bromide	1.8	0.031	0.10		mg/L	1	4/10/2017 10:27:10 PM	R42002
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	4/10/2017 10:27:10 PM	R42002
Sulfate	24	0.096	0.50		mg/L	1	4/10/2017 10:27:10 PM	R42002
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	4/10/2017 11:29:13 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.30	0.00085	0.0020		mg/L	1	4/11/2017 6:23:01 PM	A42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 6:23:01 PM	A42051
Calcium	95	0.50	1.0		mg/L	1	4/11/2017 6:23:01 PM	A42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 6:23:01 PM	A42051
Copper	0.0066	0.0032	0.0060		mg/L	1	4/11/2017 6:23:01 PM	A42051
Iron	0.085	0.020	0.020		mg/L	1	4/11/2017 6:23:01 PM	A42051
Magnesium	18	0.50	1.0		mg/L	1	4/11/2017 6:23:01 PM	A42051
Manganese	0.10	0.00038	0.0020	*	mg/L	1	4/11/2017 6:23:01 PM	A42051
Potassium	1.5	0.50	1.0		mg/L	1	4/11/2017 6:23:01 PM	A42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 6:23:01 PM	A42051
Sodium	490	5.0	10		mg/L	10	4/11/2017 6:25:00 PM	A42051
Zinc	0.039	0.0011	0.010		mg/L	1	4/11/2017 6:23:01 PM	A42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.46	0.00079	0.0020		mg/L	1	4/10/2017 8:54:48 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/12/2017 8:39:07 PM	31124
Chromium	0.010	0.0027	0.0060		mg/L	1	4/10/2017 8:54:48 PM	31124
Copper	0.010	0.0030	0.0060		mg/L	1	4/7/2017 6:37:13 PM	31124
Iron	6.4	0.20	0.20	*	mg/L	10	4/10/2017 8:56:32 PM	31124
Manganese	0.33	0.00027	0.0020	*	mg/L	1	4/10/2017 8:54:48 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:37:13 PM	31124
Zinc	0.025	0.0027	0.010		mg/L	1	4/10/2017 8:54:48 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0035	0.00089	0.0050	J	mg/L	5	4/14/2017 4:21:06 PM	B42148
Lead	0.00041	0.00017	0.00050	J	mg/L	1	4/12/2017 8:37:49 PM	C42080
Selenium	ND	0.0077	0.020		mg/L	20	4/14/2017 4:24:09 PM	B42148
Uranium	0.022	0.000050	0.00050		mg/L	1	4/12/2017 8:37:49 PM	C42080

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 11:46:00 AM
Lab ID: 1703F35-009
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0074	0.0011	0.0050		mg/L	5	4/10/2017 6:54:28 PM	31124
Lead	0.0069	0.000081	0.00050		mg/L	1	4/10/2017 6:51:27 PM	31124
Selenium	0.013	0.00094	0.0050		mg/L	5	4/10/2017 6:54:28 PM	31124
Uranium	0.022	0.00087	0.0025		mg/L	5	4/10/2017 6:54:28 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000041	0.000037	0.00020	J	mg/L	1	4/14/2017 8:42:28 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Benzoic acid	7.7	3.9	20	J	µg/L	1	4/5/2017 2:45:26 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Bis(2-ethylhexyl)phthalate	5.6	4.8	10	J	µg/L	1	4/5/2017 2:45:26 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 2:45:26 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 2:45:26 PM	31035

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 11:46:00 AM
Lab ID: 1703F35-009
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 2:45:26 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 2:45:26 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 2:45:26 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 2:45:26 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 2:45:26 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 2:45:26 PM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 2:45:26 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 2:45:26 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 2:45:26 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 2:45:26 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Phenol	ND	3.1	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 2:45:26 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 2:45:26 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 2:45:26 PM	31035

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Lab ID: 1703F35-009
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Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 2:45:26 PM	31035
Surr: 2-Fluorophenol	17.8	0	15-98.1		%Rec	1	4/5/2017 2:45:26 PM	31035
Surr: Phenol-d5	15.6	0	15-80.7		%Rec	1	4/5/2017 2:45:26 PM	31035
Surr: 2,4,6-Tribromophenol	33.4	0	15-112		%Rec	1	4/5/2017 2:45:26 PM	31035
Surr: Nitrobenzene-d5	51.3	0	27.2-90.7		%Rec	1	4/5/2017 2:45:26 PM	31035
Surr: 2-Fluorobiphenyl	47.5	0	23.3-85.6		%Rec	1	4/5/2017 2:45:26 PM	31035
Surr: 4-Terphenyl-d14	32.9	0	27.6-107		%Rec	1	4/5/2017 2:45:26 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.24	0.096	1.0	J	µg/L	1	3/31/2017 6:25:21 PM	W41801
Toluene	ND	0.089	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Methyl tert-butyl ether (MTBE)	120	0.15	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2-Dichloroethane (EDC)	4.7	0.12	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Acetone	ND	0.88	10		µg/L	1	3/31/2017 6:25:21 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 6:25:21 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 6:25:21 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 11:46:00 AM
Lab ID: 1703F35-009
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,1-Dichloroethane	0.64	0.10	1.0	J	µg/L	1	3/31/2017 6:25:21 PM	W41801
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 6:25:21 PM	W41801
Isopropylbenzene	0.52	0.098	1.0	J	µg/L	1	3/31/2017 6:25:21 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 6:25:21 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
sec-Butylbenzene	0.34	0.10	1.0	J	µg/L	1	3/31/2017 6:25:21 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 6:25:21 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 6:25:21 PM	W41801
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	1	3/31/2017 6:25:21 PM	W41801
Surr: 4-Bromofluorobenzene	91.9	0	70-130		%Rec	1	3/31/2017 6:25:21 PM	W41801
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	3/31/2017 6:25:21 PM	W41801
Surr: Toluene-d8	107	0	70-130		%Rec	1	3/31/2017 6:25:21 PM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

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Qualifiers:

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Client Sample ID: OW-56
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 11:46:00 AM
Lab ID: 1703F35-009
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.15	0.0097	0.050		mg/L	1	3/31/2017 6:25:21 PM	R41801
Surr: BFB	92.9	0	70-130		%Rec	1	3/31/2017 6:25:21 PM	R41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:15:00 PM
Lab ID: 1703F35-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.4	0.36	1.0		mg/L	1	4/1/2017 1:05:12 AM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	4/1/2017 1:05:12 AM	31011
Surr: DNOP	140	0	72.4-157		%Rec	1	4/1/2017 1:05:12 AM	31011
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.050	0.10		mg/L	1	4/10/2017 10:51:59 PM	R42002
Chloride	410	12	25		mg/L	50	4/11/2017 2:41:29 PM	R42053
Bromide	1.1	0.031	0.10		mg/L	1	4/10/2017 10:51:59 PM	R42002
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	4/10/2017 10:51:59 PM	R42002
Sulfate	1.2	0.096	0.50		mg/L	1	4/10/2017 10:51:59 PM	R42002
Nitrate+Nitrite as N	0.73	0.13	1.0	J	mg/L	5	4/10/2017 11:41:38 PM	R42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.63	0.00085	0.0020		mg/L	1	4/11/2017 6:26:56 PM	A42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 6:26:56 PM	A42051
Calcium	130	5.0	10		mg/L	10	4/11/2017 6:28:39 PM	A42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 6:26:56 PM	A42051
Copper	ND	0.0032	0.0060		mg/L	1	4/11/2017 6:26:56 PM	A42051
Iron	5.0	0.20	0.20	*	mg/L	10	4/11/2017 6:28:39 PM	A42051
Magnesium	35	0.50	1.0		mg/L	1	4/11/2017 6:26:56 PM	A42051
Manganese	4.2	0.0038	0.020	*	mg/L	10	4/11/2017 6:28:39 PM	A42051
Potassium	ND	0.50	1.0		mg/L	1	4/11/2017 6:26:56 PM	A42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 6:26:56 PM	A42051
Sodium	410	5.0	10		mg/L	10	4/11/2017 6:28:39 PM	A42051
Zinc	0.0083	0.0011	0.010	J	mg/L	1	4/11/2017 6:26:56 PM	A42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.81	0.00079	0.0020		mg/L	1	4/10/2017 8:58:28 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/12/2017 8:40:50 PM	31124
Chromium	0.012	0.0027	0.0060		mg/L	1	4/10/2017 8:58:28 PM	31124
Copper	0.010	0.0030	0.0060		mg/L	1	4/7/2017 6:42:21 PM	31124
Iron	15	1.0	1.0	*	mg/L	50	4/10/2017 8:40:08 PM	31124
Manganese	4.6	0.0027	0.020	*	mg/L	10	4/10/2017 9:00:18 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:42:21 PM	31124
Zinc	0.026	0.0027	0.010		mg/L	1	4/10/2017 8:58:28 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0058	0.00089	0.0050		mg/L	5	4/14/2017 4:27:12 PM	B42148
Lead	0.00091	0.00017	0.00050		mg/L	1	4/12/2017 8:40:53 PM	C42080
Selenium	0.0047	0.0019	0.0050	J	mg/L	5	4/14/2017 4:27:12 PM	B42148
Uranium	0.0047	0.000050	0.00050		mg/L	1	4/12/2017 8:40:53 PM	C42080

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:15:00 PM
Lab ID: 1703F35-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0079	0.00021	0.0010		mg/L	1	4/10/2017 6:57:28 PM	31124
Lead	0.018	0.000081	0.00050	*	mg/L	1	4/10/2017 6:57:28 PM	31124
Selenium	0.0075	0.00019	0.0010		mg/L	1	4/10/2017 6:57:28 PM	31124
Uranium	0.0056	0.00017	0.00050		mg/L	1	4/10/2017 6:57:28 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000037	0.000037	0.00020	J	mg/L	1	4/14/2017 8:44:24 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Benzoic acid	ND	3.9	20		µg/L	1	4/5/2017 3:13:28 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Bis(2-ethylhexyl)phthalate	6.7	4.8	10	J	µg/L	1	4/5/2017 3:13:28 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 3:13:28 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 3:13:28 PM	31035

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 3:13:28 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 3:13:28 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 3:13:28 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 3:13:28 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 3:13:28 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 3:13:28 PM	31035
1-Methylnaphthalene	11	3.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2-Methylnaphthalene	15	3.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
3+4-Methylphenol	3.9	3.2	10	J	µg/L	1	4/5/2017 3:13:28 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Naphthalene	35	2.9	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 3:13:28 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 3:13:28 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 3:13:28 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Phenol	26	3.1	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 3:13:28 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 3:13:28 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 3:13:28 PM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:15:00 PM
Lab ID: 1703F35-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 3:13:28 PM	31035
Surr: 2-Fluorophenol	25.3	0	15-98.1		%Rec	1	4/5/2017 3:13:28 PM	31035
Surr: Phenol-d5	19.9	0	15-80.7		%Rec	1	4/5/2017 3:13:28 PM	31035
Surr: 2,4,6-Tribromophenol	44.4	0	15-112		%Rec	1	4/5/2017 3:13:28 PM	31035
Surr: Nitrobenzene-d5	61.2	0	27.2-90.7		%Rec	1	4/5/2017 3:13:28 PM	31035
Surr: 2-Fluorobiphenyl	52.8	0	23.3-85.6		%Rec	1	4/5/2017 3:13:28 PM	31035
Surr: 4-Terphenyl-d14	33.2	0	27.6-107		%Rec	1	4/5/2017 3:13:28 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	14000	48	500		µg/L	500	4/1/2017 3:28:36 AM	W41801
Toluene	1100	4.5	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Ethylbenzene	740	5.6	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Methyl tert-butyl ether (MTBE)	2000	7.4	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2,4-Trimethylbenzene	390	5.2	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,3,5-Trimethylbenzene	100	5.8	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2-Dichloroethane (EDC)	ND	5.8	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Naphthalene	70	4.2	100	J	µg/L	50	4/1/2017 3:57:11 AM	W41801
1-Methylnaphthalene	27	8.0	200	J	µg/L	50	4/1/2017 3:57:11 AM	W41801
2-Methylnaphthalene	21	7.6	200	J	µg/L	50	4/1/2017 3:57:11 AM	W41801
Acetone	ND	44	500		µg/L	50	4/1/2017 3:57:11 AM	W41801
Bromobenzene	ND	7.0	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Bromodichloromethane	ND	8.8	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Bromoform	ND	11	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Bromomethane	ND	39	150		µg/L	50	4/1/2017 3:57:11 AM	W41801
2-Butanone	ND	57	500		µg/L	50	4/1/2017 3:57:11 AM	W41801
Carbon disulfide	ND	30	500		µg/L	50	4/1/2017 3:57:11 AM	W41801
Carbon Tetrachloride	ND	5.5	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Chlorobenzene	ND	5.3	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Chloroethane	ND	12	100		µg/L	50	4/1/2017 3:57:11 AM	W41801
Chloroform	ND	4.4	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Chloromethane	ND	11	150		µg/L	50	4/1/2017 3:57:11 AM	W41801
2-Chlorotoluene	ND	20	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
4-Chlorotoluene	ND	20	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
cis-1,2-DCE	ND	10	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
cis-1,3-Dichloropropene	ND	5.0	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	4/1/2017 3:57:11 AM	W41801
Dibromochloromethane	ND	3.9	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Dibromomethane	ND	6.0	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2-Dichlorobenzene	ND	6.0	50		µg/L	50	4/1/2017 3:57:11 AM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:15:00 PM
Lab ID: 1703F35-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	7.2	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,4-Dichlorobenzene	ND	20	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Dichlorodifluoromethane	ND	16	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,1-Dichloroethane	ND	5.2	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,1-Dichloroethene	ND	4.0	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2-Dichloropropane	ND	5.1	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,3-Dichloropropane	ND	7.8	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
2,2-Dichloropropane	ND	6.0	100		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,1-Dichloropropene	ND	6.7	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Hexachlorobutadiene	ND	19	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
2-Hexanone	ND	33	500		µg/L	50	4/1/2017 3:57:11 AM	W41801
Isopropylbenzene	20	4.9	50	J	µg/L	50	4/1/2017 3:57:11 AM	W41801
4-Isopropyltoluene	ND	7.0	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
4-Methyl-2-pentanone	ND	35	500		µg/L	50	4/1/2017 3:57:11 AM	W41801
Methylene Chloride	ND	5.4	150		µg/L	50	4/1/2017 3:57:11 AM	W41801
n-Butylbenzene	ND	8.0	150		µg/L	50	4/1/2017 3:57:11 AM	W41801
n-Propylbenzene	83	6.6	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
sec-Butylbenzene	17	5.1	50	J	µg/L	50	4/1/2017 3:57:11 AM	W41801
Styrene	ND	7.8	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
tert-Butylbenzene	ND	5.2	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,1,1,2-Tetrachloroethane	ND	5.6	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	4/1/2017 3:57:11 AM	W41801
Tetrachloroethene (PCE)	ND	7.6	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
trans-1,2-DCE	ND	9.2	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
trans-1,3-Dichloropropene	ND	4.5	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2,3-Trichlorobenzene	ND	5.6	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2,4-Trichlorobenzene	ND	6.6	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Trichloroethene (TCE)	ND	8.8	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Trichlorofluoromethane	ND	9.1	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
1,2,3-Trichloropropane	ND	19	100		µg/L	50	4/1/2017 3:57:11 AM	W41801
Vinyl chloride	ND	8.9	50		µg/L	50	4/1/2017 3:57:11 AM	W41801
Xylenes, Total	1100	16	75		µg/L	50	4/1/2017 3:57:11 AM	W41801
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	50	4/1/2017 3:57:11 AM	W41801
Surr: 4-Bromofluorobenzene	91.1	0	70-130		%Rec	50	4/1/2017 3:57:11 AM	W41801
Surr: Dibromofluoromethane	105	0	70-130		%Rec	50	4/1/2017 3:57:11 AM	W41801
Surr: Toluene-d8	106	0	70-130		%Rec	50	4/1/2017 3:57:11 AM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:15:00 PM
Lab ID: 1703F35-010
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	39	0.48	2.5		mg/L	50	4/1/2017 3:57:11 AM	R41801
Surr: BFB	91.9	0	70-130		%Rec	50	4/1/2017 3:57:11 AM	R41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:49:00 PM
Lab ID: 1703F35-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.7	0.36	1.0		mg/L	1	4/1/2017 1:27:02 AM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	4/1/2017 1:27:02 AM	31011
Surr: DNOP	139	0	72.4-157		%Rec	1	4/1/2017 1:27:02 AM	31011
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.12	0.050	0.10		mg/L	1	4/11/2017 12:56:06 AM	A42002
Chloride	330	5.0	10		mg/L	20	4/11/2017 1:08:31 AM	A42002
Bromide	2.1	0.031	0.10		mg/L	1	4/11/2017 12:56:06 AM	A42002
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	4/11/2017 12:56:06 AM	A42002
Sulfate	42	0.096	0.50		mg/L	1	4/11/2017 12:56:06 AM	A42002
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	4/11/2017 1:45:45 AM	A42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.22	0.00085	0.0020		mg/L	1	4/11/2017 6:30:36 PM	A42051
Cadmium	ND	0.0010	0.0020		mg/L	1	4/11/2017 6:30:36 PM	A42051
Calcium	72	0.50	1.0		mg/L	1	4/11/2017 6:30:36 PM	A42051
Chromium	ND	0.0010	0.0060		mg/L	1	4/11/2017 6:30:36 PM	A42051
Copper	0.012	0.0032	0.0060		mg/L	1	4/11/2017 6:30:36 PM	A42051
Iron	0.72	0.020	0.020	*	mg/L	1	4/11/2017 6:30:36 PM	A42051
Magnesium	19	0.50	1.0		mg/L	1	4/11/2017 6:30:36 PM	A42051
Manganese	1.5	0.0038	0.020	*	mg/L	10	4/11/2017 6:32:33 PM	A42051
Potassium	ND	0.50	1.0		mg/L	1	4/11/2017 6:30:36 PM	A42051
Silver	ND	0.00088	0.0050		mg/L	1	4/11/2017 6:30:36 PM	A42051
Sodium	430	5.0	10		mg/L	10	4/11/2017 6:32:33 PM	A42051
Zinc	0.016	0.0011	0.010		mg/L	1	4/11/2017 6:30:36 PM	A42051
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.7	0.0079	0.020		mg/L	10	4/10/2017 9:04:06 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/12/2017 8:42:40 PM	31124
Chromium	0.021	0.0027	0.0060		mg/L	1	4/10/2017 9:02:16 PM	31124
Copper	0.12	0.0030	0.0060		mg/L	1	4/7/2017 6:47:22 PM	31124
Iron	21	1.0	1.0	*	mg/L	50	4/10/2017 8:48:40 PM	31124
Manganese	2.4	0.0027	0.020	*	mg/L	10	4/10/2017 9:04:06 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:47:22 PM	31124
Zinc	0.039	0.0027	0.010		mg/L	1	4/10/2017 9:02:16 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0041	0.00089	0.0050	J	mg/L	5	4/14/2017 4:39:29 PM	B42148
Lead	0.0081	0.00017	0.00050		mg/L	1	4/12/2017 8:43:56 PM	C42080
Selenium	ND	0.0077	0.020		mg/L	20	4/14/2017 4:42:32 PM	B42148
Uranium	0.059	0.00025	0.0025	*	mg/L	5	4/14/2017 4:39:29 PM	B42148

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:49:00 PM
Lab ID: 1703F35-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0092	0.0011	0.0050		mg/L	5	4/10/2017 7:12:34 PM	31124
Lead	0.043	0.00041	0.0025	*	mg/L	5	4/10/2017 7:12:34 PM	31124
Selenium	0.014	0.00094	0.0050		mg/L	5	4/10/2017 7:12:34 PM	31124
Uranium	0.060	0.00087	0.0025	*	mg/L	5	4/10/2017 7:12:34 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00011	0.000037	0.00020	J	mg/L	1	4/14/2017 8:46:20 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Benzoic acid	6.6	3.9	20	J	µg/L	1	4/5/2017 3:41:09 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Bis(2-ethylhexyl)phthalate	5.5	4.8	10	J	µg/L	1	4/5/2017 3:41:09 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 3:41:09 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 3:41:09 PM	31035

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:49:00 PM
Lab ID: 1703F35-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 3:41:09 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 3:41:09 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 3:41:09 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 3:41:09 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 3:41:09 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 3:41:09 PM	31035
1-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2-Methylnaphthalene	ND	3.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
3+4-Methylphenol	ND	3.2	10		µg/L	1	4/5/2017 3:41:09 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Naphthalene	ND	2.9	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 3:41:09 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 3:41:09 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 3:41:09 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Phenol	ND	3.1	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 3:41:09 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 3:41:09 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 3:41:09 PM	31035

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:49:00 PM
Lab ID: 1703F35-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 3:41:09 PM	31035
Surr: 2-Fluorophenol	19.9	0	15-98.1		%Rec	1	4/5/2017 3:41:09 PM	31035
Surr: Phenol-d5	17.7	0	15-80.7		%Rec	1	4/5/2017 3:41:09 PM	31035
Surr: 2,4,6-Tribromophenol	45.4	0	15-112		%Rec	1	4/5/2017 3:41:09 PM	31035
Surr: Nitrobenzene-d5	47.5	0	27.2-90.7		%Rec	1	4/5/2017 3:41:09 PM	31035
Surr: 2-Fluorobiphenyl	51.6	0	23.3-85.6		%Rec	1	4/5/2017 3:41:09 PM	31035
Surr: 4-Terphenyl-d14	39.8	0	27.6-107		%Rec	1	4/5/2017 3:41:09 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	150	1.9	20		µg/L	20	4/3/2017 5:54:01 PM	RR4185
Toluene	4.7	0.089	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Ethylbenzene	42	0.11	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Methyl tert-butyl ether (MTBE)	2200	3.0	20		µg/L	20	4/3/2017 5:54:01 PM	RR4185
1,2,4-Trimethylbenzene	20	0.10	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,3,5-Trimethylbenzene	2.1	0.12	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2-Dichloroethane (EDC)	0.64	0.12	1.0	J	µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Naphthalene	1.5	0.083	2.0	J	µg/L	1	4/1/2017 12:37:03 AM	W41801
1-Methylnaphthalene	0.63	0.16	4.0	J	µg/L	1	4/1/2017 12:37:03 AM	W41801
2-Methylnaphthalene	0.61	0.15	4.0	J	µg/L	1	4/1/2017 12:37:03 AM	W41801
Acetone	ND	0.88	10		µg/L	1	4/1/2017 12:37:03 AM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
2-Butanone	ND	1.1	10		µg/L	1	4/1/2017 12:37:03 AM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	4/1/2017 12:37:03 AM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Dibromochloromethane	ND	0.078	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:49:00 PM
Lab ID: 1703F35-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	4/1/2017 12:37:03 AM	W41801
Isopropylbenzene	1.3	0.098	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	4/1/2017 12:37:03 AM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
n-Butylbenzene	0.49	0.16	3.0	J	µg/L	1	4/1/2017 12:37:03 AM	W41801
n-Propylbenzene	5.3	0.13	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
sec-Butylbenzene	1.1	0.10	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Styrene	ND	0.16	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	4/1/2017 12:37:03 AM	W41801
Xylenes, Total	3.9	0.32	1.5		µg/L	1	4/1/2017 12:37:03 AM	W41801
Surr: 1,2-Dichloroethane-d4	94.1	0	70-130		%Rec	1	4/1/2017 12:37:03 AM	W41801
Surr: 4-Bromofluorobenzene	92.6	0	70-130		%Rec	1	4/1/2017 12:37:03 AM	W41801
Surr: Dibromofluoromethane	92.5	0	70-130		%Rec	1	4/1/2017 12:37:03 AM	W41801
Surr: Toluene-d8	104	0	70-130		%Rec	1	4/1/2017 12:37:03 AM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 12:49:00 PM
Lab ID: 1703F35-011
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	2.6	0.0097	0.050		mg/L	1	4/1/2017 12:37:03 AM	R41801
Surr: BFB	94.4	0	70-130		%Rec	1	4/1/2017 12:37:03 AM	R41801

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 2:50:00 PM
Lab ID: 1703F35-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	9.2	0.36	1.0		mg/L	1	4/1/2017 1:49:03 AM	31011
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	4/1/2017 1:49:03 AM	31011
Surr: DNOP	144	0	72.4-157		%Rec	1	4/1/2017 1:49:03 AM	31011
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.25	0.50		mg/L	5	4/11/2017 1:20:55 AM	A42002
Chloride	150	5.0	10		mg/L	20	4/11/2017 1:33:20 AM	A42002
Bromide	1.8	0.15	0.50		mg/L	5	4/11/2017 1:20:55 AM	A42002
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	4/11/2017 1:20:55 AM	A42002
Sulfate	ND	0.48	2.5		mg/L	5	4/11/2017 1:20:55 AM	A42002
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	4/11/2017 1:58:10 AM	A42002
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	4.1	0.0085	0.020	*	mg/L	10	4/10/2017 11:12:49 PM	B42022
Cadmium	ND	0.0010	0.0020		mg/L	1	4/10/2017 11:11:07 PM	B42022
Calcium	120	5.0	10		mg/L	10	4/10/2017 11:12:49 PM	B42022
Chromium	ND	0.0010	0.0060		mg/L	1	4/10/2017 11:11:07 PM	B42022
Copper	ND	0.0032	0.0060		mg/L	1	4/10/2017 11:11:07 PM	B42022
Iron	7.7	0.20	0.20	*	mg/L	10	4/10/2017 11:12:49 PM	B42022
Magnesium	36	0.50	1.0		mg/L	1	4/10/2017 11:11:07 PM	B42022
Manganese	1.9	0.0038	0.020	*	mg/L	10	4/10/2017 11:12:49 PM	B42022
Potassium	ND	0.50	1.0		mg/L	1	4/10/2017 11:11:07 PM	B42022
Silver	ND	0.00088	0.0050		mg/L	1	4/10/2017 11:11:07 PM	B42022
Sodium	280	5.0	10		mg/L	10	4/10/2017 11:12:49 PM	B42022
Zinc	0.034	0.0011	0.010		mg/L	1	4/10/2017 11:11:07 PM	B42022
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	5.7	0.0079	0.020	*	mg/L	10	4/10/2017 9:15:49 PM	31124
Cadmium	ND	0.0015	0.0020		mg/L	1	4/12/2017 8:52:49 PM	31124
Chromium	0.015	0.0027	0.0060		mg/L	1	4/10/2017 9:05:55 PM	31124
Copper	0.0066	0.0030	0.0060		mg/L	1	4/7/2017 6:52:17 PM	31124
Iron	24	1.0	1.0	*	mg/L	50	4/10/2017 8:50:45 PM	31124
Manganese	3.4	0.0027	0.020	*	mg/L	10	4/10/2017 9:15:49 PM	31124
Silver	ND	0.0015	0.0050		mg/L	1	4/7/2017 6:52:17 PM	31124
Zinc	0.037	0.0027	0.010		mg/L	1	4/10/2017 9:05:55 PM	31124
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0035	0.00089	0.0050	J	mg/L	5	4/14/2017 4:45:36 PM	B42148
Lead	0.00043	0.00017	0.00050	J	mg/L	1	4/12/2017 8:46:59 PM	C42080
Selenium	ND	0.0077	0.020		mg/L	20	4/14/2017 4:48:39 PM	B42148
Uranium	0.00082	0.000050	0.00050		mg/L	1	4/12/2017 8:46:59 PM	C42080

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 2:50:00 PM
Lab ID: 1703F35-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0087	0.0011	0.0050		mg/L	5	4/10/2017 7:18:35 PM	31124
Lead	0.024	0.000081	0.00050	*	mg/L	1	4/10/2017 7:15:35 PM	31124
Selenium	0.012	0.00094	0.0050		mg/L	5	4/10/2017 7:18:35 PM	31124
Uranium	0.0027	0.00017	0.00050		mg/L	1	4/10/2017 7:15:35 PM	31124
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000042	0.000037	0.00020	J	mg/L	1	4/14/2017 8:48:17 AM	31201
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Acenaphthylene	ND	3.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Aniline	ND	3.1	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Anthracene	ND	3.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Azobenzene	ND	4.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Benz(a)anthracene	ND	3.9	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Benzo(a)pyrene	ND	4.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Benzoic acid	14	3.9	20	J	µg/L	1	4/5/2017 4:08:52 PM	31035
Benzyl alcohol	ND	4.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Bis(2-ethylhexyl)phthalate	5.3	4.8	10	J	µg/L	1	4/5/2017 4:08:52 PM	31035
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Carbazole	ND	4.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
4-Chloroaniline	ND	3.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2-Chloronaphthalene	ND	3.7	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2-Chlorophenol	ND	7.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Chrysene	ND	3.8	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Dibenzofuran	ND	4.1	10		µg/L	1	4/5/2017 4:08:52 PM	31035
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	4/5/2017 4:08:52 PM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 2:50:00 PM
Lab ID: 1703F35-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 4:08:52 PM	31035
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Diethyl phthalate	ND	4.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Dimethyl phthalate	ND	3.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	4/5/2017 4:08:52 PM	31035
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	4/5/2017 4:08:52 PM	31035
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	4/5/2017 4:08:52 PM	31035
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	4/5/2017 4:08:52 PM	31035
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Fluoranthene	ND	4.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Fluorene	ND	4.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Hexachlorobenzene	ND	3.8	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Hexachlorobutadiene	ND	1.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Hexachloroethane	ND	1.2	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Isophorone	ND	4.4	10		µg/L	1	4/5/2017 4:08:52 PM	31035
1-Methylnaphthalene	57	3.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2-Methylnaphthalene	45	3.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2-Methylphenol	ND	3.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
3+4-Methylphenol	5.4	3.2	10	J	µg/L	1	4/5/2017 4:08:52 PM	31035
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Naphthalene	99	2.9	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2-Nitroaniline	ND	4.9	10		µg/L	1	4/5/2017 4:08:52 PM	31035
3-Nitroaniline	ND	4.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
4-Nitroaniline	ND	4.0	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Nitrobenzene	ND	3.6	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2-Nitrophenol	ND	5.2	10		µg/L	1	4/5/2017 4:08:52 PM	31035
4-Nitrophenol	ND	5.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Pentachlorophenol	ND	4.9	20		µg/L	1	4/5/2017 4:08:52 PM	31035
Phenanthrene	ND	4.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Phenol	24	3.1	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Pyrene	ND	4.4	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Pyridine	ND	2.3	10		µg/L	1	4/5/2017 4:08:52 PM	31035
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	4/5/2017 4:08:52 PM	31035
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	4/5/2017 4:08:52 PM	31035

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 2:50:00 PM
Lab ID: 1703F35-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	4/5/2017 4:08:52 PM	31035
Surr: 2-Fluorophenol	19.3	0	15-98.1		%Rec	1	4/5/2017 4:08:52 PM	31035
Surr: Phenol-d5	17.6	0	15-80.7		%Rec	1	4/5/2017 4:08:52 PM	31035
Surr: 2,4,6-Tribromophenol	50.5	0	15-112		%Rec	1	4/5/2017 4:08:52 PM	31035
Surr: Nitrobenzene-d5	51.2	0	27.2-90.7		%Rec	1	4/5/2017 4:08:52 PM	31035
Surr: 2-Fluorobiphenyl	48.5	0	23.3-85.6		%Rec	1	4/5/2017 4:08:52 PM	31035
Surr: 4-Terphenyl-d14	32.6	0	27.6-107		%Rec	1	4/5/2017 4:08:52 PM	31035
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	31000	96	1000		µg/L	1000	4/1/2017 4:25:47 AM	W41801
Toluene	830	8.9	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Ethylbenzene	1100	11	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Methyl tert-butyl ether (MTBE)	3000	15	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2,4-Trimethylbenzene	170	10	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,3,5-Trimethylbenzene	44	12	100	J	µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2-Dichloroethane (EDC)	ND	12	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Naphthalene	180	8.3	200	J	µg/L	100	4/1/2017 4:54:23 AM	W41801
1-Methylnaphthalene	70	16	400	J	µg/L	100	4/1/2017 4:54:23 AM	W41801
2-Methylnaphthalene	55	15	400	J	µg/L	100	4/1/2017 4:54:23 AM	W41801
Acetone	ND	88	1000		µg/L	100	4/1/2017 4:54:23 AM	W41801
Bromobenzene	ND	14	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Bromodichloromethane	ND	18	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Bromoform	ND	21	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Bromomethane	ND	78	300		µg/L	100	4/1/2017 4:54:23 AM	W41801
2-Butanone	ND	110	1000		µg/L	100	4/1/2017 4:54:23 AM	W41801
Carbon disulfide	ND	60	1000		µg/L	100	4/1/2017 4:54:23 AM	W41801
Carbon Tetrachloride	ND	11	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Chlorobenzene	ND	11	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Chloroethane	ND	23	200		µg/L	100	4/1/2017 4:54:23 AM	W41801
Chloroform	ND	8.9	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Chloromethane	ND	21	300		µg/L	100	4/1/2017 4:54:23 AM	W41801
2-Chlorotoluene	ND	40	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
4-Chlorotoluene	ND	40	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
cis-1,2-DCE	ND	20	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
cis-1,3-Dichloropropene	ND	10	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	4/1/2017 4:54:23 AM	W41801
Dibromochloromethane	ND	7.8	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Dibromomethane	ND	12	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2-Dichlorobenzene	ND	12	100		µg/L	100	4/1/2017 4:54:23 AM	W41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 1st QTR MKTF Wells
Collection Date: 3/29/2017 2:50:00 PM
Lab ID: 1703F35-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	14	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,4-Dichlorobenzene	ND	40	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Dichlorodifluoromethane	ND	32	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,1-Dichloroethane	ND	10	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,1-Dichloroethene	ND	8.1	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2-Dichloropropane	ND	10	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,3-Dichloropropane	ND	16	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
2,2-Dichloropropane	ND	12	200		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,1-Dichloropropene	ND	13	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Hexachlorobutadiene	ND	37	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
2-Hexanone	ND	66	1000		µg/L	100	4/1/2017 4:54:23 AM	W41801
Isopropylbenzene	26	9.8	100	J	µg/L	100	4/1/2017 4:54:23 AM	W41801
4-Isopropyltoluene	ND	14	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	4/1/2017 4:54:23 AM	W41801
Methylene Chloride	ND	11	300		µg/L	100	4/1/2017 4:54:23 AM	W41801
n-Butylbenzene	ND	16	300		µg/L	100	4/1/2017 4:54:23 AM	W41801
n-Propylbenzene	90	13	100	J	µg/L	100	4/1/2017 4:54:23 AM	W41801
sec-Butylbenzene	ND	10	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Styrene	ND	16	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
tert-Butylbenzene	ND	10	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,1,1,2-Tetrachloroethane	ND	11	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	4/1/2017 4:54:23 AM	W41801
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
trans-1,2-DCE	ND	18	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
trans-1,3-Dichloropropene	ND	8.9	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2,3-Trichlorobenzene	ND	11	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2,4-Trichlorobenzene	ND	13	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,1,2-Trichloroethane	ND	14	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Trichloroethene (TCE)	ND	18	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Trichlorofluoromethane	ND	18	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
1,2,3-Trichloropropane	ND	39	200		µg/L	100	4/1/2017 4:54:23 AM	W41801
Vinyl chloride	ND	18	100		µg/L	100	4/1/2017 4:54:23 AM	W41801
Xylenes, Total	970	32	150		µg/L	100	4/1/2017 4:54:23 AM	W41801
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	100	4/1/2017 4:54:23 AM	W41801
Surr: 4-Bromofluorobenzene	87.4	0	70-130		%Rec	100	4/1/2017 4:54:23 AM	W41801
Surr: Dibromofluoromethane	108	0	70-130		%Rec	100	4/1/2017 4:54:23 AM	W41801
Surr: Toluene-d8	103	0	70-130		%Rec	100	4/1/2017 4:54:23 AM	W41801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

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Qualifiers:

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
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Collection Date: 3/29/2017 2:50:00 PM
Lab ID: 1703F35-012
Matrix: AQUEOUS
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	64	0.97	5.0		mg/L	100	4/1/2017 4:54:23 AM	R41801
Surr: BFB	87.0	0	70-130		%Rec	100	4/1/2017 4:54:23 AM	R41801

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR MKTF Wells
Collection Date:
Lab ID: 1703F35-013
Matrix: TRIP BLANK
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Toluene	ND	0.089	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Naphthalene	ND	0.083	2.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Acetone	ND	0.88	10		µg/L	1	3/31/2017 4:02:19 PM	W41801
Bromobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Bromoform	ND	0.21	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Bromomethane	ND	0.78	3.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
2-Butanone	ND	1.1	10		µg/L	1	3/31/2017 4:02:19 PM	W41801
Carbon disulfide	ND	0.60	10		µg/L	1	3/31/2017 4:02:19 PM	W41801
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Chloroethane	ND	0.23	2.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Chloroform	ND	0.089	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Chloromethane	ND	0.21	3.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Dibromomethane	ND	0.12	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/31/2017 4:02:19 PM	W41801

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR MKTF Wells
Collection Date:
Lab ID: 1703F35-013
Matrix: TRIP BLANK
Received Date: 3/30/2017 4:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
2-Hexanone	ND	0.66	10		µg/L	1	3/31/2017 4:02:19 PM	W41801
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/31/2017 4:02:19 PM	W41801
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Styrene	ND	0.16	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/31/2017 4:02:19 PM	W41801
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/31/2017 4:02:19 PM	W41801
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	3/31/2017 4:02:19 PM	W41801
Surr: 4-Bromofluorobenzene	94.4	0	70-130		%Rec	1	3/31/2017 4:02:19 PM	W41801
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	3/31/2017 4:02:19 PM	W41801
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/31/2017 4:02:19 PM	W41801

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B42022**	RunNo: **42022**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319957** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B42022**	RunNo: **42022**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319958** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0026	0.0020	0.002000	0	132	50	150			
Cadmium	0.0020	0.0020	0.002000	0	97.5	50	150			J
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0059	0.0060	0.006000	0	97.8	50	150			J
Copper	0.0080	0.0060	0.006000	0	134	50	150			
Iron	0.021	0.020	0.02000	0	106	50	150			
Magnesium	0.55	1.0	0.5000	0	110	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Potassium	0.55	1.0	0.5000	0	110	50	150			J
Silver	0.0051	0.0050	0.005000	0	102	50	150			
Sodium	0.62	1.0	0.5000	0	124	50	150			J
Zinc	0.0050	0.010	0.005000	0	99.4	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B42022**	RunNo: **42022**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319959** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B42022**	RunNo: **42022**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319959** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.50	0.0060	0.5000	0	101	85	115			
Iron	0.49	0.020	0.5000	0	98.7	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Potassium	50	1.0	50.00	0	99.4	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.1	85	115			

Sample ID **1703F35-002FMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-30**	Batch ID: **B42022**	RunNo: **42022**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319965** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0.03930	95.4	70	130			
Cadmium	0.48	0.0020	0.5000	0	96.2	70	130			
Chromium	0.49	0.0060	0.5000	0	97.2	70	130			
Copper	0.53	0.0060	0.5000	0	107	70	130			
Iron	0.58	0.020	0.5000	0.08658	99.7	70	130			
Magnesium	67	1.0	50.00	16.89	101	70	130			
Manganese	0.51	0.0020	0.5000	0.04429	93.3	70	130			
Potassium	51	1.0	50.00	0.5339	101	70	130			
Silver	0.096	0.0050	0.1000	0	96.4	70	130			
Zinc	0.48	0.010	0.5000	0.02108	92.8	70	130			

Sample ID **1703F35-002FMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-30**	Batch ID: **B42022**	RunNo: **42022**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319969** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0.03930	96.5	70	130	1.01	20	
Cadmium	0.48	0.0020	0.5000	0	96.7	70	130	0.417	20	
Chromium	0.49	0.0060	0.5000	0	97.4	70	130	0.259	20	
Copper	0.53	0.0060	0.5000	0	107	70	130	0.414	20	
Iron	0.58	0.020	0.5000	0.08658	99.6	70	130	0.0941	20	
Magnesium	68	1.0	50.00	16.89	102	70	130	0.590	20	
Manganese	0.52	0.0020	0.5000	0.04429	94.4	70	130	1.11	20	
Potassium	52	1.0	50.00	0.5339	102	70	130	1.21	20	
Silver	0.096	0.0050	0.1000	0	96.3	70	130	0.0415	20	
Zinc	0.48	0.010	0.5000	0.02108	92.0	70	130	0.749	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID	**1703F35-002FMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-30**	Batch ID:	**B42022**		RunNo:	**42022**				
Prep Date:		Analysis Date:	**4/10/2017**		SeqNo:	**1319971**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	340	5.0	250.0	87.87	101	70	130			

Sample ID	**1703F35-002FMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-30**	Batch ID:	**B42022**		RunNo:	**42022**				
Prep Date:		Analysis Date:	**4/10/2017**		SeqNo:	**1319972**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	340	5.0	250.0	87.87	99.6	70	130	1.07	20	

Sample ID	**1703F35-003EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-29**	Batch ID:	**B42022**		RunNo:	**42022**				
Prep Date:		Analysis Date:	**4/10/2017**		SeqNo:	**1319975**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0.03178	96.9	70	130			
Cadmium	0.48	0.0020	0.5000	0	96.6	70	130			
Chromium	0.48	0.0060	0.5000	0	96.3	70	130			
Copper	0.53	0.0060	0.5000	0.005330	105	70	130			
Iron	0.53	0.020	0.5000	0.03350	98.5	70	130			
Manganese	0.82	0.0020	0.5000	0.3515	93.3	70	130			
Silver	0.088	0.0050	0.1000	0	87.8	70	130			
Zinc	0.49	0.010	0.5000	0.02122	94.0	70	130			

Sample ID	**1703F35-003EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-29**	Batch ID:	**B42022**		RunNo:	**42022**				
Prep Date:		Analysis Date:	**4/10/2017**		SeqNo:	**1319976**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0.03178	98.1	70	130	1.16	20	
Cadmium	0.49	0.0020	0.5000	0	97.4	70	130	0.850	20	
Chromium	0.49	0.0060	0.5000	0	97.5	70	130	1.29	20	
Copper	0.54	0.0060	0.5000	0.005330	107	70	130	1.35	20	
Iron	0.53	0.020	0.5000	0.03350	98.8	70	130	0.317	20	
Manganese	0.82	0.0020	0.5000	0.3515	94.6	70	130	0.782	20	
Silver	0.089	0.0050	0.1000	0	88.7	70	130	1.07	20	
Zinc	0.50	0.010	0.5000	0.02122	94.9	70	130	0.967	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320627** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320628** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	92.0	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	105	50	150			
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0060	0.0060	0.006000	0	100	50	150			
Copper	0.0067	0.0060	0.006000	0	112	50	150			
Iron	0.017	0.020	0.02000	0	84.5	50	150			J
Magnesium	0.52	1.0	0.5000	0	105	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Silver	0.0049	0.0050	0.005000	0	98.0	50	150			J
Sodium	0.62	1.0	0.5000	0	124	50	150			J
Zinc	0.0054	0.010	0.005000	0	109	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.1	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.6	85	115			
Calcium	50	1.0	50.00	0	99.0	85	115			
Chromium	0.48	0.0060	0.5000	0	95.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.47	0.0060	0.5000	0	94.2	85	115			
Iron	0.47	0.020	0.5000	0	94.2	85	115			
Magnesium	49	1.0	50.00	0	98.1	85	115			
Manganese	0.47	0.0020	0.5000	0	93.2	85	115			
Potassium	48	1.0	50.00	0	95.8	85	115			
Silver	0.097	0.0050	0.1000	0	97.0	85	115			
Sodium	49	1.0	50.00	0	97.3	85	115			
Zinc	0.47	0.010	0.5000	0	93.1	85	115			

Sample ID **1703F35-003EMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-29**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320661** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	330	5.0	250.0	73.19	103	70	130			
Magnesium	260	5.0	250.0	10.25	101	70	130			
Potassium	240	5.0	250.0	0	97.4	70	130			

Sample ID **1703F35-003EMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-29**	Batch ID: **A42051**	RunNo: **42051**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320662** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	330	5.0	250.0	73.19	102	70	130	0.607	20	
Magnesium	260	5.0	250.0	10.25	101	70	130	0.449	20	
Potassium	240	5.0	250.0	0	96.8	70	130	0.567	20	

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A42290**	RunNo: **42290**
Prep Date:	Analysis Date: **4/21/2017**	SeqNo: **1329092** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A42290**	RunNo: **42290**
Prep Date:	Analysis Date: **4/21/2017**	SeqNo: **1329093** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.49	1.0	0.5000	0	98.1	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A42290**	RunNo: **42290**
Prep Date:	Analysis Date: **4/21/2017**	SeqNo: **1329094** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	99.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID	**MB-31124**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**PBW**	Batch ID:	**31124**	RunNo:	**41999**
Prep Date:	**4/6/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1319221** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LCSLL-31124**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**BatchQC**	Batch ID:	**31124**	RunNo:	**41999**
Prep Date:	**4/6/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1319222** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	82.0	50	150			J
Chromium	0.0071	0.0060	0.006000	0	119	50	150			
Copper	0.0060	0.0060	0.006000	0	100	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0050	0.0050	0.005000	0	99.8	50	150			J
Zinc	0.0056	0.010	0.005000	0	112	50	150			J

Sample ID	**LCS-31124**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**LCSW**	Batch ID:	**31124**	RunNo:	**41999**
Prep Date:	**4/6/2017**	Analysis Date:	**4/7/2017**	SeqNo:	**1319223** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	102	85	115			
Copper	0.51	0.0060	0.5000	0	101	85	115			
Manganese	0.50	0.0020	0.5000	0	99.1	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID	**MB-31124**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**PBW**	Batch ID:	**31124**	RunNo:	**42077**
Prep Date:	**4/6/2017**	Analysis Date:	**4/12/2017**	SeqNo:	**1329022** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Iron	ND	0.020								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID	**LCSLL-31124**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**31124**		RunNo:	**42077**				
Prep Date:	**4/6/2017**	Analysis Date:	**4/12/2017**		SeqNo:	**1329024**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.0016	0.0020	0.002000	0	82.5	50	150			J
Iron	0.021	0.020	0.02000	0	107	50	150			

Sample ID	**LCS-31124**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**31124**		RunNo:	**42077**				
Prep Date:	**4/6/2017**	Analysis Date:	**4/12/2017**		SeqNo:	**1329025**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	96.2	85	115			
Iron	0.48	0.020	0.5000	0	96.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **1703F35-002FMSDL** SampType: **MSD** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-30** Batch ID: **C42080** RunNo: **42080**
Prep Date: Analysis Date: **4/12/2017** SeqNo: **1321695** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.014	0.00050	0.01250	0.0003683	106	70	130	0.0714	20	

Sample ID **1703F35-002FMSLL** SampType: **MS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-30** Batch ID: **C42080** RunNo: **42080**
Prep Date: Analysis Date: **4/12/2017** SeqNo: **1321696** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.014	0.00050	0.01250	0.0003683	106	70	130			

Sample ID **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **C42080** RunNo: **42080**
Prep Date: Analysis Date: **4/12/2017** SeqNo: **1321718** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.4	85	115			
Lead	0.012	0.00050	0.01250	0	94.5	85	115			
Selenium	0.023	0.0010	0.02500	0	92.1	85	115			
Uranium	0.012	0.00050	0.01250	0	93.7	85	115			

Sample ID **LCSLL** SampType: **LCSLL** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC** Batch ID: **C42080** RunNo: **42080**
Prep Date: Analysis Date: **4/12/2017** SeqNo: **1321720** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00080	0.0010	0.001000	0	80.0	50	150			J
Lead	0.00045	0.00050	0.0005000	0	90.8	50	150			J
Selenium	0.00083	0.0010	0.001000	0	83.1	50	150			J
Uranium	0.00043	0.00050	0.0005000	0	86.6	50	150			J

Sample ID **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **C42080** RunNo: **42080**
Prep Date: Analysis Date: **4/12/2017** SeqNo: **1321722** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID	**1703F35-002FMSDL**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-30**	Batch ID:	**B42148**		RunNo:	**42148**				
Prep Date:		Analysis Date:	**4/14/2017**		SeqNo:	**1323889**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.001274	104	70	130	0.00677	20	
Selenium	0.12	0.0050	0.1250	0.005506	94.3	70	130	1.20	20	
Uranium	0.099	0.0025	0.06250	0.03343	106	70	130	0.0226	20	

Sample ID	**1703F35-002FMSLL**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-30**	Batch ID:	**B42148**		RunNo:	**42148**				
Prep Date:		Analysis Date:	**4/14/2017**		SeqNo:	**1323890**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.001274	104	70	130			
Selenium	0.12	0.0050	0.1250	0.005506	93.1	70	130			
Uranium	0.099	0.0025	0.06250	0.03343	106	70	130			

Sample ID	**1703F35-004EMSLL**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-27**	Batch ID:	**B42148**		RunNo:	**42148**				
Prep Date:		Analysis Date:	**4/14/2017**		SeqNo:	**1323893**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.003981	103	70	130			
Lead	0.066	0.0025	0.06250	0	106	70	130			
Selenium	0.12	0.0050	0.1250	0.01479	86.7	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B42148**		RunNo:	**42148**				
Prep Date:		Analysis Date:	**4/14/2017**		SeqNo:	**1323907**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.1	85	115			
Lead	0.012	0.00050	0.01250	0	95.5	85	115			
Selenium	0.024	0.0010	0.02500	0	95.3	85	115			
Uranium	0.012	0.00050	0.01250	0	97.2	85	115			

Sample ID	**LCSLL**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B42148**		RunNo:	**42148**				
Prep Date:		Analysis Date:	**4/14/2017**		SeqNo:	**1323908**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00080	0.0010	0.001000	0	80.0	50	150			J
Lead	0.00046	0.00050	0.0005000	0	92.9	50	150			J
Selenium	0.00083	0.0010	0.001000	0	83.3	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B42148**	RunNo: **42148**
Prep Date:	Analysis Date: **4/14/2017**	SeqNo: **1323908** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00042	0.00050	0.0005000	0	84.1	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B42148**	RunNo: **42148**
Prep Date:	Analysis Date: **4/14/2017**	SeqNo: **1323909** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID	**MB-31124**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**31124**	RunNo:	**42014**					
Prep Date:	**4/6/2017**	Analysis Date:	**4/10/2017**	SeqNo:	**1319644**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-31124**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**31124**	RunNo:	**42014**					
Prep Date:	**4/6/2017**	Analysis Date:	**4/10/2017**	SeqNo:	**1319645**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.012	0.00050	0.01250	0	94.1	85	115			
Selenium	0.022	0.0010	0.02500	0	88.0	85	115			
Uranium	0.012	0.00050	0.01250	0	94.6	85	115			

Sample ID	**MSLCSLL-31124**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**31124**	RunNo:	**42014**					
Prep Date:	**4/6/2017**	Analysis Date:	**4/10/2017**	SeqNo:	**1319646**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	104	50	150			
Lead	0.00047	0.00050	0.0005000	0	94.6	50	150			J
Selenium	0.00085	0.0010	0.001000	0	85.4	50	150			J
Uranium	0.00038	0.00050	0.0005000	0	76.7	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID	**MB-31201**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**31201**	RunNo:	**42112**					
Prep Date:	**4/12/2017**	Analysis Date:	**4/14/2017**	SeqNo:	**1322799**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-31201**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**31201**	RunNo:	**42112**					
Prep Date:	**4/12/2017**	Analysis Date:	**4/14/2017**	SeqNo:	**1322800**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41802**	RunNo: **41802**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1313355** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41802**	RunNo: **41802**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1313356** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	103	90	110			
Chloride	4.6	0.50	5.000	0	92.8	90	110			
Bromide	2.3	0.10	2.500	0	93.3	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.9	90	110			
Sulfate	9.4	0.50	10.00	0	93.7	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41988**	RunNo: **41988**
Prep Date:	Analysis Date: **4/7/2017**	SeqNo: **1318590** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Bromide	ND	0.10								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41988**	RunNo: **41988**
Prep Date:	Analysis Date: **4/7/2017**	SeqNo: **1318591** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.2	90	110			
Bromide	2.4	0.10	2.500	0	96.2	90	110			
Sulfate	9.9	0.50	10.00	0	98.5	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R42002**	RunNo: **42002**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R42002**	RunNo: **42002**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R42002**	RunNo: **42002**
Prep Date:	Analysis Date: **4/10/2017**	SeqNo: **1319671** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.0	90	110			
Chloride	4.8	0.50	5.000	0	96.4	90	110			
Bromide	2.4	0.10	2.500	0	95.3	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.2	90	110			
Sulfate	9.8	0.50	10.00	0	97.8	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.0	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A42002**	RunNo: **42002**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1319741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A42002**	RunNo: **42002**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1319742** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.4	90	110			
Chloride	4.8	0.50	5.000	0	95.7	90	110			
Bromide	2.4	0.10	2.500	0	95.0	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A42002**	RunNo: **42002**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1319742** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.6	0.50	10.00	0	96.3	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.4	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R42053**	RunNo: **42053**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320750** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R42053**	RunNo: **42053**
Prep Date:	Analysis Date: **4/11/2017**	SeqNo: **1320751** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.8	90	110			

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID	**MB-31085**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**31085**	RunNo:	**41925**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316549**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-31085**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**31085**	RunNo:	**41925**					
Prep Date:	**4/5/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316550**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.088	0.010	0.1000	0	87.5	70	130			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **1703F35-002BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-30**	Batch ID: **31011**	RunNo: **41755**
Prep Date: **3/31/2017**	Analysis Date: **3/31/2017**	SeqNo: **1312837** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.0	1.0	5.000	0	121	87.2	145			
Surr: DNOP	0.64		0.5000		128	72.4	157			

Sample ID **1703F35-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-30**	Batch ID: **31011**	RunNo: **41755**
Prep Date: **3/31/2017**	Analysis Date: **3/31/2017**	SeqNo: **1312838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0	122	87.2	145	0.866	20	
Surr: DNOP	0.64		0.5000		127	72.4	157	0	0	

Sample ID **LCS-31011**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **31011**	RunNo: **41755**
Prep Date: **3/31/2017**	Analysis Date: **3/31/2017**	SeqNo: **1312849** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	115	82.8	146			
Surr: DNOP	0.59		0.5000		118	72.4	157			

Sample ID **MB-31011**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **31011**	RunNo: **41755**
Prep Date: **3/31/2017**	Analysis Date: **3/31/2017**	SeqNo: **1312850** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		128	72.4	157			

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1312791** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1312791** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	0.12	1.0								J
1,2,4-Trichlorobenzene	0.14	1.0								J
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.0	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1312792** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	119	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1312792** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	115	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		115	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **1703f35-003a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-29**	Batch ID: **W41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1312797** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	120	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Chlorobenzene	20	1.0	20.00	0	98.7	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.9	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **1703f35-003a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-29**	Batch ID: **W41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1312798** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	116	70	130	2.99	20	
Toluene	20	1.0	20.00	0	102	70	130	3.29	20	
Chlorobenzene	20	1.0	20.00	0	97.8	70	130	0.920	20	
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130	7.50	20	
Trichloroethene (TCE)	20	1.0	20.00	0	97.7	70	130	3.00	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		114	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.0		10.00		90.1	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		108	70	130	0	0	
Surr: Toluene-d8	10		10.00		103	70	130	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **RR41857**	RunNo: **41857**
Prep Date:	Analysis Date: **4/3/2017**	SeqNo: **1314023** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.5	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.1	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **RR41857**	RunNo: **41857**
Prep Date:	Analysis Date: **4/3/2017**	SeqNo: **1314026** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.0	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **lcs-31035**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **31035**	RunNo: **41930**
Prep Date: **4/3/2017**	Analysis Date: **4/5/2017**	SeqNo: **1316616** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	67	10	100.0	0	67.3	42.9	100			
4-Chloro-3-methylphenol	160	10	200.0	0	79.7	36.2	110			
2-Chlorophenol	150	10	200.0	0	72.6	33.4	97.8			
1,4-Dichlorobenzene	53	10	100.0	0	52.9	32.8	79.3			
2,4-Dinitrotoluene	62	10	100.0	0	62.2	34.9	107			
N-Nitrosodi-n-propylamine	75	10	100.0	0	75.1	30.7	111			
4-Nitrophenol	100	10	200.0	0	49.8	15	91.9			
Pentachlorophenol	120	20	200.0	0	58.0	33.3	93.5			
Phenol	100	10	200.0	0	50.3	20.9	86.4			
Pyrene	69	10	100.0	0	69.3	45.6	111			
1,2,4-Trichlorobenzene	61	10	100.0	0	60.7	38.7	88.2			
Surr: 2-Fluorophenol	120		200.0		59.6	15	98.1			
Surr: Phenol-d5	110		200.0		53.1	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		73.9	15	112			
Surr: Nitrobenzene-d5	74		100.0		74.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	66		100.0		66.4	23.3	85.6			
Surr: 4-Terphenyl-d14	62		100.0		62.4	27.6	107			

Sample ID **lcsd-31035**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **31035**	RunNo: **41930**
Prep Date: **4/3/2017**	Analysis Date: **4/5/2017**	SeqNo: **1316617** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	75.8	42.9	100	11.8	37.4	
4-Chloro-3-methylphenol	130	10	200.0	0	63.5	36.2	110	22.7	26.8	
2-Chlorophenol	120	10	200.0	0	60.1	33.4	97.8	18.9	30.3	
1,4-Dichlorobenzene	57	10	100.0	0	57.1	32.8	79.3	7.71	32	
2,4-Dinitrotoluene	68	10	100.0	0	68.3	34.9	107	9.32	36.7	
N-Nitrosodi-n-propylamine	81	10	100.0	0	80.6	30.7	111	7.06	29.9	
4-Nitrophenol	100	10	200.0	0	50.3	15	91.9	0.919	28.8	
Pentachlorophenol	99	20	200.0	0	49.6	33.3	93.5	15.7	38.2	
Phenol	100	10	200.0	0	49.9	20.9	86.4	0.878	39.8	
Pyrene	71	10	100.0	0	70.9	45.6	111	2.28	28.3	
1,2,4-Trichlorobenzene	62	10	100.0	0	62.0	38.7	88.2	2.05	39.8	
Surr: 2-Fluorophenol	110		200.0		55.4	15	98.1	0	0	
Surr: Phenol-d5	100		200.0		51.2	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		58.6	15	112	0	0	
Surr: Nitrobenzene-d5	78		100.0		77.6	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	74		100.0		74.3	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID	**lcsd-31035**	SampType:	**LCSD**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID:	**31035**	RunNo:	**41930**					
Prep Date:	**4/3/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316617**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	56		100.0		56.5	27.6	107	0	0	

Sample ID	**mb-31035**	SampType:	**MBLK**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**PBW**	Batch ID:	**31035**	RunNo:	**41930**					
Prep Date:	**4/3/2017**	Analysis Date:	**4/5/2017**	SeqNo:	**1316618**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	5.9	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **mb-31035**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **31035**	RunNo: **41930**
Prep Date: **4/3/2017**	Analysis Date: **4/5/2017**	SeqNo: **1316618** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**
25-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR MKTF Wells

Sample ID **mb-31035**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **31035**	RunNo: **41930**
Prep Date: **4/3/2017**	Analysis Date: **4/5/2017**	SeqNo: **1316618** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		58.4	15	98.1			
Surr: Phenol-d5	93		200.0		46.4	15	80.7			
Surr: 2,4,6-Tribromophenol	130		200.0		67.4	15	112			
Surr: Nitrobenzene-d5	68		100.0		67.9	27.2	90.7			
Surr: 2-Fluorobiphenyl	66		100.0		65.6	23.3	85.6			
Surr: 4-Terphenyl-d14	59		100.0		58.7	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703F35**

25-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR MKTF Wells

Sample ID **1703f35-004a ms**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-27**	Batch ID: **R41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1314400** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0.02200	97.0	70	130			
Surr: BFB	9.1		10.00		91.0	70	130			

Sample ID **1703f35-004a msd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-27**	Batch ID: **R41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1314402** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0.02200	95.5	70	130	1.47	20	
Surr: BFB	9.5		10.00		94.7	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1314420** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.7		10.00		97.4	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R41801**	RunNo: **41801**
Prep Date:	Analysis Date: **3/31/2017**	SeqNo: **1314426** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.56	0.050	0.5000	0	111	75.9	120			
Surr: BFB	9.6		10.00		95.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1703F35** RcptNo: 1

Received By: **Andy Jansson** **3/30/2017 4:55:00 PM**

Completed By: **Ashley Gallegos** **3/30/2017 5:59:01 PM**

Reviewed By: AJ / sec 04/03/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No	
9. Was preservative added to bottles?	Yes	No ✔	NA
10. VOA vials have zero headspace?	Yes ✔	No	No VOA Vials
11. Were any sample containers received broken?	Yes	No ✔	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH: 3 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted? No
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by: AJ / sec

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: Date

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 1ST QTR - MKTF WELLS

Project #:

Project Manager:
C. JOHNSON (cheryljohnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Corrected COC

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703F35	8260+MTBE	8015D(DRO/MRO/GRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	MAJOR CATIONS/ANIONS		METHOD 8011 - EDB								Air Bubbles (Y or N)
3/29/2017	700	AQUEOUS	FIELD BLANK	3-40ML VOAS	HCL	-001	X															
3/29/2017	920	AQUEOUS	MKTF-30	MISC	MISC	-002	X	X	X	X	X	X		X								
3/29/2017	944	AQUEOUS	MKTF-29	MISC	MISC	-003	X	X	X	X	X	X										
3/29/2017	820	AQUEOUS	MKTF-27	MISC	MISC	-004	X	X	X	X	X	X										
3/29/2017	1015	AQUEOUS	MKTF-24	MISC	MISC	-005	X	X	X	X	X	X		X								
3/29/2017	1054	AQUEOUS	MKTF-25	MISC	MISC	-006	X	X	X	X	X	X		X								
3/29/2017	851	AQUEOUS	MKTF-28	MISC	MISC	-007	X	X	X	X	X	X										
3/29/2017	950	AQUEOUS	DUPLICATE	MISC	MISC	-008	X	X	X	X	X	X		X								
3/29/2017	1146	AQUEOUS	OW-56	MISC	MISC	-009	X	X	X	X	X	X										
3/29/2017	1215	AQUEOUS	OW-55	MISC	MISC	-010	X	X	X	X	X	X										
3/29/2017	1249	AQUEOUS	OW-~~59~~ 54	MISC	MISC	-011	X	X	X	X	X	X										
3/29/2017	1451	AQUEOUS	OW-58	MISC	MISC	-012	X	X	X	X	X	X										
3/29/2017	~~0603/30/17~~	AQUEOUS	TRIP BLANK	MISC	MISC	-013	X															

Date: 3/30/2017 Time: 1400 Relinquished by: [signature] Received by: [signature] Date: 3/30/17 Time: 1400

Date: 3/30/17 Time: 1655 Relinquished by: [signature] Received by: [signature] Date: 03/30/17 Time: 1655

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 21, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 2nd QTR MKTF OW RW OrderNo.: 1706C54

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 14 sample(s) on 6/22/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/20/2017 7:00:00 AM
Lab ID: 1706C54-001 **Matrix:** AQUEOUS **Received Date:** 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Toluene	0.18	0.064	1.0	J	µg/L	1	6/23/2017 3:49:00 PM	R43745
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Naphthalene	ND	0.11	2.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Acetone	5.3	0.82	10	J	µg/L	1	6/23/2017 3:49:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 3:49:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 3:49:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 3:49:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/20/2017 7:00:00 AM
Lab ID: 1706C54-001
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 3:49:00 PM	R43745
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 3:49:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 3:49:00 PM	R43745
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/23/2017 3:49:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	99.1	0	70-130		%Rec	1	6/23/2017 3:49:00 PM	R43745
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	6/23/2017 3:49:00 PM	R43745
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	6/23/2017 3:49:00 PM	R43745
Surr: Toluene-d8	95.0	0	70-130		%Rec	1	6/23/2017 3:49:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd QTR MKTF OW RW
Collection Date:
Lab ID: 1706C54-002
Matrix: TRIP BLANK
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Toluene	ND	0.064	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Naphthalene	ND	0.11	2.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Acetone	2.3	0.82	10	J	µg/L	1	6/23/2017 4:14:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 4:14:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 4:14:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 4:14:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd QTR MKTF OW RW
Collection Date:
Lab ID: 1706C54-002
Matrix: TRIP BLANK
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 4:14:00 PM	R43745
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 4:14:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 4:14:00 PM	R43745
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/23/2017 4:14:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	98.3	0	70-130		%Rec	1	6/23/2017 4:14:00 PM	R43745
Surr: 4-Bromofluorobenzene	98.8	0	70-130		%Rec	1	6/23/2017 4:14:00 PM	R43745
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	6/23/2017 4:14:00 PM	R43745
Surr: Toluene-d8	92.0	0	70-130		%Rec	1	6/23/2017 4:14:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-2
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/20/2017 2:50:00 PM
Lab ID: 1706C54-003
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	11	0.36	1.0		mg/L	1	6/26/2017 2:16:14 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 2:16:14 PM	32454
Surr: DNOP	124	0	72.4-157		%Rec	1	6/26/2017 2:16:14 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	130	5.0	10		mg/L	200	6/26/2017 4:27:25 PM	G43790
Surr: BFB	130	0	52.3-138		%Rec	200	6/26/2017 4:27:25 PM	G43790
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	47000	62	1000		µg/L	1000	6/23/2017 4:39:00 PM	R43745
Toluene	9000	6.4	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Ethylbenzene	1400	9.3	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Methyl tert-butyl ether (MTBE)	1700	24	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2,4-Trimethylbenzene	280	11	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,3,5-Trimethylbenzene	58	8.7	100	J	µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Naphthalene	110	11	200	J	µg/L	100	6/23/2017 5:03:00 PM	R43745
1-Methylnaphthalene	63	16	400	J	µg/L	100	6/23/2017 5:03:00 PM	R43745
2-Methylnaphthalene	42	15	400	J	µg/L	100	6/23/2017 5:03:00 PM	R43745
Acetone	130	82	1000	J	µg/L	100	6/23/2017 5:03:00 PM	R43745
Bromobenzene	ND	14	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Bromodichloromethane	ND	18	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Bromoform	ND	21	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Bromomethane	ND	26	300		µg/L	100	6/23/2017 5:03:00 PM	R43745
2-Butanone	ND	110	1000		µg/L	100	6/23/2017 5:03:00 PM	R43745
Carbon disulfide	ND	40	1000		µg/L	100	6/23/2017 5:03:00 PM	R43745
Carbon Tetrachloride	ND	11	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Chlorobenzene	ND	11	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Chloroethane	ND	23	200		µg/L	100	6/23/2017 5:03:00 PM	R43745
Chloroform	ND	40	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Chloromethane	ND	29	300		µg/L	100	6/23/2017 5:03:00 PM	R43745
2-Chlorotoluene	ND	40	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
4-Chlorotoluene	ND	40	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
cis-1,2-DCE	ND	20	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	6/23/2017 5:03:00 PM	R43745
Dibromochloromethane	ND	7.2	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Dibromomethane	ND	9.1	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	6/23/2017 5:03:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-2
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/20/2017 2:50:00 PM
Lab ID: 1706C54-003
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	15	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,4-Dichlorobenzene	ND	40	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Dichlorodifluoromethane	ND	100	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,1-Dichloroethane	ND	40	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,1-Dichloroethene	ND	8.1	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2-Dichloropropane	ND	10	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,3-Dichloropropane	ND	17	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
2,2-Dichloropropane	ND	16	200		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,1-Dichloropropene	ND	9.3	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Hexachlorobutadiene	ND	80	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
2-Hexanone	ND	66	1000		µg/L	100	6/23/2017 5:03:00 PM	R43745
Isopropylbenzene	21	5.1	100	J	µg/L	100	6/23/2017 5:03:00 PM	R43745
4-Isopropyltoluene	ND	9.6	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	6/23/2017 5:03:00 PM	R43745
Methylene Chloride	ND	11	300		µg/L	100	6/23/2017 5:03:00 PM	R43745
n-Butylbenzene	ND	13	300		µg/L	100	6/23/2017 5:03:00 PM	R43745
n-Propylbenzene	43	7.4	100	J	µg/L	100	6/23/2017 5:03:00 PM	R43745
sec-Butylbenzene	ND	11	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Styrene	ND	16	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
tert-Butylbenzene	ND	10	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	6/23/2017 5:03:00 PM	R43745
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
trans-1,2-DCE	ND	18	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,1,2-Trichloroethane	ND	14	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Trichloroethene (TCE)	ND	11	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Trichlorofluoromethane	ND	18	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
1,2,3-Trichloropropane	ND	39	200		µg/L	100	6/23/2017 5:03:00 PM	R43745
Vinyl chloride	ND	18	100		µg/L	100	6/23/2017 5:03:00 PM	R43745
Xylenes, Total	4600	32	150		µg/L	100	6/23/2017 5:03:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	99.4	0	70-130		%Rec	100	6/23/2017 5:03:00 PM	R43745
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	100	6/23/2017 5:03:00 PM	R43745
Surr: Dibromofluoromethane	108	0	70-130		%Rec	100	6/23/2017 5:03:00 PM	R43745
Surr: Toluene-d8	92.8	0	70-130		%Rec	100	6/23/2017 5:03:00 PM	R43745

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-1
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/20/2017 3:35:00 PM
Lab ID: 1706C54-004
Matrix: PRODUCT
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
DRO BY 8015D							Analyst: **JME**	
Diesel Range Organics (DRO)	9.7	0.56	0.56		wt%	10	7/3/2017 12:50:38 PM	32607
Motor Oil Range Organics (MRO)	ND	2.8	2.8		wt%	10	7/3/2017 12:50:38 PM	32607
Surr: DNOP	0	0	55.7-125	S	%Rec	10	7/3/2017 12:50:38 PM	32607
GRO BY 8015D							Analyst: **NSB**	
Gasoline Range Organics (GRO)	61	0.012	2.5		wt%	1	6/28/2017 2:05:05 AM	32495
Surr: BFB	230	0	63-136	S	%Rec	1	6/28/2017 2:05:05 AM	32495
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	4100	25	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Toluene	16000	20	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Ethylbenzene	4100	18	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Methyl tert-butyl ether (MTBE)	ND	38	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2,4-Trimethylbenzene	5700	22	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,3,5-Trimethylbenzene	2000	16	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2-Dichloroethane (EDC)	ND	26	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2-Dibromoethane (EDB)	ND	32	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Naphthalene	180	25	500	J	mg/Kg	100	6/27/2017 1:02:11 PM	32495
1-Methylnaphthalene	120	18	1000	J	mg/Kg	100	6/27/2017 1:02:11 PM	32495
2-Methylnaphthalene	110	20	1000	J	mg/Kg	100	6/27/2017 1:02:11 PM	32495
Acetone	ND	270	2500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Bromobenzene	ND	18	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Bromodichloromethane	ND	33	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Bromoform	ND	61	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Bromomethane	ND	43	750		mg/Kg	100	6/27/2017 1:02:11 PM	32495
2-Butanone	ND	150	2500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Carbon disulfide	ND	30	2500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Carbon Tetrachloride	ND	25	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Chlorobenzene	ND	15	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Chloroethane	ND	82	500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Chloroform	ND	15	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Chloromethane	ND	52	750		mg/Kg	100	6/27/2017 1:02:11 PM	32495
2-Chlorotoluene	ND	19	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
4-Chlorotoluene	ND	23	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
cis-1,2-DCE	ND	32	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
cis-1,3-Dichloropropene	ND	19	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2-Dibromo-3-chloropropane	ND	34	500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Dibromochloromethane	ND	21	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Dibromomethane	ND	12	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2-Dichlorobenzene	ND	13	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-1
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/20/2017 3:35:00 PM
Lab ID: 1706C54-004
Matrix: PRODUCT
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	22	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,4-Dichlorobenzene	ND	28	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Dichlorodifluoromethane	ND	100	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,1-Dichloroethane	ND	100	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,1-Dichloroethene	ND	100	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2-Dichloropropane	ND	15	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,3-Dichloropropane	ND	62	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
2,2-Dichloropropane	ND	28	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,1-Dichloropropene	ND	28	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Hexachlorobutadiene	ND	62	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
2-Hexanone	ND	49	2500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Isopropylbenzene	940	17	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
4-Isopropyltoluene	330	19	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
4-Methyl-2-pentanone	ND	53	2500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Methylene Chloride	ND	100	750		mg/Kg	100	6/27/2017 1:02:11 PM	32495
n-Butylbenzene	370	22	750	J	mg/Kg	100	6/27/2017 1:02:11 PM	32495
n-Propylbenzene	1400	16	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
sec-Butylbenzene	370	26	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Styrene	ND	43	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
tert-Butylbenzene	ND	20	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,1,1,2-Tetrachloroethane	ND	28	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,1,2,2-Tetrachloroethane	ND	72	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Tetrachloroethene (PCE)	ND	20	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
trans-1,2-DCE	ND	100	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
trans-1,3-Dichloropropene	ND	30	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2,3-Trichlorobenzene	ND	23	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2,4-Trichlorobenzene	ND	25	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,1,1-Trichloroethane	ND	32	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,1,2-Trichloroethane	ND	27	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Trichloroethene (TCE)	ND	30	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Trichlorofluoromethane	ND	38	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
1,2,3-Trichloropropane	ND	130	500		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Vinyl chloride	ND	21	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Xylenes, Total	23000	78	250		mg/Kg	100	6/27/2017 1:02:11 PM	32495
Surr: Dibromofluoromethane	101		70-130		%Rec	100	6/27/2017 1:02:11 PM	32495
Surr: 1,2-Dichloroethane-d4	94.4		70-130		%Rec	100	6/27/2017 1:02:11 PM	32495
Surr: Toluene-d8	101		70-130		%Rec	100	6/27/2017 1:02:11 PM	32495
Surr: 4-Bromofluorobenzene	93.9		61-133		%Rec	100	6/27/2017 1:02:11 PM	32495

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:10:00 AM
Lab ID: 1706C54-005
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	1.9	0.36	1.0		mg/L	1	6/26/2017 2:55:46 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 2:55:46 PM	32454
Surr: DNOP	128	0	72.4-157		%Rec	1	6/26/2017 2:55:46 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	2.9	0.025	0.050		mg/L	1	6/26/2017 4:51:16 PM	G43790
Surr: BFB	142	0	52.3-138	S	%Rec	1	6/26/2017 4:51:16 PM	G43790
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.38	0.22	0.50	J	mg/L	5	6/27/2017 2:14:36 AM	R43826
Chloride	300	5.0	10		mg/L	20	6/27/2017 2:27:01 AM	R43826
Bromide	2.6	0.073	0.50		mg/L	5	6/27/2017 2:14:36 AM	R43826
Phosphorus, Orthophosphate (As P)	1.7	1.2	2.5	JH	mg/L	5	6/27/2017 2:14:36 AM	R43826
Sulfate	40	0.48	2.5		mg/L	5	6/27/2017 2:14:36 AM	R43826
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	7/7/2017 5:24:45 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.14	0.00085	0.0020		mg/L	1	7/5/2017 7:25:14 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:25:14 PM	B44011
Calcium	63	0.078	1.0		mg/L	1	7/5/2017 7:25:14 PM	B44011
Chromium	ND	0.0010	0.0060		mg/L	1	7/5/2017 7:25:14 PM	B44011
Copper	0.0055	0.0032	0.0060	J	mg/L	1	7/5/2017 7:25:14 PM	B44011
Iron	0.63	0.016	0.020	*	mg/L	1	7/5/2017 7:25:14 PM	B44011
Magnesium	19	0.25	1.0		mg/L	1	7/5/2017 7:25:14 PM	B44011
Manganese	1.2	0.0038	0.020	*	mg/L	10	7/5/2017 7:27:15 PM	B44011
Potassium	0.19	0.11	1.0	J	mg/L	1	7/5/2017 7:25:14 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:25:14 PM	B44011
Sodium	400	1.6	10		mg/L	10	7/5/2017 7:27:15 PM	B44011
Zinc	0.0062	0.0011	0.010	J	mg/L	1	7/5/2017 7:25:14 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.62	0.00093	0.0020		mg/L	1	7/5/2017 3:49:04 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 3:49:04 PM	32623
Chromium	0.012	0.0011	0.0060		mg/L	1	7/5/2017 3:49:04 PM	32623
Copper	0.063	0.0017	0.0060		mg/L	1	7/5/2017 3:49:04 PM	32623
Iron	9.5	0.10	0.20	*	mg/L	10	7/5/2017 3:50:53 PM	32623
Manganese	1.7	0.011	0.020	*	mg/L	10	7/5/2017 3:50:53 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 3:49:04 PM	32623
Zinc	0.019	0.0028	0.010		mg/L	1	7/5/2017 3:49:04 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0078	0.0035	0.020	J	mg/L	20	7/15/2017 12:52:11 AM	C44245

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:10:00 AM
Lab ID: 1706C54-005
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0049	0.00017	0.00050		mg/L	1	7/14/2017 12:04:34 AM	D44207
Selenium	0.014	0.0077	0.020	J	mg/L	20	7/15/2017 12:52:11 AM	C44245
Uranium	0.055	0.00025	0.0025	*	mg/L	5	7/15/2017 12:47:03 AM	C44245
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0083	0.0015	0.0050		mg/L	5	7/17/2017 9:14:50 AM	32623
Lead	0.025	0.00048	0.0025	*	mg/L	5	7/17/2017 9:14:50 AM	32623
Selenium	0.014	0.0036	0.0050		mg/L	5	7/17/2017 9:14:50 AM	32623
Uranium	0.063	0.00077	0.0025	*	mg/L	5	7/17/2017 9:14:50 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	7/3/2017 12:31:31 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Benzoic acid	9.6	3.9	20	J	µg/L	1	6/30/2017 5:14:14 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/30/2017 5:14:14 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/30/2017 5:14:14 PM	32481

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:10:00 AM
Lab ID: 1706C54-005
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 5:14:14 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 5:14:14 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 5:14:14 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 5:14:14 PM	32481
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/30/2017 5:14:14 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 5:14:14 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 5:14:14 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 5:14:14 PM	32481
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2-Methylphenol	ND	3.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/30/2017 5:14:14 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Naphthalene	ND	2.9	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 5:14:14 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 5:14:14 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 5:14:14 PM	32481
Phenanthrene	ND	4.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Phenol	ND	3.1	10		µg/L	1	6/30/2017 5:14:14 PM	32481

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:10:00 AM
Lab ID: 1706C54-005
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 5:14:14 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 5:14:14 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 5:14:14 PM	32481
Surr: 2-Fluorophenol	41.5	0	15-98.1		%Rec	1	6/30/2017 5:14:14 PM	32481
Surr: Phenol-d5	35.2	0	15-80.7		%Rec	1	6/30/2017 5:14:14 PM	32481
Surr: 2,4,6-Tribromophenol	67.9	0	15-112		%Rec	1	6/30/2017 5:14:14 PM	32481
Surr: Nitrobenzene-d5	75.5	0	27.2-90.7		%Rec	1	6/30/2017 5:14:14 PM	32481
Surr: 2-Fluorobiphenyl	63.1	0	23.3-85.6		%Rec	1	6/30/2017 5:14:14 PM	32481
Surr: 4-Terphenyl-d14	58.2	0	27.6-107		%Rec	1	6/30/2017 5:14:14 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	170	6.2	100		µg/L	100	6/26/2017 3:27:00 PM	R43806
Toluene	4.7	0.064	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Ethylbenzene	46	0.093	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Methyl tert-butyl ether (MTBE)	2300	24	100		µg/L	100	6/26/2017 3:27:00 PM	R43806
1,2,4-Trimethylbenzene	21	0.11	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,3,5-Trimethylbenzene	2.2	0.087	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Naphthalene	1.7	0.11	2.0	J	µg/L	1	6/23/2017 5:28:00 PM	R43745
1-Methylnaphthalene	0.98	0.16	4.0	J	µg/L	1	6/23/2017 5:28:00 PM	R43745
2-Methylnaphthalene	0.76	0.15	4.0	J	µg/L	1	6/23/2017 5:28:00 PM	R43745
Acetone	18	0.82	10		µg/L	1	6/23/2017 5:28:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 5:28:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 5:28:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:10:00 AM
Lab ID: 1706C54-005 **Matrix:** AQUEOUS **Received Date:** 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 5:28:00 PM	R43745
Isopropylbenzene	1.4	0.051	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
4-Isopropyltoluene	0.16	0.096	1.0	J	µg/L	1	6/23/2017 5:28:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 5:28:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
n-Butylbenzene	0.54	0.13	3.0	J	µg/L	1	6/23/2017 5:28:00 PM	R43745
n-Propylbenzene	5.0	0.074	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
sec-Butylbenzene	0.94	0.11	1.0	J	µg/L	1	6/23/2017 5:28:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 5:28:00 PM	R43745
Xylenes, Total	3.8	0.32	1.5		µg/L	1	6/23/2017 5:28:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	91.7	0	70-130		%Rec	1	6/23/2017 5:28:00 PM	R43745

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:10:00 AM
Lab ID: 1706C54-005
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	6/23/2017 5:28:00 PM	R43745
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	6/23/2017 5:28:00 PM	R43745
Surr: Toluene-d8	93.6	0	70-130		%Rec	1	6/23/2017 5:28:00 PM	R43745

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:50:00 AM
Lab ID: 1706C54-006
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	6.3	0.36	1.0		mg/L	1	6/26/2017 3:20:49 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 3:20:49 PM	32454
Surr: DNOP	136	0	72.4-157		%Rec	1	6/26/2017 3:20:49 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	42	2.5	5.0		mg/L	100	6/26/2017 5:15:07 PM	G43790
Surr: BFB	130	0	52.3-138		%Rec	100	6/26/2017 5:15:07 PM	G43790
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	6/27/2017 2:39:26 AM	R43826
Chloride	380	5.0	10		mg/L	20	6/27/2017 2:51:51 AM	R43826
Bromide	1.8	0.073	0.50		mg/L	5	6/27/2017 2:39:26 AM	R43826
Phosphorus, Orthophosphate (As P)	2.1	1.2	2.5	JH	mg/L	5	6/27/2017 2:39:26 AM	R43826
Sulfate	1.7	0.48	2.5	J	mg/L	5	6/27/2017 2:39:26 AM	R43826
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	7/7/2017 5:37:09 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.56	0.00085	0.0020		mg/L	1	7/5/2017 7:29:08 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:29:08 PM	B44011
Calcium	110	0.78	10		mg/L	10	7/5/2017 7:30:49 PM	B44011
Chromium	ND	0.0010	0.0060		mg/L	1	7/5/2017 7:29:08 PM	B44011
Copper	ND	0.0032	0.0060		mg/L	1	7/5/2017 7:29:08 PM	B44011
Iron	4.2	0.16	0.20	*	mg/L	10	7/5/2017 7:30:49 PM	B44011
Magnesium	34	0.25	1.0		mg/L	1	7/5/2017 7:29:08 PM	B44011
Manganese	3.7	0.0038	0.020	*	mg/L	10	7/5/2017 7:30:49 PM	B44011
Potassium	ND	0.11	1.0		mg/L	1	7/5/2017 7:29:08 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:29:08 PM	B44011
Sodium	380	1.6	10		mg/L	10	7/5/2017 7:30:49 PM	B44011
Zinc	0.0082	0.0011	0.010	J	mg/L	1	7/5/2017 7:29:08 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.69	0.00093	0.0020		mg/L	1	7/5/2017 3:52:48 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 3:52:48 PM	32623
Chromium	0.011	0.0011	0.0060		mg/L	1	7/5/2017 3:52:48 PM	32623
Copper	0.011	0.0017	0.0060		mg/L	1	7/5/2017 3:52:48 PM	32623
Iron	14	0.20	0.40	*	mg/L	20	7/6/2017 4:19:15 PM	32623
Manganese	4.3	0.011	0.020	*	mg/L	10	7/5/2017 3:54:33 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 3:52:48 PM	32623
Zinc	0.023	0.0028	0.010		mg/L	1	7/5/2017 3:52:48 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0060	0.00018	0.0010		mg/L	1	7/14/2017 12:09:42 AM	D44207

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 10:50:00 AM
Lab ID: 1706C54-006 **Matrix:** AQUEOUS **Received Date:** 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00029	0.00017	0.00050	J	mg/L	1	7/14/2017 12:09:42 AM	D44207
Selenium	0.0056	0.00039	0.0010		mg/L	1	7/14/2017 12:09:42 AM	D44207
Uranium	0.0040	0.000050	0.00050		mg/L	1	7/14/2017 12:09:42 AM	D44207
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0071	0.00030	0.0010		mg/L	1	7/14/2017 3:14:10 PM	32623
Lead	0.014	0.00048	0.0025		mg/L	5	7/17/2017 9:19:58 AM	32623
Selenium	0.0041	0.00071	0.0010		mg/L	1	7/14/2017 3:14:10 PM	32623
Uranium	0.0063	0.00077	0.0025		mg/L	5	7/17/2017 9:19:58 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	7/3/2017 12:33:31 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Benzoic acid	ND	3.9	20		µg/L	1	6/30/2017 5:42:23 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Bis(2-ethylhexyl)phthalate	6.6	4.8	10	J	µg/L	1	6/30/2017 5:42:23 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Di-n-octyl phthalate	5.2	4.7	10	J	µg/L	1	6/30/2017 5:42:23 PM	32481

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 5:42:23 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 5:42:23 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 5:42:23 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 5:42:23 PM	32481
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/30/2017 5:42:23 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 5:42:23 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 5:42:23 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 5:42:23 PM	32481
1-Methylnaphthalene	17	3.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2-Methylnaphthalene	15	3.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2-Methylphenol	ND	3.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/30/2017 5:42:23 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Naphthalene	33	2.9	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 5:42:23 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 5:42:23 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 5:42:23 PM	32481
Phenanthrene	ND	4.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Phenol	42	3.1	10		µg/L	1	6/30/2017 5:42:23 PM	32481

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Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 5:42:23 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 5:42:23 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 5:42:23 PM	32481
Surr: 2-Fluorophenol	42.0	0	15-98.1		%Rec	1	6/30/2017 5:42:23 PM	32481
Surr: Phenol-d5	41.4	0	15-80.7		%Rec	1	6/30/2017 5:42:23 PM	32481
Surr: 2,4,6-Tribromophenol	70.8	0	15-112		%Rec	1	6/30/2017 5:42:23 PM	32481
Surr: Nitrobenzene-d5	78.4	0	27.2-90.7		%Rec	1	6/30/2017 5:42:23 PM	32481
Surr: 2-Fluorobiphenyl	73.5	0	23.3-85.6		%Rec	1	6/30/2017 5:42:23 PM	32481
Surr: 4-Terphenyl-d14	66.2	0	27.6-107		%Rec	1	6/30/2017 5:42:23 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	13000	31	500		µg/L	500	6/23/2017 5:53:00 PM	R43745
Toluene	900	3.2	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Ethylbenzene	720	4.7	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Methyl tert-butyl ether (MTBE)	2400	12	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2,4-Trimethylbenzene	330	5.6	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,3,5-Trimethylbenzene	93	4.4	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Naphthalene	52	5.7	100	J	µg/L	50	6/23/2017 6:18:00 PM	R43745
1-Methylnaphthalene	29	8.0	200	J	µg/L	50	6/23/2017 6:18:00 PM	R43745
2-Methylnaphthalene	28	7.6	200	J	µg/L	50	6/23/2017 6:18:00 PM	R43745
Acetone	ND	41	500		µg/L	50	6/23/2017 6:18:00 PM	R43745
Bromobenzene	ND	7.0	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Bromodichloromethane	ND	8.8	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Bromoform	ND	11	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Bromomethane	ND	13	150		µg/L	50	6/23/2017 6:18:00 PM	R43745
2-Butanone	ND	57	500		µg/L	50	6/23/2017 6:18:00 PM	R43745
Carbon disulfide	ND	20	500		µg/L	50	6/23/2017 6:18:00 PM	R43745
Carbon Tetrachloride	ND	5.5	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Chlorobenzene	ND	5.3	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Chloroethane	ND	12	100		µg/L	50	6/23/2017 6:18:00 PM	R43745
Chloroform	ND	20	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Chloromethane	ND	15	150		µg/L	50	6/23/2017 6:18:00 PM	R43745
2-Chlorotoluene	ND	20	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
4-Chlorotoluene	ND	20	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
cis-1,2-DCE	ND	10	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	6/23/2017 6:18:00 PM	R43745

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	6/23/2017 6:18:00 PM	R43745
Dibromochloromethane	ND	3.6	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Dibromomethane	ND	4.5	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,4-Dichlorobenzene	ND	20	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Dichlorodifluoromethane	ND	50	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,1-Dichloroethane	ND	20	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,1-Dichloroethene	ND	4.0	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2-Dichloropropane	ND	5.1	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,3-Dichloropropane	ND	8.4	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
2,2-Dichloropropane	ND	7.9	100		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,1-Dichloropropene	ND	4.6	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Hexachlorobutadiene	ND	40	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
2-Hexanone	ND	33	500		µg/L	50	6/23/2017 6:18:00 PM	R43745
Isopropylbenzene	24	2.6	50	J	µg/L	50	6/23/2017 6:18:00 PM	R43745
4-Isopropyltoluene	ND	4.8	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
4-Methyl-2-pentanone	ND	35	500		µg/L	50	6/23/2017 6:18:00 PM	R43745
Methylene Chloride	ND	5.4	150		µg/L	50	6/23/2017 6:18:00 PM	R43745
n-Butylbenzene	13	6.5	150	J	µg/L	50	6/23/2017 6:18:00 PM	R43745
n-Propylbenzene	70	3.7	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
sec-Butylbenzene	6.1	5.5	50	J	µg/L	50	6/23/2017 6:18:00 PM	R43745
Styrene	ND	7.8	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
tert-Butylbenzene	ND	5.2	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	6/23/2017 6:18:00 PM	R43745
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
trans-1,2-DCE	ND	9.2	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Trichlorofluoromethane	ND	9.1	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
1,2,3-Trichloropropane	ND	19	100		µg/L	50	6/23/2017 6:18:00 PM	R43745
Vinyl chloride	ND	8.9	50		µg/L	50	6/23/2017 6:18:00 PM	R43745
Xylenes, Total	760	16	75		µg/L	50	6/23/2017 6:18:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	94.5	0	70-130		%Rec	50	6/23/2017 6:18:00 PM	R43745

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	50	6/23/2017 6:18:00 PM	R43745
Surr: Dibromofluoromethane	106	0	70-130		%Rec	50	6/23/2017 6:18:00 PM	R43745
Surr: Toluene-d8	95.0	0	70-130		%Rec	50	6/23/2017 6:18:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: OW-56
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:30:00 AM
Lab ID: 1706C54-007
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	0.84	0.36	1.0	J	mg/L	1	6/26/2017 4:18:43 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 4:18:43 PM	32454
Surr: DNOP	131	0	72.4-157		%Rec	1	6/26/2017 4:18:43 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.15	0.025	0.050		mg/L	1	6/27/2017 9:51:27 AM	G43823
Surr: BFB	161	0	52.3-138	S	%Rec	1	6/27/2017 9:51:27 AM	G43823
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	6/27/2017 3:04:15 AM	R43826
Chloride	650	12	25		mg/L	50	7/7/2017 4:22:41 PM	R44073
Bromide	1.9	0.073	0.50		mg/L	5	6/27/2017 3:04:15 AM	R43826
Phosphorus, Orthophosphate (As P)	1.6	1.2	2.5	JH	mg/L	5	6/27/2017 3:04:15 AM	R43826
Sulfate	23	0.48	2.5		mg/L	5	6/27/2017 3:04:15 AM	R43826
Nitrate+Nitrite as N	0.13	0.13	1.0	J	mg/L	5	7/7/2017 5:49:34 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.26	0.00085	0.0020		mg/L	1	7/5/2017 7:32:43 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:32:43 PM	B44011
Calcium	89	0.078	1.0		mg/L	1	7/5/2017 7:32:43 PM	B44011
Chromium	0.0014	0.0010	0.0060	J	mg/L	1	7/5/2017 7:32:43 PM	B44011
Copper	0.011	0.0032	0.0060		mg/L	1	7/5/2017 7:32:43 PM	B44011
Iron	0.026	0.016	0.020		mg/L	1	7/5/2017 7:32:43 PM	B44011
Magnesium	17	0.25	1.0		mg/L	1	7/5/2017 7:32:43 PM	B44011
Manganese	0.073	0.00038	0.0020	*	mg/L	1	7/5/2017 7:32:43 PM	B44011
Potassium	1.3	0.11	1.0		mg/L	1	7/5/2017 7:32:43 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:32:43 PM	B44011
Sodium	500	1.6	10		mg/L	10	7/5/2017 7:34:37 PM	B44011
Zinc	0.063	0.0011	0.010		mg/L	1	7/5/2017 7:32:43 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.39	0.00093	0.0020		mg/L	1	7/5/2017 3:56:31 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 3:56:31 PM	32623
Chromium	0.0072	0.0011	0.0060		mg/L	1	7/5/2017 3:56:31 PM	32623
Copper	0.016	0.0017	0.0060		mg/L	1	7/5/2017 3:56:31 PM	32623
Iron	5.2	0.10	0.20	*	mg/L	10	7/5/2017 3:58:12 PM	32623
Manganese	0.31	0.0011	0.0020	*	mg/L	1	7/5/2017 3:56:31 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 3:56:31 PM	32623
Zinc	0.019	0.0028	0.010		mg/L	1	7/5/2017 3:56:31 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0054	0.0018	0.010	J	mg/L	10	7/15/2017 12:57:20 AM	C44245

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EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	7/14/2017 12:14:50 AM	D44207
Selenium	0.014	0.0077	0.020	J	mg/L	20	7/17/2017 5:12:48 PM	A44265
Uranium	0.021	0.000050	0.00050		mg/L	1	7/14/2017 12:14:50 AM	D44207
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0073	0.0015	0.0050		mg/L	5	7/17/2017 9:25:07 AM	32623
Lead	0.0050	0.00048	0.0025		mg/L	5	7/17/2017 9:25:07 AM	32623
Selenium	0.011	0.0036	0.0050		mg/L	5	7/17/2017 9:25:07 AM	32623
Uranium	0.023	0.00077	0.0025		mg/L	5	7/17/2017 9:25:07 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	7/3/2017 12:35:31 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Benzoic acid	8.2	3.9	20	J	µg/L	1	6/30/2017 6:10:30 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/30/2017 6:10:30 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Di-n-octyl phthalate	5.7	4.7	10	J	µg/L	1	6/30/2017 6:10:30 PM	32481

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 6:10:30 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 6:10:30 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 6:10:30 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 6:10:30 PM	32481
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/30/2017 6:10:30 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 6:10:30 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 6:10:30 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 6:10:30 PM	32481
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2-Methylphenol	ND	3.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/30/2017 6:10:30 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Naphthalene	ND	2.9	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 6:10:30 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 6:10:30 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 6:10:30 PM	32481
Phenanthrene	ND	4.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Phenol	ND	3.1	10		µg/L	1	6/30/2017 6:10:30 PM	32481

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 6:10:30 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 6:10:30 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 6:10:30 PM	32481
Surr: 2-Fluorophenol	54.8	0	15-98.1		%Rec	1	6/30/2017 6:10:30 PM	32481
Surr: Phenol-d5	43.6	0	15-80.7		%Rec	1	6/30/2017 6:10:30 PM	32481
Surr: 2,4,6-Tribromophenol	80.3	0	15-112		%Rec	1	6/30/2017 6:10:30 PM	32481
Surr: Nitrobenzene-d5	88.4	0	27.2-90.7		%Rec	1	6/30/2017 6:10:30 PM	32481
Surr: 2-Fluorobiphenyl	83.5	0	23.3-85.6		%Rec	1	6/30/2017 6:10:30 PM	32481
Surr: 4-Terphenyl-d14	68.0	0	27.6-107		%Rec	1	6/30/2017 6:10:30 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.38	0.062	1.0	J	µg/L	1	6/23/2017 6:43:00 PM	R43745
Toluene	ND	0.064	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Methyl tert-butyl ether (MTBE)	140	0.24	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2,4-Trimethylbenzene	0.12	0.11	1.0	J	µg/L	1	6/23/2017 6:43:00 PM	R43745
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2-Dichloroethane (EDC)	3.9	0.40	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Naphthalene	ND	0.11	2.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Acetone	16	0.82	10		µg/L	1	6/23/2017 6:43:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 6:43:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 6:43:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745

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EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 6:43:00 PM	R43745
Isopropylbenzene	0.28	0.051	1.0	J	µg/L	1	6/23/2017 6:43:00 PM	R43745
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 6:43:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 6:43:00 PM	R43745
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/23/2017 6:43:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	94.2	0	70-130		%Rec	1	6/23/2017 6:43:00 PM	R43745

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:30:00 AM
Lab ID: 1706C54-007
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	6/23/2017 6:43:00 PM	R43745
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/23/2017 6:43:00 PM	R43745
Surr: Toluene-d8	95.0	0	70-130		%Rec	1	6/23/2017 6:43:00 PM	R43745

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:55:00 AM
Lab ID: 1706C54-008
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	0.50	0.36	1.0	J	mg/L	1	6/26/2017 4:43:46 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 4:43:46 PM	32454
Surr: DNOP	131	0	72.4-157		%Rec	1	6/26/2017 4:43:46 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.27	0.025	0.050		mg/L	1	6/27/2017 10:15:13 AM	G43823
Surr: BFB	319	0	52.3-138	S	%Rec	1	6/27/2017 10:15:13 AM	G43823
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	6/27/2017 3:29:05 AM	R43826
Chloride	720	12	25		mg/L	50	7/7/2017 4:35:06 PM	R44073
Bromide	1.8	0.073	0.50		mg/L	5	6/27/2017 3:29:05 AM	R43826
Phosphorus, Orthophosphate (As P)	1.7	1.2	2.5	JH	mg/L	5	6/27/2017 3:29:05 AM	R43826
Sulfate	21	0.48	2.5		mg/L	5	6/27/2017 3:29:05 AM	R43826
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	7/7/2017 6:01:59 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.35	0.00085	0.0020		mg/L	1	7/5/2017 7:42:49 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:42:49 PM	B44011
Calcium	91	0.078	1.0		mg/L	1	7/5/2017 7:42:49 PM	B44011
Chromium	ND	0.0010	0.0060		mg/L	1	7/5/2017 7:42:49 PM	B44011
Copper	0.0099	0.0032	0.0060		mg/L	1	7/5/2017 7:42:49 PM	B44011
Iron	0.060	0.016	0.020		mg/L	1	7/5/2017 7:42:49 PM	B44011
Magnesium	18	0.25	1.0		mg/L	1	7/5/2017 7:42:49 PM	B44011
Manganese	0.20	0.00038	0.0020	*	mg/L	1	7/5/2017 7:42:49 PM	B44011
Potassium	1.3	0.11	1.0		mg/L	1	7/5/2017 7:42:49 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:42:49 PM	B44011
Sodium	530	1.6	10		mg/L	10	7/5/2017 7:44:43 PM	B44011
Zinc	0.029	0.0011	0.010		mg/L	1	7/5/2017 7:42:49 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.48	0.00093	0.0020		mg/L	1	7/5/2017 4:00:07 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 4:00:07 PM	32623
Chromium	0.0061	0.0011	0.0060		mg/L	1	7/5/2017 4:00:07 PM	32623
Copper	0.012	0.0017	0.0060		mg/L	1	7/5/2017 4:00:07 PM	32623
Iron	5.1	0.10	0.20	*	mg/L	10	7/5/2017 4:01:49 PM	32623
Manganese	0.36	0.0011	0.0020	*	mg/L	1	7/5/2017 4:00:07 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 4:00:07 PM	32623
Zinc	0.020	0.0028	0.010		mg/L	1	7/5/2017 4:00:07 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0060	0.0018	0.010	J	mg/L	10	7/15/2017 1:02:28 AM	C44245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:55:00 AM
Lab ID: 1706C54-008
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00031	0.00017	0.00050	J	mg/L	1	7/14/2017 12:19:59 AM	D44207
Selenium	0.014	0.0077	0.020	J	mg/L	20	7/17/2017 5:15:52 PM	A44265
Uranium	0.021	0.000050	0.00050		mg/L	1	7/14/2017 12:19:59 AM	D44207
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0072	0.0015	0.0050		mg/L	5	7/17/2017 9:30:15 AM	32623
Lead	0.0047	0.00048	0.0025		mg/L	5	7/17/2017 9:30:15 AM	32623
Selenium	0.0093	0.0036	0.0050		mg/L	5	7/17/2017 9:30:15 AM	32623
Uranium	0.024	0.00077	0.0025		mg/L	5	7/17/2017 9:30:15 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	7/3/2017 12:37:32 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Benzoic acid	9.2	3.9	20	J	µg/L	1	6/30/2017 6:38:38 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/30/2017 6:38:38 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/30/2017 6:38:38 PM	32481

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:55:00 AM
Lab ID: 1706C54-008
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 6:38:38 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 6:38:38 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 6:38:38 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 6:38:38 PM	32481
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/30/2017 6:38:38 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 6:38:38 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 6:38:38 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 6:38:38 PM	32481
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2-Methylphenol	ND	3.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/30/2017 6:38:38 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Naphthalene	ND	2.9	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 6:38:38 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 6:38:38 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 6:38:38 PM	32481
Phenanthrene	ND	4.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Phenol	ND	3.1	10		µg/L	1	6/30/2017 6:38:38 PM	32481

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:55:00 AM
Lab ID: 1706C54-008
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 6:38:38 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 6:38:38 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 6:38:38 PM	32481
Surr: 2-Fluorophenol	47.2	0	15-98.1		%Rec	1	6/30/2017 6:38:38 PM	32481
Surr: Phenol-d5	40.2	0	15-80.7		%Rec	1	6/30/2017 6:38:38 PM	32481
Surr: 2,4,6-Tribromophenol	74.6	0	15-112		%Rec	1	6/30/2017 6:38:38 PM	32481
Surr: Nitrobenzene-d5	80.8	0	27.2-90.7		%Rec	1	6/30/2017 6:38:38 PM	32481
Surr: 2-Fluorobiphenyl	72.9	0	23.3-85.6		%Rec	1	6/30/2017 6:38:38 PM	32481
Surr: 4-Terphenyl-d14	64.6	0	27.6-107		%Rec	1	6/30/2017 6:38:38 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1.1	0.062	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Toluene	ND	0.064	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Methyl tert-butyl ether (MTBE)	140	0.24	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2,4-Trimethylbenzene	0.14	0.11	1.0	J	µg/L	1	6/23/2017 7:07:00 PM	R43745
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2-Dichloroethane (EDC)	12	0.40	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Naphthalene	ND	0.11	2.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Acetone	16	0.82	10		µg/L	1	6/23/2017 7:07:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 7:07:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 7:07:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:55:00 AM
Lab ID: 1706C54-008
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,1-Dichloroethane	0.67	0.40	1.0	J	µg/L	1	6/23/2017 7:07:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 7:07:00 PM	R43745
Isopropylbenzene	0.94	0.051	1.0	J	µg/L	1	6/23/2017 7:07:00 PM	R43745
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 7:07:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
n-Butylbenzene	0.17	0.13	3.0	J	µg/L	1	6/23/2017 7:07:00 PM	R43745
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
sec-Butylbenzene	0.20	0.11	1.0	J	µg/L	1	6/23/2017 7:07:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 7:07:00 PM	R43745
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/23/2017 7:07:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	95.7	0	70-130		%Rec	1	6/23/2017 7:07:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

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Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 11:55:00 AM
Lab ID: 1706C54-008
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	6/23/2017 7:07:00 PM	R43745
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/23/2017 7:07:00 PM	R43745
Surr: Toluene-d8	95.6	0	70-130		%Rec	1	6/23/2017 7:07:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:15:00 PM
Lab ID: 1706C54-009
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	6.2	0.36	1.0		mg/L	1	6/26/2017 5:08:37 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 5:08:37 PM	32454
Surr: DNOP	138	0	72.4-157		%Rec	1	6/26/2017 5:08:37 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	30	2.5	5.0		mg/L	100	6/27/2017 10:38:57 AM	G43823
Surr: BFB	95.5	0	52.3-138		%Rec	100	6/27/2017 10:38:57 AM	G43823
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	6/27/2017 3:53:54 AM	R43826
Chloride	310	5.0	10		mg/L	20	6/27/2017 4:06:19 AM	R43826
Bromide	3.4	0.073	0.50		mg/L	5	6/27/2017 3:53:54 AM	R43826
Phosphorus, Orthophosphate (As P)	2.0	1.2	2.5	JH	mg/L	5	6/27/2017 3:53:54 AM	R43826
Sulfate	1.1	0.48	2.5	J	mg/L	5	6/27/2017 3:53:54 AM	R43826
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	7/7/2017 6:14:23 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.9	0.0085	0.020	*	mg/L	10	7/5/2017 7:48:16 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:46:37 PM	B44011
Calcium	240	0.78	10		mg/L	10	7/5/2017 7:48:16 PM	B44011
Chromium	ND	0.0010	0.0060		mg/L	1	7/5/2017 7:46:37 PM	B44011
Copper	ND	0.0032	0.0060		mg/L	1	7/5/2017 7:46:37 PM	B44011
Iron	39	0.82	1.0	*	mg/L	50	7/6/2017 8:24:06 PM	B44032
Magnesium	44	0.25	1.0		mg/L	1	7/5/2017 7:46:37 PM	B44011
Manganese	6.7	0.0038	0.020	*	mg/L	10	7/5/2017 7:48:16 PM	B44011
Potassium	14	0.11	1.0		mg/L	1	7/5/2017 7:46:37 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:46:37 PM	B44011
Sodium	150	1.6	10		mg/L	10	7/5/2017 7:48:16 PM	B44011
Zinc	0.020	0.0011	0.010		mg/L	1	7/5/2017 7:46:37 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	4.1	0.0093	0.020	*	mg/L	10	7/5/2017 4:15:52 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 4:03:42 PM	32623
Chromium	ND	0.0011	0.0060		mg/L	1	7/5/2017 4:03:42 PM	32623
Copper	0.010	0.0017	0.0060		mg/L	1	7/5/2017 4:03:42 PM	32623
Iron	43	0.51	1.0	*	mg/L	50	7/6/2017 4:21:08 PM	32623
Manganese	6.9	0.011	0.020	*	mg/L	10	7/5/2017 4:15:52 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 4:03:42 PM	32623
Zinc	0.069	0.0028	0.010		mg/L	1	7/5/2017 4:03:42 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.014	0.0018	0.010	*	mg/L	10	7/15/2017 1:07:36 AM	C44245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:15:00 PM
Lab ID: 1706C54-009
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00086	0.00017	0.00050		mg/L	1	7/14/2017 12:25:07 AM	D44207
Selenium	ND	0.019	0.050		mg/L	50	7/18/2017 2:35:44 PM	B44315
Uranium	0.00052	0.000050	0.00050		mg/L	1	7/14/2017 12:25:07 AM	D44207
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.018	0.0015	0.0050	*	mg/L	5	7/17/2017 9:35:24 AM	32623
Lead	0.0065	0.00048	0.0025		mg/L	5	7/17/2017 9:35:24 AM	32623
Selenium	0.023	0.0036	0.0050		mg/L	5	7/17/2017 9:35:24 AM	32623
Uranium	0.0011	0.00077	0.0025	J	mg/L	5	7/17/2017 9:35:24 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	7/3/2017 12:39:32 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Benzoic acid	ND	3.9	20		µg/L	1	6/30/2017 7:06:39 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Bis(2-ethylhexyl)phthalate	5.2	4.8	10	J	µg/L	1	6/30/2017 7:06:39 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/30/2017 7:06:39 PM	32481

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 7:06:39 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 7:06:39 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 7:06:39 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 7:06:39 PM	32481
2,4-Dimethylphenol	38	2.8	10		µg/L	1	6/30/2017 7:06:39 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 7:06:39 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 7:06:39 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 7:06:39 PM	32481
1-Methylnaphthalene	8.0	3.3	10	J	µg/L	1	6/30/2017 7:06:39 PM	32481
2-Methylnaphthalene	4.9	3.3	10	J	µg/L	1	6/30/2017 7:06:39 PM	32481
2-Methylphenol	21	3.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
3+4-Methylphenol	150	3.2	10		µg/L	1	6/30/2017 7:06:39 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Naphthalene	28	2.9	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 7:06:39 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 7:06:39 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 7:06:39 PM	32481
Phenanthrene	ND	4.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Phenol	60	3.1	10		µg/L	1	6/30/2017 7:06:39 PM	32481

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:15:00 PM
Lab ID: 1706C54-009
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 7:06:39 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 7:06:39 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 7:06:39 PM	32481
Surr: 2-Fluorophenol	11.3	0	15-98.1	S	%Rec	1	6/30/2017 7:06:39 PM	32481
Surr: Phenol-d5	32.6	0	15-80.7		%Rec	1	6/30/2017 7:06:39 PM	32481
Surr: 2,4,6-Tribromophenol	45.6	0	15-112		%Rec	1	6/30/2017 7:06:39 PM	32481
Surr: Nitrobenzene-d5	71.6	0	27.2-90.7		%Rec	1	6/30/2017 7:06:39 PM	32481
Surr: 2-Fluorobiphenyl	68.3	0	23.3-85.6		%Rec	1	6/30/2017 7:06:39 PM	32481
Surr: 4-Terphenyl-d14	58.0	0	27.6-107		%Rec	1	6/30/2017 7:06:39 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	10000	31	500		µg/L	500	6/23/2017 7:32:00 PM	R43745
Toluene	41	3.2	50	J	µg/L	50	6/23/2017 7:56:00 PM	R43745
Ethylbenzene	690	4.7	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Methyl tert-butyl ether (MTBE)	1200	12	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2,4-Trimethylbenzene	340	5.6	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,3,5-Trimethylbenzene	120	4.4	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Naphthalene	45	5.7	100	J	µg/L	50	6/23/2017 7:56:00 PM	R43745
1-Methylnaphthalene	ND	8.0	200		µg/L	50	6/23/2017 7:56:00 PM	R43745
2-Methylnaphthalene	ND	7.6	200		µg/L	50	6/23/2017 7:56:00 PM	R43745
Acetone	ND	41	500		µg/L	50	6/23/2017 7:56:00 PM	R43745
Bromobenzene	ND	7.0	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Bromodichloromethane	ND	8.8	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Bromoform	ND	11	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Bromomethane	ND	13	150		µg/L	50	6/23/2017 7:56:00 PM	R43745
2-Butanone	ND	57	500		µg/L	50	6/23/2017 7:56:00 PM	R43745
Carbon disulfide	ND	20	500		µg/L	50	6/23/2017 7:56:00 PM	R43745
Carbon Tetrachloride	ND	5.5	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Chlorobenzene	ND	5.3	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Chloroethane	ND	12	100		µg/L	50	6/23/2017 7:56:00 PM	R43745
Chloroform	ND	20	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Chloromethane	ND	15	150		µg/L	50	6/23/2017 7:56:00 PM	R43745
2-Chlorotoluene	ND	20	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
4-Chlorotoluene	ND	20	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
cis-1,2-DCE	ND	10	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	6/23/2017 7:56:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-21
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:15:00 PM
Lab ID: 1706C54-009
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	6/23/2017 7:56:00 PM	R43745
Dibromochloromethane	ND	3.6	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Dibromomethane	ND	4.5	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,4-Dichlorobenzene	ND	20	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Dichlorodifluoromethane	ND	50	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,1-Dichloroethane	ND	20	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,1-Dichloroethene	ND	4.0	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2-Dichloropropane	ND	5.1	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,3-Dichloropropane	ND	8.4	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
2,2-Dichloropropane	ND	7.9	100		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,1-Dichloropropene	ND	4.6	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Hexachlorobutadiene	ND	40	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
2-Hexanone	ND	33	500		µg/L	50	6/23/2017 7:56:00 PM	R43745
Isopropylbenzene	19	2.6	50	J	µg/L	50	6/23/2017 7:56:00 PM	R43745
4-Isopropyltoluene	ND	4.8	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
4-Methyl-2-pentanone	ND	35	500		µg/L	50	6/23/2017 7:56:00 PM	R43745
Methylene Chloride	ND	5.4	150		µg/L	50	6/23/2017 7:56:00 PM	R43745
n-Butylbenzene	ND	6.5	150		µg/L	50	6/23/2017 7:56:00 PM	R43745
n-Propylbenzene	31	3.7	50	J	µg/L	50	6/23/2017 7:56:00 PM	R43745
sec-Butylbenzene	ND	5.5	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Styrene	ND	7.8	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
tert-Butylbenzene	ND	5.2	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	6/23/2017 7:56:00 PM	R43745
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
trans-1,2-DCE	ND	9.2	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Trichlorofluoromethane	ND	9.1	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
1,2,3-Trichloropropane	ND	19	100		µg/L	50	6/23/2017 7:56:00 PM	R43745
Vinyl chloride	ND	8.9	50		µg/L	50	6/23/2017 7:56:00 PM	R43745
Xylenes, Total	2600	16	75		µg/L	50	6/23/2017 7:56:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	92.7	0	70-130		%Rec	50	6/23/2017 7:56:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:15:00 PM
Lab ID: 1706C54-009
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	50	6/23/2017 7:56:00 PM	R43745
Surr: Dibromofluoromethane	105	0	70-130		%Rec	50	6/23/2017 7:56:00 PM	R43745
Surr: Toluene-d8	92.3	0	70-130		%Rec	50	6/23/2017 7:56:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:35:00 PM
Lab ID: 1706C54-010
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/26/2017 5:33:40 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 5:33:40 PM	32454
Surr: DNOP	135	0	72.4-157		%Rec	1	6/26/2017 5:33:40 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/27/2017 11:50:12 AM	G43823
Surr: BFB	94.5	0	52.3-138		%Rec	1	6/27/2017 11:50:12 AM	G43823
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.79	0.22	0.50		mg/L	5	7/7/2017 3:33:04 PM	R44073
Chloride	280	5.0	10		mg/L	20	7/7/2017 3:45:29 PM	R44073
Bromide	1.5	0.073	0.50		mg/L	5	7/7/2017 3:33:04 PM	R44073
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	7/7/2017 3:33:04 PM	R44073
Sulfate	290	1.9	10		mg/L	20	7/7/2017 3:45:29 PM	R44073
Nitrate+Nitrite as N	0.24	0.13	1.0	J	mg/L	5	7/7/2017 6:26:48 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.041	0.00085	0.0020		mg/L	1	7/5/2017 7:50:14 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:50:14 PM	B44011
Calcium	160	0.78	10		mg/L	10	7/5/2017 7:52:08 PM	B44011
Chromium	ND	0.0010	0.0060		mg/L	1	7/5/2017 7:50:14 PM	B44011
Copper	ND	0.0032	0.0060		mg/L	1	7/5/2017 7:50:14 PM	B44011
Iron	0.076	0.016	0.020		mg/L	1	7/5/2017 7:50:14 PM	B44011
Magnesium	31	0.25	1.0		mg/L	1	7/5/2017 7:50:14 PM	B44011
Manganese	2.5	0.0038	0.020	*	mg/L	10	7/5/2017 7:52:08 PM	B44011
Potassium	0.52	0.11	1.0	J	mg/L	1	7/5/2017 7:50:14 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:50:14 PM	B44011
Sodium	260	1.6	10		mg/L	10	7/5/2017 7:52:08 PM	B44011
Zinc	0.011	0.0011	0.010		mg/L	1	7/5/2017 7:50:14 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.36	0.00093	0.0020		mg/L	1	7/5/2017 4:17:49 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 4:17:49 PM	32623
Chromium	0.0056	0.0011	0.0060	J	mg/L	1	7/5/2017 4:17:49 PM	32623
Copper	0.0067	0.0017	0.0060		mg/L	1	7/5/2017 4:17:49 PM	32623
Iron	6.6	0.10	0.20	*	mg/L	10	7/5/2017 4:19:35 PM	32623
Manganese	2.7	0.011	0.020	*	mg/L	10	7/5/2017 4:19:35 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 4:17:49 PM	32623
Zinc	0.019	0.0028	0.010		mg/L	1	7/5/2017 4:17:49 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0026	0.00089	0.0050	J	mg/L	5	7/15/2017 1:12:45 AM	C44245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:35:00 PM
Lab ID: 1706C54-010
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00027	0.00017	0.00050	J	mg/L	1	7/14/2017 12:30:16 AM	D44207
Selenium	0.0043	0.00039	0.0010		mg/L	1	7/14/2017 12:30:16 AM	D44207
Uranium	0.024	0.00025	0.0025		mg/L	5	7/15/2017 1:12:45 AM	C44245
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0023	0.00030	0.0010		mg/L	1	7/14/2017 3:32:17 PM	32623
Lead	0.0077	0.00048	0.0025		mg/L	5	7/17/2017 9:56:01 AM	32623
Selenium	0.0032	0.00071	0.0010		mg/L	1	7/14/2017 3:32:17 PM	32623
Uranium	0.026	0.00077	0.0025		mg/L	5	7/17/2017 9:56:01 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000041	0.000037	0.00020	J	mg/L	1	7/3/2017 12:41:27 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Benzoic acid	6.6	3.9	20	J	µg/L	1	6/30/2017 7:34:41 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/30/2017 7:34:41 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Di-n-octyl phthalate	4.8	4.7	10	J	µg/L	1	6/30/2017 7:34:41 PM	32481

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Lab ID: 1706C54-010
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 7:34:41 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 7:34:41 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 7:34:41 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 7:34:41 PM	32481
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/30/2017 7:34:41 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 7:34:41 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 7:34:41 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 7:34:41 PM	32481
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2-Methylphenol	ND	3.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/30/2017 7:34:41 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Naphthalene	ND	2.9	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 7:34:41 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 7:34:41 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 7:34:41 PM	32481
Phenanthrene	ND	4.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Phenol	ND	3.1	10		µg/L	1	6/30/2017 7:34:41 PM	32481

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:35:00 PM
Lab ID: 1706C54-010
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 7:34:41 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 7:34:41 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 7:34:41 PM	32481
Surr: 2-Fluorophenol	52.8	0	15-98.1		%Rec	1	6/30/2017 7:34:41 PM	32481
Surr: Phenol-d5	39.4	0	15-80.7		%Rec	1	6/30/2017 7:34:41 PM	32481
Surr: 2,4,6-Tribromophenol	72.4	0	15-112		%Rec	1	6/30/2017 7:34:41 PM	32481
Surr: Nitrobenzene-d5	84.8	0	27.2-90.7		%Rec	1	6/30/2017 7:34:41 PM	32481
Surr: 2-Fluorobiphenyl	77.7	0	23.3-85.6		%Rec	1	6/30/2017 7:34:41 PM	32481
Surr: 4-Terphenyl-d14	66.8	0	27.6-107		%Rec	1	6/30/2017 7:34:41 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.79	0.062	1.0	J	µg/L	1	6/23/2017 8:21:00 PM	R43745
Toluene	ND	0.064	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Methyl tert-butyl ether (MTBE)	0.68	0.24	1.0	J	µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Naphthalene	ND	0.11	2.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Acetone	3.3	0.82	10	J	µg/L	1	6/23/2017 8:21:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 8:21:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 8:21:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:35:00 PM
Lab ID: 1706C54-010
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 8:21:00 PM	R43745
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 8:21:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
sec-Butylbenzene	0.89	0.11	1.0	J	µg/L	1	6/23/2017 8:21:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
tert-Butylbenzene	0.22	0.10	1.0	J	µg/L	1	6/23/2017 8:21:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Tetrachloroethene (PCE)	0.16	0.13	1.0	J	µg/L	1	6/23/2017 8:21:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 8:21:00 PM	R43745
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/23/2017 8:21:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	96.1	0	70-130		%Rec	1	6/23/2017 8:21:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 2:35:00 PM
Lab ID: 1706C54-010
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	6/23/2017 8:21:00 PM	R43745
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/23/2017 8:21:00 PM	R43745
Surr: Toluene-d8	92.4	0	70-130		%Rec	1	6/23/2017 8:21:00 PM	R43745

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 3:05:00 PM
Lab ID: 1706C54-011
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	7.9	0.36	1.0		mg/L	1	6/26/2017 5:58:35 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 5:58:35 PM	32454
Surr: DNOP	129	0	72.4-157		%Rec	1	6/26/2017 5:58:35 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	80	5.0	10		mg/L	200	6/27/2017 12:13:54 PM	G43823
Surr: BFB	96.4	0	52.3-138		%Rec	200	6/27/2017 12:13:54 PM	G43823
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	7/7/2017 3:57:53 PM	R44073
Chloride	150	5.0	10		mg/L	20	7/7/2017 4:10:17 PM	R44073
Bromide	2.0	0.073	0.50		mg/L	5	7/7/2017 3:57:53 PM	R44073
Phosphorus, Orthophosphate (As P)	2.4	1.2	2.5	JH	mg/L	5	7/7/2017 3:57:53 PM	R44073
Sulfate	0.96	0.48	2.5	J	mg/L	5	7/7/2017 3:57:53 PM	R44073
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	7/7/2017 6:39:12 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.5	0.0085	0.020	*	mg/L	10	7/5/2017 7:55:41 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:54:03 PM	B44011
Calcium	110	0.78	10		mg/L	10	7/5/2017 7:55:41 PM	B44011
Chromium	ND	0.0010	0.0060		mg/L	1	7/5/2017 7:54:03 PM	B44011
Copper	ND	0.0032	0.0060		mg/L	1	7/5/2017 7:54:03 PM	B44011
Iron	6.9	0.16	0.20	*	mg/L	10	7/5/2017 7:55:41 PM	B44011
Magnesium	35	0.25	1.0		mg/L	1	7/5/2017 7:54:03 PM	B44011
Manganese	1.7	0.0038	0.020	*	mg/L	10	7/5/2017 7:55:41 PM	B44011
Potassium	0.27	0.11	1.0	J	mg/L	1	7/5/2017 7:54:03 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:54:03 PM	B44011
Sodium	240	1.6	10		mg/L	10	7/5/2017 7:55:41 PM	B44011
Zinc	0.013	0.0011	0.010		mg/L	1	7/5/2017 7:54:03 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	5.9	0.0093	0.020	*	mg/L	10	7/5/2017 4:23:17 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 4:21:29 PM	32623
Chromium	0.020	0.0011	0.0060		mg/L	1	7/5/2017 4:21:29 PM	32623
Copper	0.019	0.0017	0.0060		mg/L	1	7/5/2017 4:21:29 PM	32623
Iron	29	0.51	1.0	*	mg/L	50	7/6/2017 4:23:10 PM	32623
Manganese	3.8	0.011	0.020	*	mg/L	10	7/5/2017 4:23:17 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 4:21:29 PM	32623
Zinc	0.049	0.0028	0.010		mg/L	1	7/5/2017 4:21:29 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0059	0.0018	0.010	J	mg/L	10	7/15/2017 1:17:53 AM	C44245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 3:05:00 PM
Lab ID: 1706C54-011
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00033	0.00017	0.00050	J	mg/L	1	7/14/2017 12:35:24 AM	D44207
Selenium	0.010	0.0039	0.010	J	mg/L	10	7/15/2017 1:17:53 AM	C44245
Uranium	0.00040	0.000050	0.00050	J	mg/L	1	7/14/2017 12:35:24 AM	D44207
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.010	0.0015	0.0050		mg/L	5	7/17/2017 10:01:10 AM	32623
Lead	0.034	0.00048	0.0025	*	mg/L	5	7/17/2017 10:01:10 AM	32623
Selenium	0.012	0.0036	0.0050		mg/L	5	7/17/2017 10:01:10 AM	32623
Uranium	0.0035	0.00077	0.0025		mg/L	5	7/17/2017 10:01:10 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	7/3/2017 12:43:22 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Benzoic acid	20	3.9	20	J	µg/L	1	6/30/2017 8:02:39 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Bis(2-ethylhexyl)phthalate	5.0	4.8	10	J	µg/L	1	6/30/2017 8:02:39 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/30/2017 8:02:39 PM	32481

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 3:05:00 PM
Lab ID: 1706C54-011
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 8:02:39 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 8:02:39 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 8:02:39 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 8:02:39 PM	32481
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/30/2017 8:02:39 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 8:02:39 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 8:02:39 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 8:02:39 PM	32481
1-Methylnaphthalene	82	3.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2-Methylnaphthalene	60	3.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2-Methylphenol	ND	3.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
3+4-Methylphenol	8.0	3.2	10	J	µg/L	1	6/30/2017 8:02:39 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Naphthalene	120	2.9	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 8:02:39 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 8:02:39 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 8:02:39 PM	32481
Phenanthrene	5.0	4.3	10	J	µg/L	1	6/30/2017 8:02:39 PM	32481
Phenol	58	3.1	10		µg/L	1	6/30/2017 8:02:39 PM	32481

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 3:05:00 PM
Lab ID: 1706C54-011
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 8:02:39 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 8:02:39 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 8:02:39 PM	32481
Surr: 2-Fluorophenol	33.1	0	15-98.1		%Rec	1	6/30/2017 8:02:39 PM	32481
Surr: Phenol-d5	43.2	0	15-80.7		%Rec	1	6/30/2017 8:02:39 PM	32481
Surr: 2,4,6-Tribromophenol	59.8	0	15-112		%Rec	1	6/30/2017 8:02:39 PM	32481
Surr: Nitrobenzene-d5	74.3	0	27.2-90.7		%Rec	1	6/30/2017 8:02:39 PM	32481
Surr: 2-Fluorobiphenyl	71.0	0	23.3-85.6		%Rec	1	6/30/2017 8:02:39 PM	32481
Surr: 4-Terphenyl-d14	65.1	0	27.6-107		%Rec	1	6/30/2017 8:02:39 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	38000	62	1000		µg/L	1000	6/23/2017 8:45:00 PM	R43745
Toluene	160	6.4	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Ethylbenzene	1200	9.3	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Methyl tert-butyl ether (MTBE)	3700	24	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2,4-Trimethylbenzene	100	11	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,3,5-Trimethylbenzene	38	8.7	100	J	µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Naphthalene	150	11	200	J	µg/L	100	6/23/2017 9:09:00 PM	R43745
1-Methylnaphthalene	85	16	400	J	µg/L	100	6/23/2017 9:09:00 PM	R43745
2-Methylnaphthalene	68	15	400	J	µg/L	100	6/23/2017 9:09:00 PM	R43745
Acetone	ND	82	1000		µg/L	100	6/23/2017 9:09:00 PM	R43745
Bromobenzene	ND	14	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Bromodichloromethane	ND	18	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Bromoform	ND	21	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Bromomethane	ND	26	300		µg/L	100	6/23/2017 9:09:00 PM	R43745
2-Butanone	ND	110	1000		µg/L	100	6/23/2017 9:09:00 PM	R43745
Carbon disulfide	ND	40	1000		µg/L	100	6/23/2017 9:09:00 PM	R43745
Carbon Tetrachloride	ND	11	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Chlorobenzene	ND	11	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Chloroethane	ND	23	200		µg/L	100	6/23/2017 9:09:00 PM	R43745
Chloroform	ND	40	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Chloromethane	ND	29	300		µg/L	100	6/23/2017 9:09:00 PM	R43745
2-Chlorotoluene	ND	40	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
4-Chlorotoluene	ND	40	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
cis-1,2-DCE	ND	20	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	6/23/2017 9:09:00 PM	R43745

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 3:05:00 PM
Lab ID: 1706C54-011
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	6/23/2017 9:09:00 PM	R43745
Dibromochloromethane	ND	7.2	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Dibromomethane	ND	9.1	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,3-Dichlorobenzene	ND	15	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,4-Dichlorobenzene	ND	40	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Dichlorodifluoromethane	ND	100	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,1-Dichloroethane	ND	40	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,1-Dichloroethene	ND	8.1	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2-Dichloropropane	ND	10	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,3-Dichloropropane	ND	17	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
2,2-Dichloropropane	ND	16	200		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,1-Dichloropropene	ND	9.3	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Hexachlorobutadiene	ND	80	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
2-Hexanone	ND	66	1000		µg/L	100	6/23/2017 9:09:00 PM	R43745
Isopropylbenzene	38	5.1	100	J	µg/L	100	6/23/2017 9:09:00 PM	R43745
4-Isopropyltoluene	ND	9.6	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	6/23/2017 9:09:00 PM	R43745
Methylene Chloride	ND	11	300		µg/L	100	6/23/2017 9:09:00 PM	R43745
n-Butylbenzene	16	13	300	J	µg/L	100	6/23/2017 9:09:00 PM	R43745
n-Propylbenzene	98	7.4	100	J	µg/L	100	6/23/2017 9:09:00 PM	R43745
sec-Butylbenzene	ND	11	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Styrene	ND	16	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
tert-Butylbenzene	ND	10	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	6/23/2017 9:09:00 PM	R43745
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
trans-1,2-DCE	ND	18	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,1,2-Trichloroethane	ND	14	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Trichloroethene (TCE)	ND	11	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Trichlorofluoromethane	ND	18	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
1,2,3-Trichloropropane	ND	39	200		µg/L	100	6/23/2017 9:09:00 PM	R43745
Vinyl chloride	ND	18	100		µg/L	100	6/23/2017 9:09:00 PM	R43745
Xylenes, Total	360	32	150		µg/L	100	6/23/2017 9:09:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	95.5	0	70-130		%Rec	100	6/23/2017 9:09:00 PM	R43745

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 3:05:00 PM
Lab ID: 1706C54-011
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	100	6/23/2017 9:09:00 PM	R43745
Surr: Dibromofluoromethane	104	0	70-130		%Rec	100	6/23/2017 9:09:00 PM	R43745
Surr: Toluene-d8	93.7	0	70-130		%Rec	100	6/23/2017 9:09:00 PM	R43745

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 1:45:00 PM
Lab ID: 1706C54-012
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	8.3	0.36	1.0		mg/L	1	6/26/2017 6:23:35 PM	32454
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/26/2017 6:23:35 PM	32454
Surr: DNOP	137	0	72.4-157		%Rec	1	6/26/2017 6:23:35 PM	32454
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	30	2.5	5.0		mg/L	100	6/27/2017 12:37:38 PM	G43823
Surr: BFB	99.4	0	52.3-138		%Rec	100	6/27/2017 12:37:38 PM	G43823
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	7/3/2017 11:45:05 PM	R43998
Chloride	170	5.0	10		mg/L	20	7/4/2017 12:22:19 AM	R43998
Bromide	2.3	0.073	0.50		mg/L	5	7/3/2017 11:45:05 PM	R43998
Phosphorus, Orthophosphate (As P)	2.2	1.2	2.5	JH	mg/L	5	7/7/2017 5:12:20 PM	R44073
Sulfate	2.3	0.48	2.5	J	mg/L	5	7/3/2017 11:45:05 PM	R43998
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	7/7/2017 6:51:37 PM	R44073
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.9	0.0085	0.020	*	mg/L	10	7/5/2017 7:59:39 PM	B44011
Cadmium	ND	0.0010	0.0020		mg/L	1	7/5/2017 7:57:47 PM	B44011
Calcium	98	0.078	1.0		mg/L	1	7/5/2017 7:57:47 PM	B44011
Chromium	ND	0.0010	0.0060		mg/L	1	7/5/2017 7:57:47 PM	B44011
Copper	ND	0.0032	0.0060		mg/L	1	7/5/2017 7:57:47 PM	B44011
Iron	1.3	0.16	0.20	*	mg/L	10	7/5/2017 7:59:39 PM	B44011
Magnesium	16	0.25	1.0		mg/L	1	7/5/2017 7:57:47 PM	B44011
Manganese	1.9	0.0038	0.020	*	mg/L	10	7/5/2017 7:59:39 PM	B44011
Potassium	3.6	0.11	1.0		mg/L	1	7/5/2017 7:57:47 PM	B44011
Silver	ND	0.00088	0.0050		mg/L	1	7/5/2017 7:57:47 PM	B44011
Sodium	330	1.6	10		mg/L	10	7/5/2017 7:59:39 PM	B44011
Zinc	0.014	0.0011	0.010		mg/L	1	7/5/2017 7:57:47 PM	B44011
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.3	0.0047	0.010	*	mg/L	5	7/6/2017 4:25:17 PM	32623
Cadmium	ND	0.00058	0.0020		mg/L	1	7/5/2017 4:25:02 PM	32623
Chromium	0.0017	0.0011	0.0060	J	mg/L	1	7/5/2017 4:25:02 PM	32623
Copper	0.0053	0.0017	0.0060	J	mg/L	1	7/5/2017 4:25:02 PM	32623
Iron	4.5	0.10	0.20	*	mg/L	10	7/7/2017 1:44:10 PM	32623
Manganese	2.4	0.0055	0.010	*	mg/L	5	7/6/2017 4:25:17 PM	32623
Silver	ND	0.00042	0.0050		mg/L	1	7/5/2017 4:25:02 PM	32623
Zinc	0.0082	0.0028	0.010	J	mg/L	1	7/5/2017 4:25:02 PM	32623
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0067	0.0018	0.010	J	mg/L	10	7/15/2017 1:33:23 AM	C44245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 1:45:00 PM
Lab ID: 1706C54-012
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00032	0.00017	0.00050	J	mg/L	1	7/14/2017 12:50:52 AM	D44207
Selenium	0.013	0.0077	0.020	J	mg/L	20	7/15/2017 1:38:32 AM	C44245
Uranium	0.0025	0.000050	0.00050		mg/L	1	7/14/2017 12:50:52 AM	D44207
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0083	0.0015	0.0050		mg/L	5	7/17/2017 10:06:18 AM	32623
Lead	0.0039	0.00048	0.0025		mg/L	5	7/17/2017 10:06:18 AM	32623
Selenium	0.014	0.0036	0.0050		mg/L	5	7/17/2017 10:06:18 AM	32623
Uranium	0.0026	0.00077	0.0025		mg/L	5	7/17/2017 10:06:18 AM	32623
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	7/3/2017 12:45:16 PM	32605
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Acenaphthylene	ND	3.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Aniline	ND	3.1	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Anthracene	ND	3.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Azobenzene	ND	4.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Benzoic acid	36	3.9	20		µg/L	1	6/30/2017 8:30:37 PM	32481
Benzyl alcohol	ND	4.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Bis(2-ethylhexyl)phthalate	5.8	4.8	10	J	µg/L	1	6/30/2017 8:30:37 PM	32481
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Carbazole	ND	4.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
4-Chloroaniline	ND	3.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2-Chlorophenol	ND	7.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Chrysene	ND	3.8	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/30/2017 8:30:37 PM	32481

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Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Dibenzofuran	ND	4.1	10		µg/L	1	6/30/2017 8:30:37 PM	32481
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/30/2017 8:30:37 PM	32481
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 8:30:37 PM	32481
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Diethyl phthalate	ND	4.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/30/2017 8:30:37 PM	32481
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/30/2017 8:30:37 PM	32481
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/30/2017 8:30:37 PM	32481
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/30/2017 8:30:37 PM	32481
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Fluoranthene	ND	4.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Fluorene	ND	4.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Hexachloroethane	ND	1.2	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Isophorone	ND	4.4	10		µg/L	1	6/30/2017 8:30:37 PM	32481
1-Methylnaphthalene	51	3.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2-Methylphenol	ND	3.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/30/2017 8:30:37 PM	32481
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Naphthalene	43	2.9	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2-Nitroaniline	ND	4.9	10		µg/L	1	6/30/2017 8:30:37 PM	32481
3-Nitroaniline	ND	4.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
4-Nitroaniline	ND	4.0	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Nitrobenzene	ND	3.6	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2-Nitrophenol	ND	5.2	10		µg/L	1	6/30/2017 8:30:37 PM	32481
4-Nitrophenol	ND	5.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Pentachlorophenol	ND	4.9	20		µg/L	1	6/30/2017 8:30:37 PM	32481
Phenanthrene	ND	4.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Phenol	210	3.1	10		µg/L	1	6/30/2017 8:30:37 PM	32481

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Lab ID: 1706C54-012
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Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyrene	ND	4.4	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Pyridine	ND	2.3	10		µg/L	1	6/30/2017 8:30:37 PM	32481
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/30/2017 8:30:37 PM	32481
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/30/2017 8:30:37 PM	32481
Surr: 2-Fluorophenol	46.2	0	15-98.1		%Rec	1	6/30/2017 8:30:37 PM	32481
Surr: Phenol-d5	39.5	0	15-80.7		%Rec	1	6/30/2017 8:30:37 PM	32481
Surr: 2,4,6-Tribromophenol	69.1	0	15-112		%Rec	1	6/30/2017 8:30:37 PM	32481
Surr: Nitrobenzene-d5	70.3	0	27.2-90.7		%Rec	1	6/30/2017 8:30:37 PM	32481
Surr: 2-Fluorobiphenyl	63.4	0	23.3-85.6		%Rec	1	6/30/2017 8:30:37 PM	32481
Surr: 4-Terphenyl-d14	59.5	0	27.6-107		%Rec	1	6/30/2017 8:30:37 PM	32481
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	14000	31	500		µg/L	500	6/23/2017 9:33:00 PM	R43745
Toluene	30	3.2	50	J	µg/L	50	6/23/2017 9:57:00 PM	R43745
Ethylbenzene	540	4.7	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Methyl tert-butyl ether (MTBE)	150	12	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2,4-Trimethylbenzene	ND	5.6	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,3,5-Trimethylbenzene	ND	4.4	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Naphthalene	110	5.7	100		µg/L	50	6/23/2017 9:57:00 PM	R43745
1-Methylnaphthalene	76	8.0	200	J	µg/L	50	6/23/2017 9:57:00 PM	R43745
2-Methylnaphthalene	30	7.6	200	J	µg/L	50	6/23/2017 9:57:00 PM	R43745
Acetone	ND	41	500		µg/L	50	6/23/2017 9:57:00 PM	R43745
Bromobenzene	ND	7.0	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Bromodichloromethane	ND	8.8	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Bromoform	ND	11	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Bromomethane	ND	13	150		µg/L	50	6/23/2017 9:57:00 PM	R43745
2-Butanone	ND	57	500		µg/L	50	6/23/2017 9:57:00 PM	R43745
Carbon disulfide	ND	20	500		µg/L	50	6/23/2017 9:57:00 PM	R43745
Carbon Tetrachloride	ND	5.5	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Chlorobenzene	ND	5.3	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Chloroethane	ND	12	100		µg/L	50	6/23/2017 9:57:00 PM	R43745
Chloroform	ND	20	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Chloromethane	ND	15	150		µg/L	50	6/23/2017 9:57:00 PM	R43745
2-Chlorotoluene	ND	20	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
4-Chlorotoluene	ND	20	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
cis-1,2-DCE	ND	10	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	6/23/2017 9:57:00 PM	R43745

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	6/23/2017 9:57:00 PM	R43745
Dibromochloromethane	ND	3.6	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Dibromomethane	ND	4.5	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,4-Dichlorobenzene	ND	20	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Dichlorodifluoromethane	ND	50	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,1-Dichloroethane	ND	20	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,1-Dichloroethene	ND	4.0	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2-Dichloropropane	ND	5.1	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,3-Dichloropropane	ND	8.4	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
2,2-Dichloropropane	ND	7.9	100		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,1-Dichloropropene	ND	4.6	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Hexachlorobutadiene	ND	40	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
2-Hexanone	ND	33	500		µg/L	50	6/23/2017 9:57:00 PM	R43745
Isopropylbenzene	15	2.6	50	J	µg/L	50	6/23/2017 9:57:00 PM	R43745
4-Isopropyltoluene	ND	4.8	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
4-Methyl-2-pentanone	ND	35	500		µg/L	50	6/23/2017 9:57:00 PM	R43745
Methylene Chloride	ND	5.4	150		µg/L	50	6/23/2017 9:57:00 PM	R43745
n-Butylbenzene	ND	6.5	150		µg/L	50	6/23/2017 9:57:00 PM	R43745
n-Propylbenzene	34	3.7	50	J	µg/L	50	6/23/2017 9:57:00 PM	R43745
sec-Butylbenzene	ND	5.5	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Styrene	ND	7.8	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
tert-Butylbenzene	ND	5.2	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	6/23/2017 9:57:00 PM	R43745
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
trans-1,2-DCE	ND	9.2	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Trichlorofluoromethane	ND	9.1	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
1,2,3-Trichloropropane	ND	19	100		µg/L	50	6/23/2017 9:57:00 PM	R43745
Vinyl chloride	ND	8.9	50		µg/L	50	6/23/2017 9:57:00 PM	R43745
Xylenes, Total	110	16	75		µg/L	50	6/23/2017 9:57:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	92.4	0	70-130		%Rec	50	6/23/2017 9:57:00 PM	R43745

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 1:45:00 PM
Lab ID: 1706C54-012
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	50	6/23/2017 9:57:00 PM	R43745
Surr: Dibromofluoromethane	103	0	70-130		%Rec	50	6/23/2017 9:57:00 PM	R43745
Surr: Toluene-d8	93.3	0	70-130		%Rec	50	6/23/2017 9:57:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 7:00:00 AM
Lab ID: 1706C54-013
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.088	0.062	1.0	J	µg/L	1	6/23/2017 10:21:00 PM	R43745
Toluene	0.080	0.064	1.0	J	µg/L	1	6/23/2017 10:21:00 PM	R43745
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Naphthalene	ND	0.11	2.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Acetone	3.9	0.82	10	J	µg/L	1	6/23/2017 10:21:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 10:21:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 10:21:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 10:21:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR MKTF OW RW
Collection Date: 6/21/2017 7:00:00 AM
Lab ID: 1706C54-013
Matrix: AQUEOUS
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 10:21:00 PM	R43745
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 10:21:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 10:21:00 PM	R43745
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/23/2017 10:21:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	92.6	0	70-130		%Rec	1	6/23/2017 10:21:00 PM	R43745
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	6/23/2017 10:21:00 PM	R43745
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	6/23/2017 10:21:00 PM	R43745
Surr: Toluene-d8	91.3	0	70-130		%Rec	1	6/23/2017 10:21:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd QTR MKTF OW RW
Collection Date:
Lab ID: 1706C54-014
Matrix: TRIP BLANK
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Toluene	ND	0.064	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Naphthalene	ND	0.11	2.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Acetone	5.7	0.82	10	J	µg/L	1	6/23/2017 10:45:00 PM	R43745
Bromobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Bromoform	ND	0.21	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Bromomethane	ND	0.26	3.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
2-Butanone	ND	1.1	10		µg/L	1	6/23/2017 10:45:00 PM	R43745
Carbon disulfide	ND	0.40	10		µg/L	1	6/23/2017 10:45:00 PM	R43745
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Chloroethane	ND	0.23	2.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Chloroform	ND	0.40	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Chloromethane	ND	0.29	3.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Dibromomethane	ND	0.091	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/23/2017 10:45:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd QTR MKTF OW RW
Collection Date:
Lab ID: 1706C54-014
Matrix: TRIP BLANK
Received Date: 6/22/2017 3:11:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
2-Hexanone	ND	0.66	10		µg/L	1	6/23/2017 10:45:00 PM	R43745
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/23/2017 10:45:00 PM	R43745
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Styrene	ND	0.16	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/23/2017 10:45:00 PM	R43745
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/23/2017 10:45:00 PM	R43745
Surr: 1,2-Dichloroethane-d4	94.6	0	70-130		%Rec	1	6/23/2017 10:45:00 PM	R43745
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	6/23/2017 10:45:00 PM	R43745
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/23/2017 10:45:00 PM	R43745
Surr: Toluene-d8	90.6	0	70-130		%Rec	1	6/23/2017 10:45:00 PM	R43745

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B44011**	RunNo: **44011**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387945** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B44011**	RunNo: **44011**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387946** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Calcium	0.52	1.0	0.5000	0	104	50	150			J
Chromium	0.0058	0.0060	0.006000	0	97.5	50	150			J
Copper	0.0080	0.0060	0.006000	0	132	50	150			
Iron	0.021	0.020	0.02000	0	107	50	150			
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Manganese	0.0018	0.0020	0.002000	0	91.5	50	150			J
Potassium	0.48	1.0	0.5000	0	95.5	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.4	50	150			J
Sodium	0.50	1.0	0.5000	0	99.7	50	150			J
Zinc	0.0049	0.010	0.005000	0	97.8	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B44011**	RunNo: **44011**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387947** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.46	0.0020	0.5000	0	92.8	85	115			
Cadmium	0.46	0.0020	0.5000	0	92.9	85	115			
Calcium	48	1.0	50.00	0	96.4	85	115			
Chromium	0.46	0.0060	0.5000	0	92.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID	**LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID:	**LCSW**	Batch ID: **B44011**	RunNo: **44011**
Prep Date:		Analysis Date: **7/5/2017**	SeqNo: **1387947** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.46	0.020	0.5000	0	92.3	85	115			
Magnesium	49	1.0	50.00	0	98.5	85	115			
Manganese	0.46	0.0020	0.5000	0	91.1	85	115			
Potassium	47	1.0	50.00	0	94.6	85	115			
Silver	0.097	0.0050	0.1000	0	97.0	85	115			
Sodium	49	1.0	50.00	0	97.7	85	115			
Zinc	0.43	0.010	0.5000	0	86.8	85	115			

Sample ID	**MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID:	**PBW**	Batch ID: **B44032**	RunNo: **44032**
Prep Date:		Analysis Date: **7/6/2017**	SeqNo: **1392163** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID	**LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID:	**BatchQC**	Batch ID: **B44032**	RunNo: **44032**
Prep Date:		Analysis Date: **7/6/2017**	SeqNo: **1392164** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.023	0.020	0.02000	0	116	50	150			

Sample ID	**LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID:	**LCSW**	Batch ID: **B44032**	RunNo: **44032**
Prep Date:		Analysis Date: **7/6/2017**	SeqNo: **1392165** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	97.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **MB-32623**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **32623**	RunNo: **44011**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387686** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	0.0020	0.0060								J
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-32623**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **32623**	RunNo: **44011**
Prep Date:	Analysis Date: **7/5/2017**	SeqNo: **1387687** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0015	0.0020	0.002000	0	76.5	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	104	50	150			
Chromium	0.0061	0.0060	0.006000	0	101	50	150			
Copper	0.0078	0.0060	0.006000	0	130	50	150			
Iron	0.027	0.020	0.02000	0	135	50	150			
Manganese	0.0024	0.0020	0.002000	0	119	50	150			
Silver	0.0050	0.0050	0.005000	0	99.0	50	150			J
Zinc	0.0052	0.010	0.005000	0	105	50	150			J

Sample ID **LCS-32623**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32623**	RunNo: **44011**
Prep Date: **7/3/2017**	Analysis Date: **7/5/2017**	SeqNo: **1387692** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	93.7	85	115			
Cadmium	0.47	0.0020	0.5000	0	93.5	85	115			
Chromium	0.46	0.0060	0.5000	0	92.5	85	115			
Copper	0.49	0.0060	0.5000	0	98.0	85	115			
Iron	0.47	0.020	0.5000	0	94.2	85	115			
Manganese	0.46	0.0020	0.5000	0	92.0	85	115			
Silver	0.099	0.0050	0.1000	0	98.8	85	115			
Zinc	0.43	0.010	0.5000	0	86.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID	**1706C54-012FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-57**	Batch ID: **32623**		RunNo: **44011**					
Prep Date:	**7/3/2017**	Analysis Date: **7/5/2017**		SeqNo: **1387727**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.46	0.0020	0.5000	0	91.3	70	130			
Chromium	0.45	0.0060	0.5000	0.001730	90.3	70	130			
Copper	0.51	0.0060	0.5000	0.005310	100	70	130			
Silver	0.099	0.0050	0.1000	0	99.0	70	130			
Zinc	0.42	0.010	0.5000	0.008200	81.5	70	130			

Sample ID	**1706C54-012FMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-57**	Batch ID: **32623**		RunNo: **44011**					
Prep Date:	**7/3/2017**	Analysis Date: **7/5/2017**		SeqNo: **1387728**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.45	0.0020	0.5000	0	90.7	70	130	0.635	20	
Chromium	0.45	0.0060	0.5000	0.001730	90.2	70	130	0.139	20	
Copper	0.51	0.0060	0.5000	0.005310	100	70	130	0.0494	20	
Silver	0.098	0.0050	0.1000	0	98.1	70	130	0.893	20	
Zinc	0.41	0.010	0.5000	0.008200	81.2	70	130	0.364	20	

Sample ID	**1706C54-012FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-57**	Batch ID: **32623**		RunNo: **44032**					
Prep Date:	**7/3/2017**	Analysis Date: **7/6/2017**		SeqNo: **1388499**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	3.8	0.010	0.5000	3.349	94.5	70	130			
Manganese	2.8	0.010	0.5000	2.363	95.4	70	130			

Sample ID	**1706C54-012FMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-57**	Batch ID: **32623**		RunNo: **44032**					
Prep Date:	**7/3/2017**	Analysis Date: **7/6/2017**		SeqNo: **1388500**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	3.8	0.010	0.5000	3.349	84.6	70	130	1.30	20	
Manganese	2.8	0.010	0.5000	2.363	87.7	70	130	1.36	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D44207**	RunNo: **44207**
Prep Date:	Analysis Date: **7/13/2017**	SeqNo: **1395813** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.012	0.00050	0.01250	0	94.5	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			
Uranium	0.012	0.00050	0.01250	0	93.5	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D44207**	RunNo: **44207**
Prep Date:	Analysis Date: **7/13/2017**	SeqNo: **1395814** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	93.8	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.2	50	150			J
Selenium	0.00092	0.0010	0.001000	0	92.5	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	97.5	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D44207**	RunNo: **44207**
Prep Date:	Analysis Date: **7/13/2017**	SeqNo: **1395815** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C44245**	RunNo: **44245**
Prep Date:	Analysis Date: **7/14/2017**	SeqNo: **1397357** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.6	85	115			
Selenium	0.023	0.0010	0.02500	0	93.3	85	115			
Uranium	0.012	0.00050	0.01250	0	97.0	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C44245**	RunNo: **44245**
Prep Date:	Analysis Date: **7/14/2017**	SeqNo: **1397358** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	98.5	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C44245**	RunNo: **44245**
Prep Date:	Analysis Date: **7/14/2017**	SeqNo: **1397358** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00096	0.0010	0.001000	0	96.3	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	97.0	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C44245**	RunNo: **44245**
Prep Date:	Analysis Date: **7/14/2017**	SeqNo: **1397359** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A44265**	RunNo: **44265**
Prep Date:	Analysis Date: **7/17/2017**	SeqNo: **1397919** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	91.5	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A44265**	RunNo: **44265**
Prep Date:	Analysis Date: **7/17/2017**	SeqNo: **1397920** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0010	0.0010	0.001000	0	100	50	150			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A44265**	RunNo: **44265**
Prep Date:	Analysis Date: **7/17/2017**	SeqNo: **1397921** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B44315**	RunNo: **44315**
Prep Date:	Analysis Date: **7/18/2017**	SeqNo: **1399589** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	94.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B44315**		RunNo:	**44315**					
Prep Date:		Analysis Date:	**7/18/2017**		SeqNo:	**1399591**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Selenium	0.00090	0.0010	0.001000	0	89.6	50	150			J	

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B44315**		RunNo:	**44315**					
Prep Date:		Analysis Date:	**7/18/2017**		SeqNo:	**1399593**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Selenium	ND	0.0010									

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID	**MB-32623**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32623**	RunNo:	**44010**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/5/2017**	SeqNo:	**1387714**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-32623**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32623**	RunNo:	**44010**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/5/2017**	SeqNo:	**1387719**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.012	0.00050	0.01250	0	96.9	85	115			
Selenium	0.024	0.0010	0.02500	0	94.4	85	115			
Uranium	0.012	0.00050	0.01250	0	98.2	85	115			

Sample ID	**MSLLLCS-32623**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**32623**	RunNo:	**44010**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/5/2017**	SeqNo:	**1387723**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0012	0.0010	0.001000	0	117	50	150			
Lead	0.00046	0.00050	0.0005000	0	92.4	50	150			J
Selenium	0.0011	0.0010	0.001000	0	106	50	150			
Uranium	0.00048	0.00050	0.0005000	0	96.0	50	150			J

Sample ID	**MB-32623**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32623**	RunNo:	**44075**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/8/2017**	SeqNo:	**1390838**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID	**MSLCS-32623**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32623**	RunNo:	**44075**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/8/2017**	SeqNo:	**1390840**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID	**MSLCS-32623**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32623**	RunNo:	**44075**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/8/2017**	SeqNo:	**1390840**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	97.7	85	115			
Uranium	0.012	0.00050	0.01250	0	98.3	85	115			

Sample ID	**MSLLLCS-32623**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**32623**	RunNo:	**44075**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/8/2017**	SeqNo:	**1390842**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00091	0.0010	0.001000	0	90.9	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.5	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	96.8	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID	**MB-32605**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**32605**	RunNo:	**43969**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/3/2017**	SeqNo:	**1386083**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-32605**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**32605**	RunNo:	**43969**					
Prep Date:	**7/3/2017**	Analysis Date:	**7/3/2017**	SeqNo:	**1386084**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	95.6	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43826**	RunNo: **43826**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1380938** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	0.29	0.50								J
Sulfate	0.14	0.50								J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43826**	RunNo: **43826**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1380939** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.6	90	110			
Chloride	4.6	0.50	5.000	0	92.0	90	110			
Bromide	2.3	0.10	2.500	0	91.5	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.6	90	110			
Sulfate	9.3	0.50	10.00	0	92.5	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43998**	RunNo: **43998**
Prep Date:	Analysis Date: **7/3/2017**	SeqNo: **1387038** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Sulfate	0.13	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43998**	RunNo: **43998**
Prep Date:	Analysis Date: **7/3/2017**	SeqNo: **1387039** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.7	90	110			
Chloride	4.8	0.50	5.000	0	95.8	90	110			
Bromide	2.4	0.10	2.500	0	94.6	90	110			
Sulfate	9.7	0.50	10.00	0	96.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **1706C54-012DMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **OW-57**	Batch ID: **R43998**	RunNo: **43998**
Prep Date:	Analysis Date: **7/3/2017**	SeqNo: **1387091** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.7	0.50	2.500	0	106	68.4	112			
Bromide	14	0.50	12.50	2.344	94.7	77	108			
Sulfate	50	2.5	50.00	2.311	96.3	87.1	118			

Sample ID **1706C54-012DMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **OW-57**	Batch ID: **R43998**	RunNo: **43998**
Prep Date:	Analysis Date: **7/4/2017**	SeqNo: **1387092** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.7	0.50	2.500	0	106	68.4	112	0.253	20	
Bromide	14	0.50	12.50	2.344	94.4	77	108	0.292	20	
Sulfate	50	2.5	50.00	2.311	96.4	87.1	118	0.0364	20	

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R44073**	RunNo: **44073**
Prep Date:	Analysis Date: **7/7/2017**	SeqNo: **1390669** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	0.28	0.50								J
Sulfate	0.14	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R44073**	RunNo: **44073**
Prep Date:	Analysis Date: **7/7/2017**	SeqNo: **1390670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	107	90	110			
Chloride	4.9	0.50	5.000	0	97.5	90	110			
Bromide	2.4	0.10	2.500	0	96.2	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.9	90	110			
Sulfate	9.8	0.50	10.00	0	98.3	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **MB-32607**	SampType: **MBLK**	TestCode: **DRO by 8015D**							
Client ID: **PBW**	Batch ID: **32607**	RunNo: **43963**							
Prep Date: **7/3/2017**	Analysis Date: **7/3/2017**	SeqNo: **1386156**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.10								
Motor Oil Range Organics (MRO)	ND	0.50								
Surr: DNOP	0.10		0.1000		103	55.7	125			

Sample ID **LCS-32607**	SampType: **LCS**	TestCode: **DRO by 8015D**							
Client ID: **LCSW**	Batch ID: **32607**	RunNo: **43963**							
Prep Date: **7/3/2017**	Analysis Date: **7/3/2017**	SeqNo: **1386157**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.47	0.10	0.5000	0	94.9	56.9	131			
Surr: DNOP	0.048		0.05000		96.4	55.7	125			

Sample ID **LCSD-32607**	SampType: **LCSD**	TestCode: **DRO by 8015D**							
Client ID: **LCSS02**	Batch ID: **32607**	RunNo: **43963**							
Prep Date: **7/3/2017**	Analysis Date: **7/3/2017**	SeqNo: **1386158**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.46	0.10	0.5000	0	92.5	56.9	131	2.55	20	
Surr: DNOP	0.048		0.05000		95.5	55.7	125	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **MB-32454**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32454**	RunNo: **43781**
Prep Date: **6/23/2017**	Analysis Date: **6/26/2017**	SeqNo: **1379325** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		131	72.4	157			

Sample ID **LCS-32454**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32454**	RunNo: **43781**
Prep Date: **6/23/2017**	Analysis Date: **6/26/2017**	SeqNo: **1379709** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	115	82.8	146			
Surr: DNOP	0.64		0.5000		128	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **MB-32495**	SampType: **MBLK**	TestCode: **GRO by 8015D**							
Client ID: **PBW**	Batch ID: **32495**	RunNo: **43822**							
Prep Date: **6/26/2017**	Analysis Date: **6/28/2017**	SeqNo: **1381541**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.11	2.5								J
Surr: BFB	940		1000		94.2	63	136			

Sample ID **LCS-32495**	SampType: **LCS**	TestCode: **GRO by 8015D**							
Client ID: **LCSW**	Batch ID: **32495**	RunNo: **43822**							
Prep Date: **6/26/2017**	Analysis Date: **6/28/2017**	SeqNo: **1381542**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	2.5	25.00	0	94.6	73.6	118			
Surr: BFB	1100		1000		105	63	136			

Sample ID **LCSD-32495**	SampType: **LCSD**	TestCode: **GRO by 8015D**							
Client ID: **LCSS02**	Batch ID: **32495**	RunNo: **43822**							
Prep Date: **6/26/2017**	Analysis Date: **6/28/2017**	SeqNo: **1381543**	Units: **wt%**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	2.5	25.00	0	95.2	73.6	118	0.548	20	
Surr: BFB	1000		1000		105	63	136	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G43790**	RunNo: **43790**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1379942** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	26		20.00		131	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G43790**	RunNo: **43790**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1379943** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.42	0.050	0.5000	0	83.4	79.1	123			
Surr: BFB	28		20.00		139	52.3	138			S

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G43823**	RunNo: **43823**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381562** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		97.1	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G43823**	RunNo: **43823**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381563** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	91.4	79.1	123			
Surr: BFB	21		20.00		106	52.3	138			

Sample ID **1706C54-009AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-21**	Batch ID: **G43823**	RunNo: **43823**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381567** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	78	5.0	50.00	30.48	94.7	53.2	134			
Surr: BFB	2200		2000		112	52.3	138			

Sample ID **1706C54-009AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-21**	Batch ID: **G43823**	RunNo: **43823**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381568** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID	**1706C54-009AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**MKTF-21**	Batch ID:	**G43823**		RunNo:	**43823**				
Prep Date:		Analysis Date:	**6/27/2017**		SeqNo:	**1381568**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	71	5.0	50.00	30.48	80.7	53.2	134	9.42	20	
Surr: BFB	2200		2000		108	52.3	138	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID **mb-32495**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBW**	Batch ID: **32495**	RunNo: **43841**
Prep Date: **6/26/2017**	Analysis Date: **6/27/2017**	SeqNo: **1381682** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	2.5								
Toluene	ND	2.5								
Ethylbenzene	ND	2.5								
Methyl tert-butyl ether (MTBE)	ND	2.5								
1,2,4-Trimethylbenzene	ND	2.5								
1,3,5-Trimethylbenzene	ND	2.5								
1,2-Dichloroethane (EDC)	ND	2.5								
1,2-Dibromoethane (EDB)	ND	2.5								
Naphthalene	ND	5.0								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
Acetone	5.9	25								J
Bromobenzene	ND	2.5								
Bromodichloromethane	ND	2.5								
Bromoform	ND	2.5								
Bromomethane	ND	7.5								
2-Butanone	9.0	25								J
Carbon disulfide	ND	25								
Carbon Tetrachloride	ND	2.5								
Chlorobenzene	ND	2.5								
Chloroethane	ND	5.0								
Chloroform	ND	2.5								
Chloromethane	ND	7.5								
2-Chlorotoluene	ND	2.5								
4-Chlorotoluene	ND	2.5								
cis-1,2-DCE	ND	2.5								
cis-1,3-Dichloropropene	ND	2.5								
1,2-Dibromo-3-chloropropane	ND	5.0								
Dibromochloromethane	ND	2.5								
Dibromomethane	ND	2.5								
1,2-Dichlorobenzene	ND	2.5								
1,3-Dichlorobenzene	ND	2.5								
1,4-Dichlorobenzene	ND	2.5								
Dichlorodifluoromethane	ND	2.5								
1,1-Dichloroethane	ND	2.5								
1,1-Dichloroethene	ND	2.5								
1,2-Dichloropropane	ND	2.5								
1,3-Dichloropropane	ND	2.5								
2,2-Dichloropropane	ND	2.5								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **mb-32495**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **PBW**	Batch ID: **32495**	RunNo: **43841**
Prep Date: **6/26/2017**	Analysis Date: **6/27/2017**	SeqNo: **1381682** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	2.5								
Hexachlorobutadiene	ND	2.5								
2-Hexanone	ND	25								
Isopropylbenzene	ND	2.5								
4-Isopropyltoluene	ND	2.5								
4-Methyl-2-pentanone	2.1	25								J
Methylene Chloride	ND	7.5								
n-Butylbenzene	ND	7.5								
n-Propylbenzene	ND	2.5								
sec-Butylbenzene	ND	2.5								
Styrene	ND	2.5								
tert-Butylbenzene	ND	2.5								
1,1,1,2-Tetrachloroethane	ND	2.5								
1,1,2,2-Tetrachloroethane	ND	2.5								
Tetrachloroethene (PCE)	ND	2.5								
trans-1,2-DCE	ND	2.5								
trans-1,3-Dichloropropene	ND	2.5								
1,2,3-Trichlorobenzene	ND	2.5								
1,2,4-Trichlorobenzene	ND	2.5								
1,1,1-Trichloroethane	ND	2.5								
1,1,2-Trichloroethane	ND	2.5								
Trichloroethene (TCE)	ND	2.5								
Trichlorofluoromethane	ND	2.5								
1,2,3-Trichloropropane	ND	5.0								
Vinyl chloride	ND	2.5								
Xylenes, Total	ND	2.5								
Surr: Dibromofluoromethane	26		25.00		105	70	130			
Surr: 1,2-Dichloroethane-d4	26		25.00		105	70	130			
Surr: Toluene-d8	24		25.00		96.2	70	130			
Surr: 4-Bromofluorobenzene	23		25.00		92.4	61	133			

Sample ID **lcs-32495**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSW**	Batch ID: **32495**	RunNo: **43841**
Prep Date: **6/26/2017**	Analysis Date: **6/27/2017**	SeqNo: **1381683** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	57	2.5	50.00	0	114	70	130			
Toluene	48	2.5	50.00	0	96.0	70	130			
Chlorobenzene	51	2.5	50.00	0	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **lcs-32495**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSW**	Batch ID: **32495**	RunNo: **43841**
Prep Date: **6/26/2017**	Analysis Date: **6/27/2017**	SeqNo: **1381683** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	71	2.5	50.00	0	142	70	130			S
Trichloroethene (TCE)	51	2.5	50.00	0	102	70	130			
Surr: Dibromofluoromethane	27		25.00		107	70	130			
Surr: 1,2-Dichloroethane-d4	27		25.00		107	70	130			
Surr: Toluene-d8	25		25.00		98.1	70	130			
Surr: 4-Bromofluorobenzene	24		25.00		97.3	61	133			

Sample ID **lcsd-32495**	SampType: **LCSD**	TestCode: **EPA Method 8260B: Volatiles**
Client ID: **LCSS02**	Batch ID: **32495**	RunNo: **43841**
Prep Date: **6/26/2017**	Analysis Date: **6/27/2017**	SeqNo: **1381684** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	58	2.5	50.00	0	115	70	130	0.680	20	
Toluene	49	2.5	50.00	0	98.2	70	130	2.28	20	
Chlorobenzene	53	2.5	50.00	0	105	70	130	3.07	20	
1,1-Dichloroethene	69	2.5	50.00	0	139	70	130	2.59	20	S
Trichloroethene (TCE)	51	2.5	50.00	0	103	70	130	0.125	20	
Surr: Dibromofluoromethane	26		25.00		104	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	27		25.00		108	70	130	0	0	
Surr: Toluene-d8	25		25.00		102	70	130	0	0	
Surr: 4-Bromofluorobenzene	24		25.00		94.3	61	133	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID **100ng lcs2**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43745**	RunNo: **43745**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378956** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	98.3	70	130			
Ethylbenzene	20	1.0	20.00	0	99.9	70	130			
Methyl tert-butyl ether (MTBE)	41	1.0	40.00	0	102	70	130			
1,2,4-Trimethylbenzene	18	1.0	20.00	0	91.9	70	130			
1,3,5-Trimethylbenzene	18	1.0	20.00	0	90.7	70	130			
1,2-Dichloroethane (EDC)	21	1.0	20.00	0	104	62.2	143			
1,2-Dibromoethane (EDB)	19	1.0	20.00	0	93.3	70	130			
Naphthalene	16	2.0	20.00	0	79.1	70	130			
1-Methylnaphthalene	16	4.0	20.00	0	81.2	60	140			
Acetone	41	10	40.00	0	101	60	140			
Bromobenzene	18	1.0	20.00	0	92.0	70	130			
Bromodichloromethane	22	1.0	20.00	0	111	70	130			
Bromoform	19	1.0	20.00	0	92.8	70	130			
Bromomethane	21	3.0	20.00	0	103	60	140			
2-Butanone	47	10	40.00	0	117	60	140			
Carbon disulfide	43	10	40.00	0	106	60	140			
Carbon Tetrachloride	22	1.0	20.00	0	111	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
Chloroethane	21	2.0	20.00	0	106	60	140			
Chloroform	23	1.0	20.00	0	114	70	130			
Chloromethane	18	3.0	20.00	0	91.3	60	140			
2-Chlorotoluene	18	1.0	20.00	0	90.7	70	130			
4-Chlorotoluene	18	1.0	20.00	0	91.2	70	130			
cis-1,2-DCE	23	1.0	20.00	0	116	70	130			
cis-1,3-Dichloropropene	20	1.0	20.00	0	99.4	70	130			
1,2-Dibromo-3-chloropropane	17	2.0	20.00	0	84.7	70	130			
Dibromochloromethane	18	1.0	20.00	0	90.2	70	130			
Dibromomethane	22	1.0	20.00	0	109	70	130			
1,2-Dichlorobenzene	18	1.0	20.00	0	89.2	70	130			
1,3-Dichlorobenzene	19	1.0	20.00	0	92.8	70	130			
1,4-Dichlorobenzene	19	1.0	20.00	0	92.5	67.2	141			
Dichlorodifluoromethane	21	1.0	20.00	0	104	60	140			
1,1-Dichloroethane	21	1.0	20.00	0	105	52.6	157			
1,1-Dichloroethene	22	1.0	20.00	0	109	70	130			
1,2-Dichloropropane	21	1.0	20.00	0	106	63.7	138			
1,3-Dichloropropane	18	1.0	20.00	0	90.6	70	130			
2,2-Dichloropropane	22	2.0	20.00	0	112	70	130			
1,1-Dichloropropene	22	1.0	20.00	0	109	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **100ng lcs2**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43745**	RunNo: **43745**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378956** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	16	1.0	20.00	0	77.6	70	130			
2-Hexanone	34	10	40.00	0	84.2	60	140			
Isopropylbenzene	20	1.0	20.00	0	99.7	70	130			
4-Isopropyltoluene	19	1.0	20.00	0	93.7	70	130			
4-Methyl-2-pentanone	39	10	40.00	0	97.5	60	140			
Methylene Chloride	22	3.0	20.00	0	111	70	130			
n-Butylbenzene	17	3.0	20.00	0	86.7	70	130			
n-Propylbenzene	18	1.0	20.00	0	90.1	70	130			
sec-Butylbenzene	18	1.0	20.00	0	89.1	70	130			
Styrene	20	1.0	20.00	0	99.4	70	130			
tert-Butylbenzene	18	1.0	20.00	0	91.2	70	130			
1,1,1,2-Tetrachloroethane	19	1.0	20.00	0	96.1	70	130			
1,1,2,2-Tetrachloroethane	18	2.0	20.00	0	88.7	65.9	133			
Tetrachloroethene (PCE)	21	1.0	20.00	0	106	70	130			
trans-1,2-DCE	22	1.0	20.00	0	110	70	130			
trans-1,3-Dichloropropene	17	1.0	20.00	0	86.0	70	130			
1,2,3-Trichlorobenzene	16	1.0	20.00	0	81.3	70	130			
1,2,4-Trichlorobenzene	16	1.0	20.00	0	81.9	70	130			
1,1,1-Trichloroethane	22	1.0	20.00	0	110	70	130			
1,1,2-Trichloroethane	18	1.0	20.00	0	91.5	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	111	70	130			
Trichlorofluoromethane	22	1.0	20.00	0	110	70	130			
1,2,3-Trichloropropane	17	2.0	20.00	0	87.4	69.7	129			
Vinyl chloride	20	1.0	20.00	0	100	70	130			
Xylenes, Total	59	1.5	60.00	0	98.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43745**	RunNo: **43745**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378957** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43745**	RunNo: **43745**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378957** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43745**	RunNo: **43745**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378957** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	0.14	3.0								J
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.6		10.00		95.5	70	130			

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43806**	RunNo: **43806**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1380054** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Methyl tert-butyl ether (MTBE)	41	1.0	40.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43806**	RunNo: **43806**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1380057** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.2		10.00		92.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID **mb-32481**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32481**	RunNo: **44028**
Prep Date: **6/26/2017**	Analysis Date: **6/30/2017**	SeqNo: **1388436** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	8.9	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**
21-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF OW RW

Sample ID **mb-32481**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32481**	RunNo: **44028**
Prep Date: **6/26/2017**	Analysis Date: **6/30/2017**	SeqNo: **1388436** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	100		200.0		51.3	15	98.1			
Surr: Phenol-d5	95		200.0		47.6	15	80.7			
Surr: 2,4,6-Tribromophenol	130		200.0		63.1	15	112			
Surr: Nitrobenzene-d5	69		100.0		69.4	27.2	90.7			
Surr: 2-Fluorobiphenyl	58		100.0		58.2	23.3	85.6			
Surr: 4-Terphenyl-d14	56		100.0		56.4	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID **lcs-32481**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32481**	RunNo: **44028**
Prep Date: **6/26/2017**	Analysis Date: **6/30/2017**	SeqNo: **1388437** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	64	10	100.0	0	64.1	41.2	98.9			
4-Chloro-3-methylphenol	150	10	200.0	0	75.3	29.1	111			
2-Chlorophenol	130	10	200.0	0	64.0	23.3	108			
1,4-Dichlorobenzene	48	10	100.0	0	48.1	29.4	84.5			
2,4-Dinitrotoluene	60	10	100.0	0	60.4	36.6	88.7			
N-Nitrosodi-n-propylamine	78	10	100.0	0	77.8	46.9	106			
4-Nitrophenol	100	10	200.0	0	50.3	15	74.7			
Pentachlorophenol	130	20	200.0	0	65.1	28.1	85.4			
Phenol	100	10	200.0	0	51.2	15	78.2			
Pyrene	78	10	100.0	0	77.7	44.4	96.8			
1,2,4-Trichlorobenzene	58	10	100.0	0	57.7	34.3	89			
Surr: 2-Fluorophenol	110		200.0		54.5	15	98.1			
Surr: Phenol-d5	110		200.0		52.9	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		76.6	15	112			
Surr: Nitrobenzene-d5	76		100.0		75.9	27.2	90.7			
Surr: 2-Fluorobiphenyl	65		100.0		65.4	23.3	85.6			
Surr: 4-Terphenyl-d14	64		100.0		63.6	27.6	107			

Sample ID **lcsd-32481**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32481**	RunNo: **44028**
Prep Date: **6/26/2017**	Analysis Date: **6/30/2017**	SeqNo: **1388438** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	65	10	100.0	0	65.3	41.2	98.9	1.82	37.4	
4-Chloro-3-methylphenol	160	10	200.0	0	78.6	29.1	111	4.28	26.8	
2-Chlorophenol	140	10	200.0	0	70.8	23.3	108	10.0	30.3	
1,4-Dichlorobenzene	51	10	100.0	0	51.3	29.4	84.5	6.44	32	
2,4-Dinitrotoluene	61	10	100.0	0	61.2	36.6	88.7	1.32	36.7	
N-Nitrosodi-n-propylamine	83	10	100.0	0	83.4	46.9	106	6.95	29.9	
4-Nitrophenol	98	10	200.0	0	49.1	15	74.7	2.38	28.8	
Pentachlorophenol	130	20	200.0	0	64.5	28.1	85.4	0.926	38.2	
Phenol	110	10	200.0	0	54.8	15	78.2	6.89	39.8	
Pyrene	75	10	100.0	0	74.9	44.4	96.8	3.69	28.3	
1,2,4-Trichlorobenzene	60	10	100.0	0	60.2	34.3	89	4.31	39.8	
Surr: 2-Fluorophenol	120		200.0		57.7	15	98.1	0	0	
Surr: Phenol-d5	110		200.0		54.6	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		74.3	15	112	0	0	
Surr: Nitrobenzene-d5	78		100.0		77.8	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	68		100.0		67.6	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706C54**

21-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF OW RW

Sample ID	**lcsd-32481**	SampType:	**LCSD**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID:	**32481**	RunNo:	**44028**					
Prep Date:	**6/26/2017**	Analysis Date:	**6/30/2017**	SeqNo:	**1388438**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	67		100.0		67.2	27.6	107	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1706C54 RcptNo: 1

Received By: Andy Freeman 6/22/2017 3:11:00 PM

Completed By: Ashley Gallegos 6/22/2017 4:04:12 PM

Reviewed By: AG 6/22/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	AG ~~Yes~~ ☑	No ☑	
9. Was preservative added to bottles?	Yes ☐	~~No~~ ☑ AG	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 24 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? YES
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: AG/RE

Special Handling (If applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks: For metals analysis: added 0.4mL HNO_3 to -007E, -008E

18. Cooler Information For acceptable pH. Held 24 hours prior to analysis.

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Not Present			

6/22@1705 AG

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 2ND QTR (MKTF/OW/RW)

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler: C. JOHNSON/G VIGIL

On Ice: X Yes ☐ No

Sample Temperature: 1.4° C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706C54	Analysis Request: 8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1	Air Bubbles (Y or N)
6/20/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X							
6/20/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X							
6/20/2017	1450	AQUEOUS	RW-2	MISC	MISC	-003	X	X						
6/20/2017	1535	AQUEOUS	RW-1	MISC	MISC	-004	X	X						
6/21/2017	1010	AQUEOUS	OW-54	MISC	MISC	-005	X	X	X	X	X	X		
6/21/2017	1050	AQUEOUS	OW-55	MISC	MISC	-006	X	X	X	X	X	X		
6/21/2017	1130	AQUEOUS	OW-56	MISC	MISC	-007	X	X	X	X	X	X		
6/21/2017	1155	AQUEOUS	DUPLICATE	MISC	MISC	-008	X	X	X	X	X	X		
6/21/2017	1415	AQUEOUS	MKTF-21	MISC	MISC	-009	X	X	X	X	X	X		
6/21/2017	1435	AQUEOUS	MKTF-38	MISC	MISC	-010	X	X	X	X	X	X		
6/21/2017	1505	AQUEOUS	OW-58	MISC	MISC	-011	X	X	X	X	X	X		
6/21/2017	1345	AQUEOUS	OW-57	MISC	MISC	-012	X	X	X	X	X	X		
6/21/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-013	X							
6/21/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-014	X							

Date	Time	Relinquished by	Received by	Date	Time
6/22/17	1300			6/22/17	1300
6/22/17	1511			6/22/17	1511

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any subcontracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 16, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd Quarter (PO#20837992 CO #1) OrderNo.: 1709A79

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 9/19/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FIELD BLANK
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 7:00:00 AM
Lab ID: 1709A79-001 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.14	0.062	1.0	J	µg/L	1	9/27/2017 5:55:00 PM	R45920
Toluene	0.40	0.064	1.0	J	µg/L	1	9/27/2017 5:55:00 PM	R45920
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Acetone	3.2	0.82	10	J	µg/L	1	9/27/2017 5:55:00 PM	R45920
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 5:55:00 PM	R45920
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 5:55:00 PM	R45920
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 5:55:00 PM	R45920

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FIELD BLANK
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 7:00:00 AM
Lab ID: 1709A79-001 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 5:55:00 PM	R45920
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 5:55:00 PM	R45920
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 5:55:00 PM	R45920
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 5:55:00 PM	R45920
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	9/27/2017 5:55:00 PM	R45920
Surr: 4-Bromofluorobenzene	99.2	0	70-130		%Rec	1	9/27/2017 5:55:00 PM	R45920
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/27/2017 5:55:00 PM	R45920
Surr: Toluene-d8	101	0	70-130		%Rec	1	9/27/2017 5:55:00 PM	R45920

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date:
Lab ID: 1709A79-002 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/21/2017 12:11:00 PM	G45793
Surr: BFB	101	0	52.3-138		%Rec	1	9/21/2017 12:11:00 PM	G45793
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Acetone	ND	0.82	10		µg/L	1	9/27/2017 6:19:00 PM	R45920
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 6:19:00 PM	R45920
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 6:19:00 PM	R45920
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date:
Lab ID: 1709A79-002 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 6:19:00 PM	R45920
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 6:19:00 PM	R45920
Methylene Chloride	0.29	0.11	3.0	J	µg/L	1	9/27/2017 6:19:00 PM	R45920
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 6:19:00 PM	R45920
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 6:19:00 PM	R45920
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	9/27/2017 6:19:00 PM	R45920
Surr: 4-Bromofluorobenzene	98.5	0	70-130		%Rec	1	9/27/2017 6:19:00 PM	R45920
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/27/2017 6:19:00 PM	R45920
Surr: Toluene-d8	99.6	0	70-130		%Rec	1	9/27/2017 6:19:00 PM	R45920

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-12
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 9:50:00 AM
Lab ID: 1709A79-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/25/2017 7:09:49 PM	34023
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/25/2017 7:09:49 PM	34023
Surr: DNOP	130	0	72.4-157		%Rec	1	9/25/2017 7:09:49 PM	34023
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/21/2017 12:34:26 PM	G45793
Surr: BFB	98.8	0	52.3-138		%Rec	1	9/21/2017 12:34:26 PM	G45793
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.52	0.22	0.50		mg/L	5	9/21/2017 4:26:52 AM	R45780
Chloride	17	1.2	2.5		mg/L	5	9/21/2017 4:26:52 AM	R45780
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/21/2017 4:26:52 AM	R45780
Bromide	0.36	0.073	0.50	J	mg/L	5	9/21/2017 4:26:52 AM	R45780
Nitrogen, Nitrate (As N)	0.11	0.11	0.50	J	mg/L	5	9/21/2017 4:26:52 AM	R45780
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/21/2017 4:26:52 AM	R45780
Sulfate	170	0.48	2.5		mg/L	5	10/3/2017 4:51:36 AM	A46049
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.020	0.00085	0.0020		mg/L	1	10/4/2017 2:27:18 PM	A46098
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 2:27:18 PM	A46098
Calcium	1.6	0.078	1.0		mg/L	1	10/4/2017 2:27:18 PM	A46098
Chromium	0.0041	0.0013	0.0060	J	mg/L	1	10/4/2017 2:27:18 PM	A46098
Copper	ND	0.0032	0.0060		mg/L	1	10/4/2017 2:27:18 PM	A46098
Iron	0.049	0.016	0.020		mg/L	1	10/4/2017 2:27:18 PM	A46098
Magnesium	ND	0.25	1.0		mg/L	1	10/4/2017 2:27:18 PM	A46098
Manganese	0.0026	0.00039	0.0020		mg/L	1	10/4/2017 2:27:18 PM	A46098
Potassium	0.85	0.11	1.0	J	mg/L	1	10/4/2017 2:27:18 PM	A46098
Silver	ND	0.0018	0.0050		mg/L	1	10/4/2017 2:27:18 PM	A46098
Sodium	270	0.82	5.0		mg/L	5	10/5/2017 10:29:46 PM	A46143
Zinc	0.035	0.0021	0.010		mg/L	1	10/5/2017 10:27:49 PM	A46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.023	0.00093	0.0020		mg/L	1	9/27/2017 7:59:33 PM	34084
Cadmium	ND	0.00058	0.0020		mg/L	1	9/27/2017 7:59:33 PM	34084
Chromium	0.0041	0.0018	0.0060	J	mg/L	1	9/27/2017 7:59:33 PM	34084
Copper	0.0019	0.0017	0.0060	J	mg/L	1	9/27/2017 7:59:33 PM	34084
Iron	0.11	0.010	0.020		mg/L	1	10/2/2017 4:26:40 PM	34084
Manganese	0.0058	0.0011	0.0020		mg/L	1	10/2/2017 4:26:40 PM	34084
Silver	ND	0.0012	0.0050		mg/L	1	9/27/2017 7:59:33 PM	34084
Zinc	0.017	0.0033	0.010		mg/L	1	9/27/2017 7:59:33 PM	34084
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-12
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 9:50:00 AM
Lab ID: 1709A79-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0020	0.00018	0.0010		mg/L	1	9/21/2017 4:14:07 PM	B45795
Lead	ND	0.00017	0.00050		mg/L	1	9/21/2017 4:14:07 PM	B45795
Selenium	ND	0.0019	0.0050		mg/L	5	9/21/2017 5:03:18 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0019	0.00030	0.0010		mg/L	1	9/27/2017 12:02:08 PM	34084
Lead	0.00032	0.000095	0.00050	J	mg/L	1	9/27/2017 12:02:08 PM	34084
Selenium	0.00089	0.00071	0.0010	J	mg/L	1	9/27/2017 12:02:08 PM	34084
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/28/2017 2:16:18 PM	34117
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Acetone	1.8	0.82	10	J	µg/L	1	9/27/2017 6:42:00 PM	R45920
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 6:42:00 PM	R45920
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 6:42:00 PM	R45920
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 6:42:00 PM	R45920

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-12
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 9:50:00 AM
Lab ID: 1709A79-003 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 6:42:00 PM	R45920
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 6:42:00 PM	R45920
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 6:42:00 PM	R45920
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 6:42:00 PM	R45920
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	9/27/2017 6:42:00 PM	R45920
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	9/27/2017 6:42:00 PM	R45920

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-12
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 9:50:00 AM
Lab ID: 1709A79-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	9/27/2017 6:42:00 PM	R45920
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	9/27/2017 6:42:00 PM	R45920

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 10:50:00 AM
Lab ID: 1709A79-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	9.6	0.36	1.0		mg/L	1	9/25/2017 8:16:47 PM	34023
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/25/2017 8:16:47 PM	34023
Surr: DNOP	132	0	72.4-157		%Rec	1	9/25/2017 8:16:47 PM	34023
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	28	1.2	2.5		mg/L	50	9/21/2017 12:57:50 PM	G45793
Surr: BFB	100	0	52.3-138		%Rec	50	9/21/2017 12:57:50 PM	G45793
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/21/2017 4:51:41 AM	R45780
Chloride	150	5.0	10		mg/L	20	9/21/2017 5:04:06 AM	R45780
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/21/2017 4:51:41 AM	R45780
Bromide	1.9	0.073	0.50		mg/L	5	9/21/2017 4:51:41 AM	R45780
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/21/2017 4:51:41 AM	R45780
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/21/2017 4:51:41 AM	R45780
Sulfate	1.8	0.48	2.5	J	mg/L	5	10/3/2017 5:04:01 AM	A46049
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.4	0.0085	0.020	*	mg/L	10	10/5/2017 10:42:01 PM	A46143
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 2:29:18 PM	A46098
Calcium	110	0.39	5.0		mg/L	5	10/5/2017 10:36:35 PM	A46143
Chromium	ND	0.0013	0.0060		mg/L	1	10/4/2017 2:29:18 PM	A46098
Copper	ND	0.0032	0.0060		mg/L	1	10/4/2017 2:29:18 PM	A46098
Iron	6.4	0.16	0.20	*	mg/L	10	10/5/2017 10:42:01 PM	A46143
Magnesium	18	0.25	1.0		mg/L	1	10/4/2017 2:29:18 PM	A46098
Manganese	2.2	0.0020	0.010	*	mg/L	5	10/5/2017 10:36:35 PM	A46143
Potassium	2.0	0.11	1.0		mg/L	1	10/4/2017 2:29:18 PM	A46098
Silver	ND	0.0018	0.0050		mg/L	1	10/4/2017 2:29:18 PM	A46098
Sodium	310	1.6	10		mg/L	10	10/5/2017 10:42:01 PM	A46143
Zinc	0.031	0.0021	0.010		mg/L	1	10/5/2017 10:31:30 PM	A46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.9	0.0093	0.020	*	mg/L	10	9/27/2017 8:04:52 PM	34084
Cadmium	ND	0.00058	0.0020		mg/L	1	9/27/2017 8:03:16 PM	34084
Chromium	0.0038	0.0018	0.0060	J	mg/L	1	9/27/2017 8:03:16 PM	34084
Copper	0.0032	0.0017	0.0060	J	mg/L	1	9/27/2017 8:03:16 PM	34084
Iron	8.6	0.10	0.20	*	mg/L	10	10/2/2017 4:28:39 PM	34084
Manganese	2.9	0.011	0.020	*	mg/L	10	10/2/2017 4:28:39 PM	34084
Silver	ND	0.0012	0.0050		mg/L	1	9/27/2017 8:03:16 PM	34084
Zinc	0.016	0.0033	0.010		mg/L	1	9/27/2017 8:03:16 PM	34084
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 10:50:00 AM
Lab ID: 1709A79-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0077	0.00089	0.0050		mg/L	5	9/21/2017 5:06:22 PM	B45795
Lead	ND	0.00017	0.00050		mg/L	1	9/21/2017 4:17:11 PM	B45795
Selenium	0.015	0.0077	0.020	J	mg/L	20	9/21/2017 5:09:25 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.011	0.0015	0.0050	*	mg/L	5	9/27/2017 12:11:09 PM	34084
Lead	0.0046	0.000095	0.00050		mg/L	1	9/27/2017 12:08:09 PM	34084
Selenium	0.019	0.0036	0.0050		mg/L	5	9/27/2017 12:11:09 PM	34084
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/28/2017 2:18:13 PM	34117
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Acenaphthylene	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Aniline	ND	15	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Anthracene	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Azobenzene	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Benz(a)anthracene	ND	19	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Benzo(a)pyrene	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Benzoic acid	69	20	100	JD	µg/L	1	9/28/2017 5:24:07 PM	34036
Benzyl alcohol	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Bis(2-ethylhexyl)phthalate	30	24	50	JD	µg/L	1	9/28/2017 5:24:07 PM	34036
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Carbazole	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
4-Chloroaniline	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2-Chloronaphthalene	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2-Chlorophenol	ND	38	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Chrysene	ND	19	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 10:50:00 AM
Lab ID: 1709A79-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Diethyl phthalate	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Dimethyl phthalate	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Fluoranthene	ND	21	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Fluorene	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Hexachlorobenzene	ND	19	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Hexachloroethane	ND	6.0	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Isophorone	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
1-Methylnaphthalene	100	17	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2-Methylnaphthalene	ND	16	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2-Methylphenol	ND	17	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
3+4-Methylphenol	ND	16	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Naphthalene	75	14	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2-Nitroaniline	ND	25	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
3-Nitroaniline	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
4-Nitroaniline	ND	20	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Nitrobenzene	ND	18	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2-Nitrophenol	ND	26	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
4-Nitrophenol	ND	27	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Pentachlorophenol	ND	25	100	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Phenanthrene	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Phenol	290	16	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Pyrene	ND	22	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 10:50:00 AM
Lab ID: 1709A79-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	11	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	9/28/2017 5:24:07 PM	34036
Surr: 2-Fluorophenol	50.5	0	15-88	D	%Rec	1	9/28/2017 5:24:07 PM	34036
Surr: Phenol-d5	41.7	0	15-72.4	D	%Rec	1	9/28/2017 5:24:07 PM	34036
Surr: 2,4,6-Tribromophenol	81.6	0	15-117	D	%Rec	1	9/28/2017 5:24:07 PM	34036
Surr: Nitrobenzene-d5	85.1	0	33.5-120	D	%Rec	1	9/28/2017 5:24:07 PM	34036
Surr: 2-Fluorobiphenyl	78.7	0	26.5-109	D	%Rec	1	9/28/2017 5:24:07 PM	34036
Surr: 4-Terphenyl-d14	59.8	0	21.7-98.7	D	%Rec	1	9/28/2017 5:24:07 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	9400	31	500		µg/L	500	9/27/2017 7:06:00 PM	R45920
Toluene	25	3.2	50	J	µg/L	50	9/27/2017 7:29:00 PM	R45920
Ethylbenzene	460	4.7	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Methyl tert-butyl ether (MTBE)	120	12	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2,4-Trimethylbenzene	ND	5.6	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,3,5-Trimethylbenzene	ND	4.4	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Naphthalene	96	5.7	100	J	µg/L	50	9/27/2017 7:29:00 PM	R45920
1-Methylnaphthalene	90	8.0	200	J	µg/L	50	9/27/2017 7:29:00 PM	R45920
2-Methylnaphthalene	20	7.6	200	J	µg/L	50	9/27/2017 7:29:00 PM	R45920
Acetone	ND	41	500		µg/L	50	9/27/2017 7:29:00 PM	R45920
Bromobenzene	ND	7.0	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Bromodichloromethane	ND	8.8	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Bromoform	ND	11	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Bromomethane	ND	13	150		µg/L	50	9/27/2017 7:29:00 PM	R45920
2-Butanone	ND	57	500		µg/L	50	9/27/2017 7:29:00 PM	R45920
Carbon disulfide	ND	20	500		µg/L	50	9/27/2017 7:29:00 PM	R45920
Carbon Tetrachloride	ND	5.5	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Chlorobenzene	ND	5.3	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Chloroethane	ND	12	100		µg/L	50	9/27/2017 7:29:00 PM	R45920
Chloroform	ND	20	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Chloromethane	ND	15	150		µg/L	50	9/27/2017 7:29:00 PM	R45920
2-Chlorotoluene	ND	20	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
4-Chlorotoluene	ND	20	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
cis-1,2-DCE	ND	10	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	9/27/2017 7:29:00 PM	R45920

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 10:50:00 AM
Lab ID: 1709A79-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	3.6	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Dibromomethane	ND	4.5	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,4-Dichlorobenzene	ND	20	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Dichlorodifluoromethane	ND	50	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,1-Dichloroethane	ND	20	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,1-Dichloroethene	ND	4.0	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2-Dichloropropane	ND	5.1	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,3-Dichloropropane	ND	8.4	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
2,2-Dichloropropane	ND	7.9	100		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,1-Dichloropropene	ND	4.6	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Hexachlorobutadiene	ND	40	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
2-Hexanone	ND	33	500		µg/L	50	9/27/2017 7:29:00 PM	R45920
Isopropylbenzene	14	2.6	50	J	µg/L	50	9/27/2017 7:29:00 PM	R45920
4-Isopropyltoluene	ND	4.8	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
4-Methyl-2-pentanone	ND	35	500		µg/L	50	9/27/2017 7:29:00 PM	R45920
Methylene Chloride	ND	5.4	150		µg/L	50	9/27/2017 7:29:00 PM	R45920
n-Butylbenzene	ND	6.5	150		µg/L	50	9/27/2017 7:29:00 PM	R45920
n-Propylbenzene	33	3.7	50	J	µg/L	50	9/27/2017 7:29:00 PM	R45920
sec-Butylbenzene	ND	5.5	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Styrene	ND	7.8	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
tert-Butylbenzene	ND	5.2	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	9/27/2017 7:29:00 PM	R45920
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
trans-1,2-DCE	ND	9.2	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Trichlorofluoromethane	ND	9.1	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
1,2,3-Trichloropropane	ND	19	100		µg/L	50	9/27/2017 7:29:00 PM	R45920
Vinyl chloride	ND	8.9	50		µg/L	50	9/27/2017 7:29:00 PM	R45920
Xylenes, Total	96	16	75		µg/L	50	9/27/2017 7:29:00 PM	R45920
Surr: 1,2-Dichloroethane-d4	99.3	0	70-130		%Rec	50	9/27/2017 7:29:00 PM	R45920
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	50	9/27/2017 7:29:00 PM	R45920

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 10:50:00 AM
Lab ID: 1709A79-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	98.7	0	70-130		%Rec	50	9/27/2017 7:29:00 PM	R45920
Surr: Toluene-d8	99.7	0	70-130		%Rec	50	9/27/2017 7:29:00 PM	R45920

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 12:15:00 PM
Lab ID: 1709A79-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.3	0.36	1.0		mg/L	1	9/25/2017 8:39:17 PM	34023
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/25/2017 8:39:17 PM	34023
Surr: DNOP	127	0	72.4-157		%Rec	1	9/25/2017 8:39:17 PM	34023
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	85	5.0	10		mg/L	200	9/21/2017 1:21:14 PM	G45793
Surr: BFB	105	0	52.3-138		%Rec	200	9/21/2017 1:21:14 PM	G45793
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/21/2017 5:16:31 AM	R45780
Chloride	130	5.0	10		mg/L	20	9/21/2017 5:28:56 AM	R45780
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/21/2017 5:16:31 AM	R45780
Bromide	1.7	0.073	0.50		mg/L	5	9/21/2017 5:16:31 AM	R45780
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/21/2017 5:16:31 AM	R45780
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/21/2017 5:16:31 AM	R45780
Sulfate	0.78	0.48	2.5	J	mg/L	5	10/3/2017 5:16:26 AM	A46049
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	4.0	0.0043	0.010	*	mg/L	5	10/5/2017 10:50:54 PM	A46143
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 2:34:28 PM	A46098
Calcium	120	0.39	5.0		mg/L	5	10/5/2017 10:50:54 PM	A46143
Chromium	ND	0.0013	0.0060		mg/L	1	10/4/2017 2:34:28 PM	A46098
Copper	ND	0.0032	0.0060		mg/L	1	10/4/2017 2:34:28 PM	A46098
Iron	7.5	0.16	0.20	*	mg/L	10	10/6/2017 3:34:21 PM	A46184
Magnesium	34	0.25	1.0		mg/L	1	10/4/2017 2:34:28 PM	A46098
Manganese	1.9	0.0020	0.010	*	mg/L	5	10/5/2017 10:50:54 PM	A46143
Potassium	0.38	0.11	1.0	J	mg/L	1	10/4/2017 2:34:28 PM	A46098
Silver	ND	0.0018	0.0050		mg/L	1	10/4/2017 2:34:28 PM	A46098
Sodium	270	0.82	5.0		mg/L	5	10/5/2017 10:50:54 PM	A46143
Zinc	0.018	0.0021	0.010		mg/L	1	10/5/2017 10:43:55 PM	A46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	5.0	0.0093	0.020	*	mg/L	10	9/27/2017 8:08:16 PM	34084
Cadmium	ND	0.00058	0.0020		mg/L	1	9/27/2017 8:06:33 PM	34084
Chromium	0.013	0.0018	0.0060		mg/L	1	9/27/2017 8:06:33 PM	34084
Copper	0.0092	0.0017	0.0060		mg/L	1	9/27/2017 8:06:33 PM	34084
Iron	19	0.20	0.40	*	mg/L	20	10/2/2017 4:37:59 PM	34084
Manganese	2.8	0.0055	0.010	*	mg/L	5	10/2/2017 4:36:11 PM	34084
Silver	ND	0.0012	0.0050		mg/L	1	9/27/2017 8:06:33 PM	34084
Zinc	0.035	0.0033	0.010		mg/L	1	9/27/2017 8:06:33 PM	34084
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 12:15:00 PM
Lab ID: 1709A79-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0070	0.0035	0.020	J	mg/L	20	9/21/2017 5:15:32 PM	B45795
Lead	0.00017	0.00017	0.00050	J	mg/L	1	9/21/2017 4:20:14 PM	B45795
Selenium	0.015	0.0077	0.020	J	mg/L	20	9/21/2017 5:15:32 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0096	0.0015	0.0050		mg/L	5	9/27/2017 12:23:15 PM	34084
Lead	0.015	0.000095	0.00050	*	mg/L	1	9/27/2017 12:14:10 PM	34084
Selenium	0.014	0.0036	0.0050		mg/L	5	9/27/2017 12:23:15 PM	34084
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/28/2017 2:24:11 PM	34117
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Benzoic acid	21	3.9	20		µg/L	1	9/28/2017 5:52:10 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Bis(2-ethylhexyl)phthalate	4.9	4.8	10	J	µg/L	1	9/28/2017 5:52:10 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 12:15:00 PM
Lab ID: 1709A79-005 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	9/28/2017 5:52:10 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/28/2017 5:52:10 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 5:52:10 PM	34036
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/28/2017 5:52:10 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/28/2017 5:52:10 PM	34036
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/28/2017 5:52:10 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/28/2017 5:52:10 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/28/2017 5:52:10 PM	34036
1-Methylnaphthalene	82	3.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2-Methylnaphthalene	56	3.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
3+4-Methylphenol	4.7	3.2	10	J	µg/L	1	9/28/2017 5:52:10 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Naphthalene	110	2.9	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/28/2017 5:52:10 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/28/2017 5:52:10 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/28/2017 5:52:10 PM	34036
Phenanthrene	4.9	4.3	10	J	µg/L	1	9/28/2017 5:52:10 PM	34036
Phenol	47	3.1	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/28/2017 5:52:10 PM	34036

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 12:15:00 PM
Lab ID: 1709A79-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	9/28/2017 5:52:10 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/28/2017 5:52:10 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/28/2017 5:52:10 PM	34036
Surr: 2-Fluorophenol	41.8	0	15-88		%Rec	1	9/28/2017 5:52:10 PM	34036
Surr: Phenol-d5	38.0	0	15-72.4		%Rec	1	9/28/2017 5:52:10 PM	34036
Surr: 2,4,6-Tribromophenol	75.9	0	15-117		%Rec	1	9/28/2017 5:52:10 PM	34036
Surr: Nitrobenzene-d5	75.5	0	33.5-120		%Rec	1	9/28/2017 5:52:10 PM	34036
Surr: 2-Fluorobiphenyl	74.2	0	26.5-109		%Rec	1	9/28/2017 5:52:10 PM	34036
Surr: 4-Terphenyl-d14	56.8	0	21.7-98.7		%Rec	1	9/28/2017 5:52:10 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	29000	62	1000		µg/L	1000	9/27/2017 7:53:00 PM	R45920
Toluene	220	6.4	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Ethylbenzene	1100	9.3	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Methyl tert-butyl ether (MTBE)	3100	24	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2,4-Trimethylbenzene	110	11	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,3,5-Trimethylbenzene	39	8.7	100	J	µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Naphthalene	150	11	200	J	µg/L	100	9/27/2017 8:17:00 PM	R45920
1-Methylnaphthalene	82	16	400	J	µg/L	100	9/27/2017 8:17:00 PM	R45920
2-Methylnaphthalene	57	15	400	J	µg/L	100	9/27/2017 8:17:00 PM	R45920
Acetone	ND	82	1000		µg/L	100	9/27/2017 8:17:00 PM	R45920
Bromobenzene	ND	14	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Bromodichloromethane	ND	18	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Bromoform	ND	21	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Bromomethane	ND	26	300		µg/L	100	9/27/2017 8:17:00 PM	R45920
2-Butanone	ND	110	1000		µg/L	100	9/27/2017 8:17:00 PM	R45920
Carbon disulfide	ND	40	1000		µg/L	100	9/27/2017 8:17:00 PM	R45920
Carbon Tetrachloride	ND	11	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Chlorobenzene	ND	11	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Chloroethane	ND	23	200		µg/L	100	9/27/2017 8:17:00 PM	R45920
Chloroform	ND	40	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Chloromethane	ND	29	300		µg/L	100	9/27/2017 8:17:00 PM	R45920
2-Chlorotoluene	ND	40	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
4-Chlorotoluene	ND	40	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
cis-1,2-DCE	ND	20	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	9/27/2017 8:17:00 PM	R45920

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 12:15:00 PM
Lab ID: 1709A79-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	7.2	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Dibromomethane	ND	9.1	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,3-Dichlorobenzene	ND	15	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,4-Dichlorobenzene	ND	40	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Dichlorodifluoromethane	ND	100	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,1-Dichloroethane	ND	40	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,1-Dichloroethene	ND	8.1	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2-Dichloropropane	ND	10	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,3-Dichloropropane	ND	17	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
2,2-Dichloropropane	ND	16	200		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,1-Dichloropropene	ND	9.3	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Hexachlorobutadiene	ND	80	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
2-Hexanone	ND	66	1000		µg/L	100	9/27/2017 8:17:00 PM	R45920
Isopropylbenzene	36	5.1	100	J	µg/L	100	9/27/2017 8:17:00 PM	R45920
4-Isopropyltoluene	ND	9.6	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	9/27/2017 8:17:00 PM	R45920
Methylene Chloride	ND	11	300		µg/L	100	9/27/2017 8:17:00 PM	R45920
n-Butylbenzene	ND	13	300		µg/L	100	9/27/2017 8:17:00 PM	R45920
n-Propylbenzene	92	7.4	100	J	µg/L	100	9/27/2017 8:17:00 PM	R45920
sec-Butylbenzene	ND	11	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Styrene	ND	16	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
tert-Butylbenzene	ND	10	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	9/27/2017 8:17:00 PM	R45920
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
trans-1,2-DCE	ND	18	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,1,2-Trichloroethane	ND	14	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Trichloroethene (TCE)	ND	11	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Trichlorofluoromethane	ND	18	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
1,2,3-Trichloropropane	ND	39	200		µg/L	100	9/27/2017 8:17:00 PM	R45920
Vinyl chloride	ND	18	100		µg/L	100	9/27/2017 8:17:00 PM	R45920
Xylenes, Total	370	32	150		µg/L	100	9/27/2017 8:17:00 PM	R45920
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	100	9/27/2017 8:17:00 PM	R45920
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	100	9/27/2017 8:17:00 PM	R45920

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 12:15:00 PM
Lab ID: 1709A79-005 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	101	0	70-130		%Rec	100	9/27/2017 8:17:00 PM	R45920
Surr: Toluene-d8	101	0	70-130		%Rec	100	9/27/2017 8:17:00 PM	R45920

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-2
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 11:25:00 AM
Lab ID: 1709A79-006
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	9.2	0.36	1.0		mg/L	1	9/25/2017 9:01:34 PM	34023
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/25/2017 9:01:34 PM	34023
Surr: DNOP	131	0	72.4-157		%Rec	1	9/25/2017 9:01:34 PM	34023
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	120	5.0	10		mg/L	200	9/21/2017 1:44:33 PM	G45793
Surr: BFB	100	0	52.3-138		%Rec	200	9/21/2017 1:44:33 PM	G45793
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	37000	62	1000		µg/L	1000	9/27/2017 8:40:00 PM	R45920
Toluene	6700	6.4	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Ethylbenzene	1200	9.3	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Methyl tert-butyl ether (MTBE)	1300	24	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2,4-Trimethylbenzene	270	11	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,3,5-Trimethylbenzene	46	8.7	100	J	µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Naphthalene	110	11	200	J	µg/L	100	9/27/2017 9:04:00 PM	R45920
1-Methylnaphthalene	55	16	400	J	µg/L	100	9/27/2017 9:04:00 PM	R45920
2-Methylnaphthalene	ND	15	400		µg/L	100	9/27/2017 9:04:00 PM	R45920
Acetone	ND	82	1000		µg/L	100	9/27/2017 9:04:00 PM	R45920
Bromobenzene	ND	14	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Bromodichloromethane	ND	18	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Bromoform	ND	21	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Bromomethane	ND	26	300		µg/L	100	9/27/2017 9:04:00 PM	R45920
2-Butanone	ND	110	1000		µg/L	100	9/27/2017 9:04:00 PM	R45920
Carbon disulfide	ND	40	1000		µg/L	100	9/27/2017 9:04:00 PM	R45920
Carbon Tetrachloride	ND	11	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Chlorobenzene	ND	11	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Chloroethane	ND	23	200		µg/L	100	9/27/2017 9:04:00 PM	R45920
Chloroform	ND	40	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Chloromethane	ND	29	300		µg/L	100	9/27/2017 9:04:00 PM	R45920
2-Chlorotoluene	ND	40	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
4-Chlorotoluene	ND	40	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
cis-1,2-DCE	ND	20	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	9/27/2017 9:04:00 PM	R45920
Dibromochloromethane	ND	7.2	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Dibromomethane	ND	9.1	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	9/27/2017 9:04:00 PM	R45920

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: RW-2
Project: 2017 3rd Quarter (PO#20837992 CO #1)
Collection Date: 9/19/2017 11:25:00 AM
Lab ID: 1709A79-006 **Matrix:** AQUEOUS **Received Date:** 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	15	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,4-Dichlorobenzene	ND	40	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Dichlorodifluoromethane	ND	100	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,1-Dichloroethane	ND	40	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,1-Dichloroethene	ND	8.1	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2-Dichloropropane	ND	10	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,3-Dichloropropane	ND	17	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
2,2-Dichloropropane	ND	16	200		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,1-Dichloropropene	ND	9.3	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Hexachlorobutadiene	ND	80	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
2-Hexanone	ND	66	1000		µg/L	100	9/27/2017 9:04:00 PM	R45920
Isopropylbenzene	18	5.1	100	J	µg/L	100	9/27/2017 9:04:00 PM	R45920
4-Isopropyltoluene	ND	9.6	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	9/27/2017 9:04:00 PM	R45920
Methylene Chloride	ND	11	300		µg/L	100	9/27/2017 9:04:00 PM	R45920
n-Butylbenzene	ND	13	300		µg/L	100	9/27/2017 9:04:00 PM	R45920
n-Propylbenzene	37	7.4	100	J	µg/L	100	9/27/2017 9:04:00 PM	R45920
sec-Butylbenzene	ND	11	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Styrene	ND	16	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
tert-Butylbenzene	ND	10	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	9/27/2017 9:04:00 PM	R45920
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
trans-1,2-DCE	ND	18	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,1,2-Trichloroethane	ND	14	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Trichloroethene (TCE)	ND	11	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Trichlorofluoromethane	ND	18	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
1,2,3-Trichloropropane	ND	39	200		µg/L	100	9/27/2017 9:04:00 PM	R45920
Vinyl chloride	ND	18	100		µg/L	100	9/27/2017 9:04:00 PM	R45920
Xylenes, Total	4000	32	150		µg/L	100	9/27/2017 9:04:00 PM	R45920
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	100	9/27/2017 9:04:00 PM	R45920
Surr: 4-Bromofluorobenzene	99.4	0	70-130		%Rec	100	9/27/2017 9:04:00 PM	R45920
Surr: Dibromofluoromethane	98.9	0	70-130		%Rec	100	9/27/2017 9:04:00 PM	R45920
Surr: Toluene-d8	101	0	70-130		%Rec	100	9/27/2017 9:04:00 PM	R45920

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID	**1709A79-004DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-57**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466389**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	104	70	130			
Chromium	0.51	0.0060	0.5000	0	102	70	130			
Copper	0.53	0.0060	0.5000	0	107	70	130			
Magnesium	67	1.0	50.00	17.89	98.7	70	130			
Potassium	51	1.0	50.00	2.009	98.7	70	130			
Silver	0.082	0.0050	0.1000	0	82.2	70	130			

Sample ID	**1709A79-004DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-57**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466390**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	103	70	130	0.926	20	
Chromium	0.51	0.0060	0.5000	0	101	70	130	0.672	20	
Copper	0.52	0.0060	0.5000	0	105	70	130	1.59	20	
Magnesium	67	1.0	50.00	17.89	97.5	70	130	0.893	20	
Potassium	51	1.0	50.00	2.009	97.9	70	130	0.733	20	
Silver	0.093	0.0050	0.1000	0	92.6	70	130	11.9	20	

Sample ID	**1709A79-005DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-58**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466392**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	103	70	130			
Chromium	0.51	0.0060	0.5000	0	102	70	130			
Copper	0.53	0.0060	0.5000	0	106	70	130			
Magnesium	83	1.0	50.00	33.72	99.0	70	130			
Potassium	51	1.0	50.00	0.3841	101	70	130			
Silver	0.082	0.0050	0.1000	0	82.4	70	130			

Sample ID	**1709A79-005DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-58**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466393**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	103	70	130	0.0561	20	
Chromium	0.51	0.0060	0.5000	0	101	70	130	0.978	20	
Copper	0.54	0.0060	0.5000	0	107	70	130	1.43	20	
Magnesium	87	1.0	50.00	33.72	107	70	130	4.48	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID	**1709A79-005DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-58**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466393**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	51	1.0	50.00	0.3841	101	70	130	0.419	20	
Silver	0.088	0.0050	0.1000	0	87.9	70	130	6.41	20	

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466543**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID	**LLLCS-A**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466545**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.5	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	104	50	150			
Calcium	0.52	1.0	0.5000	0	103	50	150			J
Chromium	0.0065	0.0060	0.006000	0	108	50	150			
Copper	0.0058	0.0060	0.006000	0	96.0	50	150			J
Iron	0.020	0.020	0.02000	0	99.5	50	150			J
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Manganese	0.0022	0.0020	0.002000	0	109	50	150			
Potassium	0.50	1.0	0.5000	0	99.5	50	150			J
Silver	0.0053	0.0050	0.005000	0	106	50	150			

Sample ID	**LCS-A**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466547**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46098**	RunNo: **46098**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466547** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Calcium	49	1.0	50.00	0	98.7	85	115			
Chromium	0.51	0.0060	0.5000	0	103	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Magnesium	49	1.0	50.00	0	98.9	85	115			
Manganese	0.50	0.0020	0.5000	0	101	85	115			
Potassium	48	1.0	50.00	0	97.0	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46143**	RunNo: **46143**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1469292** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	0.00050	0.0020								J
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46143**	RunNo: **46143**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1469295** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	106	50	150			
Calcium	0.55	1.0	0.5000	0	110	50	150			J
Iron	0.021	0.020	0.02000	0	104	50	150			
Manganese	0.0022	0.0020	0.002000	0	112	50	150			
Sodium	0.56	1.0	0.5000	0	112	50	150			J
Zinc	0.0068	0.010	0.005000	0	136	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46143**	RunNo: **46143**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1469298** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A46143**			RunNo: **46143**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1469298**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.0	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Iron	0.50	0.020	0.5000	0	99.3	85	115			
Manganese	0.48	0.0020	0.5000	0	96.6	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.49	0.010	0.5000	0	98.7	85	115			

Sample ID	**1709A79-004DMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**OW-57**	Batch ID: **A46143**			RunNo: **46143**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1469491**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.49	0.010	0.5000	0.03117	91.4	70	130			

Sample ID	**1709A79-004DMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**OW-57**	Batch ID: **A46143**			RunNo: **46143**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1469492**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.49	0.010	0.5000	0.03117	90.8	70	130	0.659	20	

Sample ID	**1709A79-004DMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**OW-57**	Batch ID: **A46143**			RunNo: **46143**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1469494**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	360	5.0	250.0	111.8	98.3	70	130			
Manganese	4.5	0.010	2.500	2.208	93.2	70	130			

Sample ID	**1709A79-004DMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**OW-57**	Batch ID: **A46143**			RunNo: **46143**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1469495**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	360	5.0	250.0	111.8	100	70	130	1.31	20	
Manganese	4.5	0.010	2.500	2.208	91.1	70	130	1.16	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID	**MB-A**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**A46184**	RunNo:	**46184**					
Prep Date:		Analysis Date:	**10/6/2017**	SeqNo:	**1471131**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID	**LLLCS-A**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A46184**	RunNo:	**46184**					
Prep Date:		Analysis Date:	**10/6/2017**	SeqNo:	**1471133**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.024	0.020	0.02000	0	122	50	150			

Sample ID	**LCS-A**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**A46184**	RunNo:	**46184**					
Prep Date:		Analysis Date:	**10/6/2017**	SeqNo:	**1471135**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.48	0.020	0.5000	0	96.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **MB-34084**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34084**	RunNo: **45956**
Prep Date: **9/26/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460873** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-34084**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34084**	RunNo: **45956**
Prep Date: **9/26/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460877** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0024	0.0020	0.002000	0	118	50	150			
Cadmium	0.0019	0.0020	0.002000	0	94.0	50	150			J
Chromium	0.0064	0.0060	0.006000	0	106	50	150			
Copper	0.0068	0.0060	0.006000	0	113	50	150			
Iron	0.023	0.020	0.02000	0	114	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0054	0.0050	0.005000	0	108	50	150			
Zinc	0.0055	0.010	0.005000	0	109	50	150			J

Sample ID **LCS-34084**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34084**	RunNo: **45956**
Prep Date: **9/26/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460878** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.2	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.49	0.020	0.5000	0	98.2	85	115			
Manganese	0.48	0.0020	0.5000	0	95.2	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Zinc	0.46	0.010	0.5000	0	91.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455122**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.3	85	115			
Lead	0.012	0.00050	0.01250	0	95.6	85	115			
Selenium	0.023	0.0010	0.02500	0	93.4	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455123**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00049	0.00050	0.0005000	0	97.7	50	150			J
Selenium	0.0010	0.0010	0.001000	0	104	50	150			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455124**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID	**MB-34084**	SampType: **MBLK**		TestCode: **200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID: **34084**		RunNo: **45926**					
Prep Date:	**9/26/2017**	Analysis Date: **9/27/2017**		SeqNo: **1459663**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-34084**	SampType: **LCS**		TestCode: **200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID: **34084**		RunNo: **45926**					
Prep Date:	**9/26/2017**	Analysis Date: **9/27/2017**		SeqNo: **1459665**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.013	0.00050	0.01250	0	103	85	115			
Selenium	0.024	0.0010	0.02500	0	95.9	85	115			

Sample ID	**MSLLLCS-34084**	SampType: **LCSLL**		TestCode: **200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID: **34084**		RunNo: **45926**					
Prep Date:	**9/26/2017**	Analysis Date: **9/27/2017**		SeqNo: **1459667**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00097	0.0010	0.001000	0	97.0	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.1	50	150			J
Selenium	0.00091	0.0010	0.001000	0	90.8	50	150			J

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID	**MB-34117**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34117**	RunNo:	**45976**					
Prep Date:	**9/28/2017**	Analysis Date:	**9/28/2017**	SeqNo:	**1461478**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34117**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34117**	RunNo:	**45976**					
Prep Date:	**9/28/2017**	Analysis Date:	**9/28/2017**	SeqNo:	**1461479**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.7	80	120			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45780**	RunNo: **45780**
Prep Date:	Analysis Date: **9/20/2017**	SeqNo: **1454510** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45780**	RunNo: **45780**
Prep Date:	Analysis Date: **9/20/2017**	SeqNo: **1454511** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.6	0.50	5.000	0	92.6	90	110			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	93.3	90	110			
Bromide	2.4	0.10	2.500	0	95.3	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.2	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	93.4	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A46049**	RunNo: **46049**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1464287** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	0.11	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A46049**	RunNo: **46049**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1464288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	10	0.50	10.00	0	103	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **LCS-34023**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range**					
Client ID: **LCSW**	Batch ID: **34023**			RunNo: **45861**					
Prep Date: **9/22/2017**	Analysis Date: **9/25/2017**			SeqNo: **1457346**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	113	92.3	135			
Surr: DNOP	0.61		0.5000		122	72.4	157			

Sample ID **MB-34023**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range**					
Client ID: **PBW**	Batch ID: **34023**			RunNo: **45861**					
Prep Date: **9/22/2017**	Analysis Date: **9/25/2017**			SeqNo: **1457347**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		127	72.4	157			

Sample ID **1709A79-003BMS**	SampType: **MS**			TestCode: **EPA Method 8015M/D: Diesel Range**					
Client ID: **OW-12**	Batch ID: **34023**			RunNo: **45861**					
Prep Date: **9/22/2017**	Analysis Date: **9/25/2017**			SeqNo: **1457538**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	117	83.3	151			
Surr: DNOP	0.64		0.5000		127	72.4	157			

Sample ID **1709A79-003BMSD**	SampType: **MSD**			TestCode: **EPA Method 8015M/D: Diesel Range**					
Client ID: **OW-12**	Batch ID: **34023**			RunNo: **45861**					
Prep Date: **9/22/2017**	Analysis Date: **9/25/2017**			SeqNo: **1457539**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	83.3	151	0.358	20	
Surr: DNOP	0.63		0.5000		127	72.4	157	0	0	

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **B27**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G45793**	RunNo: **45793**
Prep Date:	Analysis Date: **9/21/2017**	SeqNo: **1455013** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		100	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G45793**	RunNo: **45793**
Prep Date:	Analysis Date: **9/21/2017**	SeqNo: **1455014** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	105	75.8	123			
Surr: BFB	23		20.00		115	52.3	138			

Qualifiers:

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QC SUMMARY REPORT

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WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R45920**	RunNo: **45920**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1459384** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.3	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45920**	RunNo: **45920**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1459385** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45920**	RunNo: **45920**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1459385** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45920**	RunNo: **45920**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1459385** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

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WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **lcs-34036**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460044** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	68	10	100.0	0	67.5	41.2	98.9			
4-Chloro-3-methylphenol	150	10	200.0	0	75.1	29.1	111			
2-Chlorophenol	130	10	200.0	0	62.6	23.3	108			
1,4-Dichlorobenzene	58	10	100.0	0	57.8	29.4	84.5			
2,4-Dinitrotoluene	63	10	100.0	0	62.7	36.6	88.7			
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.9	46.9	106			
4-Nitrophenol	94	10	200.0	0	47.1	15	74.7			
Pentachlorophenol	82	20	200.0	0	41.2	28.1	85.4			
Phenol	93	10	200.0	0	46.6	15	78.2			
Pyrene	78	10	100.0	0	78.2	44.4	96.8			
1,2,4-Trichlorobenzene	72	10	100.0	0	72.1	34.3	89			
Surr: 2-Fluorophenol	100		200.0		51.2	15	88			
Surr: Phenol-d5	100		200.0		49.9	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		69.7	15	117			
Surr: Nitrobenzene-d5	75		100.0		75.2	33.5	120			
Surr: 2-Fluorobiphenyl	70		100.0		70.5	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		58.8	21.7	98.7			

Sample ID **lcsd-34036**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460046** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	70.0	41.2	98.9	3.52	37.4	
4-Chloro-3-methylphenol	140	10	200.0	0	72.0	29.1	111	4.19	26.8	
2-Chlorophenol	130	10	200.0	0	65.2	23.3	108	4.12	30.3	
1,4-Dichlorobenzene	62	10	100.0	0	62.4	29.4	84.5	7.55	32	
2,4-Dinitrotoluene	62	10	100.0	0	61.8	36.6	88.7	1.41	36.7	
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.9	46.9	106	0.0267	29.9	
4-Nitrophenol	90	10	200.0	0	45.2	15	74.7	4.05	28.8	
Pentachlorophenol	93	20	200.0	0	46.5	28.1	85.4	12.2	38.2	
Phenol	98	10	200.0	0	49.1	15	78.2	5.21	39.8	
Pyrene	82	10	100.0	0	82.2	44.4	96.8	5.01	28.3	
1,2,4-Trichlorobenzene	75	10	100.0	0	74.6	34.3	89	3.35	39.8	
Surr: 2-Fluorophenol	100		200.0		51.9	15	88	0	0	
Surr: Phenol-d5	110		200.0		52.8	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	140		200.0		68.5	15	117	0	0	
Surr: Nitrobenzene-d5	77		100.0		76.9	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	75		100.0		74.8	26.5	109	0	0	

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **lcsd-34036**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460046** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	59		100.0		58.6	21.7	98.7	0	0	

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**	
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A79**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter (PO#20837992 CO #1)

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	71		200.0		35.3	15	88			
Surr: Phenol-d5	64		200.0		31.9	15	72.4			
Surr: 2,4,6-Tribromophenol	110		200.0		56.1	15	117			
Surr: Nitrobenzene-d5	75		100.0		74.7	33.5	120			
Surr: 2-Fluorobiphenyl	69		100.0		68.7	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		59.0	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709A79** RcptNo: **1**

Received By: **Sophia Campuzano** **9/19/2017 4:24:00 PM** Sophia Campuzano

Completed By: **Anne Thorne** **9/20/2017 9:32:50 AM** Anne Thorne

Reviewed By: 9/20/17

Chain of Custody

A 09/19/17

1. Custody seals intact on sample bottles?	Yes ☒	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 4 (<2 or >12 unless noted)

Adjusted? no

Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

! Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

2017 3rd Quarter **(PO #20837992 CO #1)**

Project #:

OW-12, 57, 58; RW-2

Project Manager:

C. JOHNSON (cheryl.a.johnson@andeavor.com)

Sampler:

On Ice: X Yes ☐ No

Sample Temperature: 3.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709A79	8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GRO/DRO/MRO)	8270	MAJOR CATIONS/ANIONS							Air Bubbles (Y or N)
							Analysis Request												
9/19/2017	700	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001	X												
9/19/2017	700	aqueous	TRIP BLANK	3-40ML VOAS	HCL	-002	X												
9/19/2017	950	aqueous	OW-12	Misc	Misc	-003	X	X	X	X		X							
9/19/2017	1050	aqueous	OW-57	Misc	Misc	-004	X	X	X	X	X	X							
9/19/2017	1215	aqueous	OW-58	Misc	Misc	-005	X	X	X	X	X	X							
9/19/2017	1125	aqueous	RW-2	Misc	Misc	-006	X			X									

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/19/17	1400			9/19/17	1400
9/19/17	1624		Sydney Cox	09/19/17	1624

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS - MINUS URANIUM

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

client

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 16, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd Quarter/Annual PW Wells OrderNo.: 1709A84

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 9/19/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FIELD BLANK
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 7:00:00 AM
Lab ID: 1709A84-001
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.17	0.062	1.0	J	µg/L	1	9/27/2017 4:56:10 PM	A45921
Toluene	0.41	0.064	1.0	J	µg/L	1	9/27/2017 4:56:10 PM	A45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1-Methylnaphthalene	0.56	0.16	4.0	J	µg/L	1	9/27/2017 4:56:10 PM	A45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Acetone	ND	0.82	10		µg/L	1	9/27/2017 4:56:10 PM	A45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 4:56:10 PM	A45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 4:56:10 PM	A45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 4:56:10 PM	A45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FIELD BLANK
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 7:00:00 AM
Lab ID: 1709A84-001
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 4:56:10 PM	A45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 4:56:10 PM	A45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 4:56:10 PM	A45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 4:56:10 PM	A45921
Surr: 1,2-Dichloroethane-d4	97.8	0	70-130		%Rec	1	9/27/2017 4:56:10 PM	A45921
Surr: 4-Bromofluorobenzene	96.9	0	70-130		%Rec	1	9/27/2017 4:56:10 PM	A45921
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	9/27/2017 4:56:10 PM	A45921
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	9/27/2017 4:56:10 PM	A45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date:
Lab ID: 1709A84-002
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Acetone	ND	0.82	10		µg/L	1	9/27/2017 5:24:53 PM	A45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 5:24:53 PM	A45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 5:24:53 PM	A45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 5:24:53 PM	A45921

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date:
Lab ID: 1709A84-002
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 5:24:53 PM	A45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 5:24:53 PM	A45921
Methylene Chloride	0.40	0.11	3.0	J	µg/L	1	9/27/2017 5:24:53 PM	A45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 5:24:53 PM	A45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 5:24:53 PM	A45921
Surr: 1,2-Dichloroethane-d4	98.7	0	70-130		%Rec	1	9/27/2017 5:24:53 PM	A45921
Surr: 4-Bromofluorobenzene	95.3	0	70-130		%Rec	1	9/27/2017 5:24:53 PM	A45921
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	9/27/2017 5:24:53 PM	A45921
Surr: Toluene-d8	99.0	0	70-130		%Rec	1	9/27/2017 5:24:53 PM	A45921
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	9/27/2017 5:24:53 PM	D45921
Surr: BFB	91.9	0	70-130		%Rec	1	9/27/2017 5:24:53 PM	D45921

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-3
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 11:25:00 AM
Lab ID: 1709A84-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/3/2017 5:28:51 AM	A46049
Chloride	34	1.2	2.5		mg/L	5	9/26/2017 3:10:19 AM	A45874
Bromide	0.30	0.073	0.50	J	mg/L	5	9/26/2017 3:10:19 AM	A45874
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 3:10:19 AM	A45874
Sulfate	770	1.9	10		mg/L	20	9/26/2017 3:22:44 AM	A45874
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/26/2017 5:39:17 AM	A45874
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.011	0.00085	0.0020		mg/L	1	10/4/2017 4:14:28 PM	C46098
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 4:14:28 PM	C46098
Calcium	250	0.78	10		mg/L	10	10/4/2017 4:16:14 PM	C46098
Chromium	ND	0.0013	0.0060		mg/L	1	10/4/2017 4:14:28 PM	C46098
Copper	ND	0.0032	0.0060		mg/L	1	10/4/2017 4:14:28 PM	C46098
Iron	0.055	0.016	0.020		mg/L	1	10/4/2017 4:14:28 PM	C46098
Magnesium	49	0.25	1.0		mg/L	1	10/4/2017 4:14:28 PM	C46098
Manganese	0.0020	0.00039	0.0020	J	mg/L	1	10/5/2017 10:52:38 PM	B46143
Potassium	1.5	0.11	1.0		mg/L	1	10/4/2017 4:14:28 PM	C46098
Silver	ND	0.0018	0.0050		mg/L	1	10/9/2017 5:59:51 PM	C46201
Sodium	62	0.16	1.0		mg/L	1	10/4/2017 4:14:28 PM	C46098
Zinc	0.038	0.0021	0.010		mg/L	1	10/5/2017 10:52:38 PM	B46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.010	0.00093	0.0020		mg/L	1	10/2/2017 4:39:43 PM	34158
Cadmium	ND	0.00058	0.0020		mg/L	1	10/2/2017 4:39:43 PM	34158
Chromium	ND	0.0018	0.0060		mg/L	1	10/2/2017 4:39:43 PM	34158
Copper	ND	0.0017	0.0060		mg/L	1	10/2/2017 4:39:43 PM	34158
Iron	0.12	0.010	0.020		mg/L	1	10/2/2017 4:39:43 PM	34158
Manganese	0.0021	0.0011	0.0020		mg/L	1	10/2/2017 4:39:43 PM	34158
Silver	ND	0.0012	0.0050		mg/L	1	10/2/2017 4:39:43 PM	34158
Zinc	0.0039	0.0033	0.010	J	mg/L	1	10/5/2017 9:50:05 PM	34158
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0038	0.00018	0.0010		mg/L	1	9/21/2017 4:23:17 PM	B45795
Lead	ND	0.00017	0.00050		mg/L	1	9/21/2017 4:23:17 PM	B45795
Selenium	0.0022	0.00039	0.0010		mg/L	1	9/21/2017 4:23:17 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0036	0.00030	0.0010		mg/L	1	10/3/2017 11:02:35 AM	34158
Lead	ND	0.000095	0.00050		mg/L	1	10/2/2017 1:04:01 PM	34158
Selenium	0.0014	0.00071	0.0010		mg/L	1	10/3/2017 11:02:35 AM	34158
Uranium	0.0016	0.00015	0.00050		mg/L	1	10/2/2017 1:04:01 PM	34158

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-3
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 11:25:00 AM
Lab ID: 1709A84-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/3/2017 8:54:34 AM	34186
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Benzoic acid	ND	3.9	20		µg/L	1	9/28/2017 6:20:11 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Bis(2-ethylhexyl)phthalate	5.2	4.8	10	J	µg/L	1	9/28/2017 6:20:11 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Di-n-octyl phthalate	4.8	4.7	10	J	µg/L	1	9/28/2017 6:20:11 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/28/2017 6:20:11 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/28/2017 6:20:11 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 6:20:11 PM	34036
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/28/2017 6:20:11 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/28/2017 6:20:11 PM	34036

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-3
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 11:25:00 AM
Lab ID: 1709A84-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/28/2017 6:20:11 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/28/2017 6:20:11 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/28/2017 6:20:11 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/28/2017 6:20:11 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/28/2017 6:20:11 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/28/2017 6:20:11 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/28/2017 6:20:11 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/28/2017 6:20:11 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/28/2017 6:20:11 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/28/2017 6:20:11 PM	34036
Surr: 2-Fluorophenol	59.4	0	15-88		%Rec	1	9/28/2017 6:20:11 PM	34036
Surr: Phenol-d5	45.4	0	15-72.4		%Rec	1	9/28/2017 6:20:11 PM	34036
Surr: 2,4,6-Tribromophenol	87.0	0	15-117		%Rec	1	9/28/2017 6:20:11 PM	34036
Surr: Nitrobenzene-d5	93.0	0	33.5-120		%Rec	1	9/28/2017 6:20:11 PM	34036
Surr: 2-Fluorobiphenyl	83.8	0	26.5-109		%Rec	1	9/28/2017 6:20:11 PM	34036

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-3
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 11:25:00 AM
Lab ID: 1709A84-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 4-Terphenyl-d14	69.4	0	21.7-98.7		%Rec	1	9/28/2017 6:20:11 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Acetone	ND	0.82	10		µg/L	1	9/27/2017 5:53:35 PM	A45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 5:53:35 PM	A45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 5:53:35 PM	A45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: PW-3
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 11:25:00 AM
Lab ID: 1709A84-003
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 5:53:35 PM	A45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 5:53:35 PM	A45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 5:53:35 PM	A45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 5:53:35 PM	A45921
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	1	9/27/2017 5:53:35 PM	A45921
Surr: 4-Bromofluorobenzene	96.9	0	70-130		%Rec	1	9/27/2017 5:53:35 PM	A45921
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	9/27/2017 5:53:35 PM	A45921
Surr: Toluene-d8	99.9	0	70-130		%Rec	1	9/27/2017 5:53:35 PM	A45921

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-4
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:10:00 PM
Lab ID: 1709A84-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/26/2017 3:35:09 AM	A45874
Chloride	7.4	1.2	2.5		mg/L	5	9/26/2017 3:35:09 AM	A45874
Bromide	ND	0.073	0.50		mg/L	5	9/26/2017 3:35:09 AM	A45874
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 3:35:09 AM	A45874
Sulfate	410	1.9	10		mg/L	20	9/26/2017 3:47:33 AM	A45874
Nitrate+Nitrite as N	0.18	0.13	1.0	J	mg/L	5	9/26/2017 5:51:42 AM	A45874
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.014	0.00085	0.0020		mg/L	1	10/4/2017 4:18:07 PM	C46098
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 4:18:07 PM	C46098
Calcium	180	0.78	10		mg/L	10	10/4/2017 4:20:06 PM	C46098
Chromium	ND	0.0013	0.0060		mg/L	1	10/4/2017 4:18:07 PM	C46098
Copper	ND	0.0032	0.0060		mg/L	1	10/4/2017 4:18:07 PM	C46098
Iron	0.040	0.016	0.020		mg/L	1	10/4/2017 4:18:07 PM	C46098
Magnesium	39	0.25	1.0		mg/L	1	10/4/2017 4:18:07 PM	C46098
Manganese	0.00074	0.00039	0.0020	J	mg/L	1	10/5/2017 10:54:25 PM	B46143
Potassium	1.2	0.11	1.0		mg/L	1	10/4/2017 4:18:07 PM	C46098
Silver	ND	0.0018	0.0050		mg/L	1	10/9/2017 6:07:16 PM	C46201
Sodium	16	0.16	1.0		mg/L	1	10/4/2017 4:18:07 PM	C46098
Zinc	0.053	0.0021	0.010		mg/L	1	10/5/2017 10:54:25 PM	B46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.013	0.00093	0.0020		mg/L	1	10/4/2017 9:30:04 PM	34158
Cadmium	ND	0.00058	0.0020		mg/L	1	10/4/2017 9:30:04 PM	34158
Chromium	ND	0.0018	0.0060		mg/L	1	10/4/2017 9:30:04 PM	34158
Copper	ND	0.0017	0.0060		mg/L	1	10/4/2017 9:30:04 PM	34158
Iron	0.087	0.010	0.020		mg/L	1	10/4/2017 9:30:04 PM	34158
Manganese	ND	0.0011	0.0020		mg/L	1	10/4/2017 9:30:04 PM	34158
Silver	ND	0.0012	0.0050		mg/L	1	10/4/2017 9:30:04 PM	34158
Zinc	ND	0.0033	0.010		mg/L	1	10/5/2017 9:55:42 PM	34158
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0031	0.00018	0.0010		mg/L	1	9/21/2017 4:26:21 PM	B45795
Lead	ND	0.00017	0.00050		mg/L	1	9/21/2017 4:26:21 PM	B45795
Selenium	0.0016	0.00039	0.0010		mg/L	1	9/21/2017 4:26:21 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0029	0.00030	0.0010		mg/L	1	10/3/2017 11:05:36 AM	34158
Lead	ND	0.000095	0.00050		mg/L	1	10/2/2017 1:07:02 PM	34158
Selenium	0.0012	0.00071	0.0010		mg/L	1	10/3/2017 11:05:36 AM	34158
Uranium	0.0016	0.00015	0.00050		mg/L	1	10/2/2017 1:07:02 PM	34158

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-4
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:10:00 PM
Lab ID: 1709A84-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/3/2017 8:56:30 AM	34186
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Benzoic acid	ND	3.9	20		µg/L	1	9/28/2017 6:48:13 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Bis(2-ethylhexyl)phthalate	5.3	4.8	10	J	µg/L	1	9/28/2017 6:48:13 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/28/2017 6:48:13 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/28/2017 6:48:13 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 6:48:13 PM	34036
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/28/2017 6:48:13 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/28/2017 6:48:13 PM	34036

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Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:10:00 PM
Lab ID: 1709A84-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/28/2017 6:48:13 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/28/2017 6:48:13 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/28/2017 6:48:13 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/28/2017 6:48:13 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/28/2017 6:48:13 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/28/2017 6:48:13 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/28/2017 6:48:13 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/28/2017 6:48:13 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/28/2017 6:48:13 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/28/2017 6:48:13 PM	34036
Surr: 2-Fluorophenol	44.1	0	15-88		%Rec	1	9/28/2017 6:48:13 PM	34036
Surr: Phenol-d5	33.9	0	15-72.4		%Rec	1	9/28/2017 6:48:13 PM	34036
Surr: 2,4,6-Tribromophenol	73.3	0	15-117		%Rec	1	9/28/2017 6:48:13 PM	34036
Surr: Nitrobenzene-d5	73.4	0	33.5-120		%Rec	1	9/28/2017 6:48:13 PM	34036
Surr: 2-Fluorobiphenyl	72.3	0	26.5-109		%Rec	1	9/28/2017 6:48:13 PM	34036

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-4
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:10:00 PM
Lab ID: 1709A84-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 4-Terphenyl-d14	62.9	0	21.7-98.7		%Rec	1	9/28/2017 6:48:13 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Acetone	ND	0.82	10		µg/L	1	9/27/2017 6:22:10 PM	A45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 6:22:10 PM	A45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 6:22:10 PM	A45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-4
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:10:00 PM
Lab ID: 1709A84-004
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 6:22:10 PM	A45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 6:22:10 PM	A45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 6:22:10 PM	A45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 6:22:10 PM	A45921
Surr: 1,2-Dichloroethane-d4	95.0	0	70-130		%Rec	1	9/27/2017 6:22:10 PM	A45921
Surr: 4-Bromofluorobenzene	97.9	0	70-130		%Rec	1	9/27/2017 6:22:10 PM	A45921
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	9/27/2017 6:22:10 PM	A45921
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	9/27/2017 6:22:10 PM	A45921

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-2
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:40:00 PM
Lab ID: 1709A84-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/3/2017 5:41:15 AM	A46049
Chloride	6.8	1.2	2.5		mg/L	5	9/26/2017 3:59:59 AM	A45874
Bromide	ND	0.073	0.50		mg/L	5	9/26/2017 3:59:59 AM	A45874
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 3:59:59 AM	A45874
Sulfate	340	1.9	10		mg/L	20	9/26/2017 4:12:23 AM	A45874
Nitrate+Nitrite as N	0.19	0.13	1.0	J	mg/L	5	9/26/2017 6:04:07 AM	A45874
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.014	0.00085	0.0020		mg/L	1	10/4/2017 4:21:56 PM	C46098
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 4:21:56 PM	C46098
Calcium	160	0.78	10		mg/L	10	10/4/2017 4:23:54 PM	C46098
Chromium	ND	0.0013	0.0060		mg/L	1	10/4/2017 4:21:56 PM	C46098
Copper	ND	0.0032	0.0060		mg/L	1	10/4/2017 4:21:56 PM	C46098
Iron	0.028	0.016	0.020		mg/L	1	10/4/2017 4:21:56 PM	C46098
Magnesium	37	0.25	1.0		mg/L	1	10/4/2017 4:21:56 PM	C46098
Manganese	0.0012	0.00039	0.0020	J	mg/L	1	10/5/2017 10:56:22 PM	B46143
Potassium	1.3	0.11	1.0		mg/L	1	10/4/2017 4:21:56 PM	C46098
Silver	ND	0.0018	0.0050		mg/L	1	10/9/2017 6:09:00 PM	C46201
Sodium	18	0.16	1.0		mg/L	1	10/4/2017 4:21:56 PM	C46098
Zinc	0.041	0.0021	0.010		mg/L	1	10/5/2017 10:56:22 PM	B46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.013	0.00093	0.0020		mg/L	1	10/2/2017 5:43:29 PM	34158
Cadmium	ND	0.00058	0.0020		mg/L	1	10/2/2017 5:43:29 PM	34158
Chromium	ND	0.0018	0.0060		mg/L	1	10/2/2017 5:43:29 PM	34158
Copper	ND	0.0017	0.0060		mg/L	1	10/2/2017 5:43:29 PM	34158
Iron	0.042	0.010	0.020		mg/L	1	10/2/2017 5:43:29 PM	34158
Manganese	0.0033	0.0011	0.0020		mg/L	1	10/2/2017 5:43:29 PM	34158
Silver	ND	0.0012	0.0050		mg/L	1	10/2/2017 5:43:29 PM	34158
Zinc	0.0071	0.0033	0.010	J	mg/L	1	10/2/2017 5:43:29 PM	34158
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0031	0.00018	0.0010		mg/L	1	9/21/2017 4:35:33 PM	B45795
Lead	ND	0.00017	0.00050		mg/L	1	9/21/2017 4:35:33 PM	B45795
Selenium	0.0017	0.00039	0.0010		mg/L	1	9/21/2017 4:35:33 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0031	0.00030	0.0010		mg/L	1	10/3/2017 11:14:40 AM	34158
Lead	ND	0.000095	0.00050		mg/L	1	10/3/2017 11:14:40 AM	34158
Selenium	0.0011	0.00071	0.0010		mg/L	1	10/3/2017 11:14:40 AM	34158
Uranium	0.0023	0.00015	0.00050		mg/L	1	10/3/2017 11:14:40 AM	34158

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-2
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:40:00 PM
Lab ID: 1709A84-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/3/2017 8:58:26 AM	34186
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Benzoic acid	10	3.9	20	J	µg/L	1	9/28/2017 7:16:16 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	9/28/2017 7:16:16 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Di-n-octyl phthalate	5.1	4.7	10	J	µg/L	1	9/28/2017 7:16:16 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/28/2017 7:16:16 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/28/2017 7:16:16 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 7:16:16 PM	34036
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/28/2017 7:16:16 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/28/2017 7:16:16 PM	34036

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-2
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:40:00 PM
Lab ID: 1709A84-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/28/2017 7:16:16 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/28/2017 7:16:16 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/28/2017 7:16:16 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/28/2017 7:16:16 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/28/2017 7:16:16 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/28/2017 7:16:16 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/28/2017 7:16:16 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/28/2017 7:16:16 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/28/2017 7:16:16 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/28/2017 7:16:16 PM	34036
Surr: 2-Fluorophenol	31.2	0	15-88		%Rec	1	9/28/2017 7:16:16 PM	34036
Surr: Phenol-d5	29.6	0	15-72.4		%Rec	1	9/28/2017 7:16:16 PM	34036
Surr: 2,4,6-Tribromophenol	61.9	0	15-117		%Rec	1	9/28/2017 7:16:16 PM	34036
Surr: Nitrobenzene-d5	71.7	0	33.5-120		%Rec	1	9/28/2017 7:16:16 PM	34036
Surr: 2-Fluorobiphenyl	75.6	0	26.5-109		%Rec	1	9/28/2017 7:16:16 PM	34036

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-2
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:40:00 PM
Lab ID: 1709A84-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 4-Terphenyl-d14	65.8	0	21.7-98.7		%Rec	1	9/28/2017 7:16:16 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Acetone	24	0.82	10		µg/L	1	9/27/2017 6:50:51 PM	A45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 6:50:51 PM	A45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 6:50:51 PM	A45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: PW-2
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:40:00 PM
Lab ID: 1709A84-005
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 6:50:51 PM	A45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 6:50:51 PM	A45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 6:50:51 PM	A45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 6:50:51 PM	A45921
Surr: 1,2-Dichloroethane-d4	97.7	0	70-130		%Rec	1	9/27/2017 6:50:51 PM	A45921
Surr: 4-Bromofluorobenzene	97.8	0	70-130		%Rec	1	9/27/2017 6:50:51 PM	A45921
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	9/27/2017 6:50:51 PM	A45921
Surr: Toluene-d8	97.5	0	70-130		%Rec	1	9/27/2017 6:50:51 PM	A45921

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:50:00 PM
Lab ID: 1709A84-006
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/3/2017 5:53:40 AM	A46049
Chloride	6.5	1.2	2.5		mg/L	5	9/26/2017 4:24:48 AM	A45874
Bromide	ND	0.073	0.50		mg/L	5	9/26/2017 4:24:48 AM	A45874
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 4:24:48 AM	A45874
Sulfate	370	1.9	10		mg/L	20	9/26/2017 4:37:13 AM	A45874
Nitrate+Nitrite as N	0.19	0.13	1.0	J	mg/L	5	9/26/2017 6:16:31 AM	A45874
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.014	0.00085	0.0020		mg/L	1	10/4/2017 4:25:45 PM	C46098
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 4:25:45 PM	C46098
Calcium	160	0.78	10		mg/L	10	10/4/2017 4:27:43 PM	C46098
Chromium	ND	0.0013	0.0060		mg/L	1	10/4/2017 4:25:45 PM	C46098
Copper	ND	0.0032	0.0060		mg/L	1	10/4/2017 4:25:45 PM	C46098
Iron	0.030	0.016	0.020		mg/L	1	10/4/2017 4:25:45 PM	C46098
Magnesium	37	0.25	1.0		mg/L	1	10/4/2017 4:25:45 PM	C46098
Manganese	0.0013	0.00039	0.0020	J	mg/L	1	10/5/2017 10:58:21 PM	B46143
Potassium	1.3	0.11	1.0		mg/L	1	10/4/2017 4:25:45 PM	C46098
Silver	ND	0.0018	0.0050		mg/L	1	10/9/2017 6:10:57 PM	C46201
Sodium	18	0.16	1.0		mg/L	1	10/4/2017 4:25:45 PM	C46098
Zinc	0.098	0.0021	0.010		mg/L	1	10/5/2017 10:58:21 PM	B46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.013	0.00093	0.0020		mg/L	1	10/2/2017 5:47:17 PM	34158
Cadmium	ND	0.00058	0.0020		mg/L	1	10/2/2017 5:47:17 PM	34158
Chromium	ND	0.0018	0.0060		mg/L	1	10/2/2017 5:47:17 PM	34158
Copper	ND	0.0017	0.0060		mg/L	1	10/2/2017 5:47:17 PM	34158
Iron	0.040	0.010	0.020		mg/L	1	10/2/2017 5:47:17 PM	34158
Manganese	0.0033	0.0011	0.0020		mg/L	1	10/2/2017 5:47:17 PM	34158
Silver	ND	0.0012	0.0050		mg/L	1	10/2/2017 5:47:17 PM	34158
Zinc	0.0066	0.0033	0.010	J	mg/L	1	10/2/2017 5:47:17 PM	34158
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0030	0.00018	0.0010		mg/L	1	9/21/2017 4:38:36 PM	B45795
Lead	ND	0.00017	0.00050		mg/L	1	9/21/2017 4:38:36 PM	B45795
Selenium	0.0015	0.00039	0.0010		mg/L	1	9/21/2017 4:38:36 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0027	0.00030	0.0010		mg/L	1	10/3/2017 11:17:41 AM	34158
Lead	ND	0.000095	0.00050		mg/L	1	10/3/2017 11:17:41 AM	34158
Selenium	0.0012	0.00071	0.0010		mg/L	1	10/3/2017 11:17:41 AM	34158
Uranium	0.0023	0.00015	0.00050		mg/L	1	10/3/2017 11:17:41 AM	34158

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:50:00 PM
Lab ID: 1709A84-006
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/3/2017 9:00:22 AM	34186
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Benzoic acid	7.4	3.9	20	J	µg/L	1	9/28/2017 7:44:14 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Bis(2-ethylhexyl)phthalate	5.2	4.8	10	J	µg/L	1	9/28/2017 7:44:14 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/28/2017 7:44:14 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/28/2017 7:44:14 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 7:44:14 PM	34036
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/28/2017 7:44:14 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/28/2017 7:44:14 PM	34036

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 12:50:00 PM
Lab ID: 1709A84-006
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/28/2017 7:44:14 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/28/2017 7:44:14 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/28/2017 7:44:14 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/28/2017 7:44:14 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/28/2017 7:44:14 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/28/2017 7:44:14 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/28/2017 7:44:14 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/28/2017 7:44:14 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/28/2017 7:44:14 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/28/2017 7:44:14 PM	34036
Surr: 2-Fluorophenol	45.2	0	15-88		%Rec	1	9/28/2017 7:44:14 PM	34036
Surr: Phenol-d5	37.4	0	15-72.4		%Rec	1	9/28/2017 7:44:14 PM	34036
Surr: 2,4,6-Tribromophenol	71.9	0	15-117		%Rec	1	9/28/2017 7:44:14 PM	34036
Surr: Nitrobenzene-d5	79.3	0	33.5-120		%Rec	1	9/28/2017 7:44:14 PM	34036
Surr: 2-Fluorobiphenyl	76.2	0	26.5-109		%Rec	1	9/28/2017 7:44:14 PM	34036

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Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 4-Terphenyl-d14	63.0	0	21.7-98.7		%Rec	1	9/28/2017 7:44:14 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Acetone	7.6	0.82	10	J	µg/L	1	9/27/2017 7:19:21 PM	A45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 7:19:21 PM	A45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 7:19:21 PM	A45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921

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Collection Date: 9/18/2017 12:50:00 PM
Lab ID: 1709A84-006
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 7:19:21 PM	A45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 7:19:21 PM	A45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 7:19:21 PM	A45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 7:19:21 PM	A45921
Surr: 1,2-Dichloroethane-d4	95.4	0	70-130		%Rec	1	9/27/2017 7:19:21 PM	A45921
Surr: 4-Bromofluorobenzene	95.6	0	70-130		%Rec	1	9/27/2017 7:19:21 PM	A45921
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	9/27/2017 7:19:21 PM	A45921
Surr: Toluene-d8	100	0	70-130		%Rec	1	9/27/2017 7:19:21 PM	A45921

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-11
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 2:20:00 PM
Lab ID: 1709A84-007
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/25/2017 9:23:51 PM	34023
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/25/2017 9:23:51 PM	34023
Surr: DNOP	130	0	72.4-157		%Rec	1	9/25/2017 9:23:51 PM	34023
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.7	0.22	0.50		mg/L	5	10/3/2017 6:06:05 AM	A46049
Chloride	97	5.0	10		mg/L	20	9/26/2017 5:02:03 AM	A45874
Bromide	0.42	0.073	0.50	J	mg/L	5	9/26/2017 4:49:38 AM	A45874
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 4:49:38 AM	A45874
Sulfate	850	4.8	25		mg/L	50	10/3/2017 6:43:19 AM	A46049
Nitrate+Nitrite as N	1.2	0.13	1.0		mg/L	5	9/26/2017 6:28:56 AM	A45874
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.0078	0.00085	0.0020		mg/L	1	10/4/2017 4:29:34 PM	C46098
Cadmium	ND	0.0010	0.0020		mg/L	1	10/4/2017 4:29:34 PM	C46098
Calcium	12	0.078	1.0		mg/L	1	10/4/2017 4:29:34 PM	C46098
Chromium	0.0020	0.0013	0.0060	J	mg/L	1	10/4/2017 4:29:34 PM	C46098
Copper	0.0044	0.0032	0.0060	J	mg/L	1	10/4/2017 4:29:34 PM	C46098
Iron	ND	0.016	0.020		mg/L	1	10/4/2017 4:29:34 PM	C46098
Magnesium	1.3	0.25	1.0		mg/L	1	10/4/2017 4:29:34 PM	C46098
Manganese	0.019	0.00039	0.0020		mg/L	1	10/5/2017 11:00:17 PM	B46143
Potassium	1.8	0.11	1.0		mg/L	1	10/4/2017 4:29:34 PM	C46098
Silver	ND	0.0018	0.0050		mg/L	1	10/9/2017 6:12:55 PM	C46201
Sodium	640	1.6	10		mg/L	10	10/4/2017 4:38:47 PM	C46098
Zinc	0.087	0.0021	0.010		mg/L	1	10/5/2017 11:00:17 PM	B46143
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.0077	0.00093	0.0020		mg/L	1	10/2/2017 5:57:04 PM	34158
Cadmium	ND	0.00058	0.0020		mg/L	1	10/2/2017 5:57:04 PM	34158
Chromium	ND	0.0018	0.0060		mg/L	1	10/2/2017 5:57:04 PM	34158
Copper	ND	0.0017	0.0060		mg/L	1	10/2/2017 5:57:04 PM	34158
Iron	0.011	0.010	0.020	J	mg/L	1	10/2/2017 5:57:04 PM	34158
Manganese	0.019	0.0011	0.0020		mg/L	1	10/2/2017 5:57:04 PM	34158
Silver	ND	0.0012	0.0050		mg/L	1	10/2/2017 5:57:04 PM	34158
Zinc	ND	0.0033	0.010		mg/L	1	10/2/2017 5:57:04 PM	34158
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0026	0.00018	0.0010		mg/L	1	9/21/2017 4:41:40 PM	B45795
Lead	ND	0.00017	0.00050		mg/L	1	9/21/2017 4:41:40 PM	B45795
Selenium	0.0042	0.00039	0.0010		mg/L	1	9/21/2017 4:41:40 PM	B45795
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	

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Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0029	0.0015	0.0050	J	mg/L	5	10/4/2017 5:37:16 PM	34158
Lead	ND	0.000095	0.00050		mg/L	1	10/3/2017 11:20:41 AM	34158
Selenium	0.0050	0.00071	0.0010		mg/L	1	10/3/2017 11:20:41 AM	34158
Uranium	0.21	0.0015	0.0050	*	mg/L	10	10/4/2017 5:42:24 PM	34158
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/3/2017 9:02:19 AM	34186
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Toluene	ND	0.064	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Acetone	5.9	0.82	10	J	µg/L	1	9/27/2017 7:47:57 PM	A45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Bromoform	ND	0.21	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
2-Butanone	ND	1.1	10		µg/L	1	9/27/2017 7:47:57 PM	A45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/27/2017 7:47:57 PM	A45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Chloroform	ND	0.40	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-11
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 2:20:00 PM
Lab ID: 1709A84-007
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
2-Hexanone	ND	0.66	10		µg/L	1	9/27/2017 7:47:57 PM	A45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/27/2017 7:47:57 PM	A45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Styrene	ND	0.16	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/27/2017 7:47:57 PM	A45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/27/2017 7:47:57 PM	A45921
Surr: 1,2-Dichloroethane-d4	99.4	0	70-130		%Rec	1	9/27/2017 7:47:57 PM	A45921
Surr: 4-Bromofluorobenzene	95.1	0	70-130		%Rec	1	9/27/2017 7:47:57 PM	A45921
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	9/27/2017 7:47:57 PM	A45921
Surr: Toluene-d8	99.7	0	70-130		%Rec	1	9/27/2017 7:47:57 PM	A45921
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-11
Project: 2017 3rd Quarter/Annual PW Wells
Collection Date: 9/18/2017 2:20:00 PM
Lab ID: 1709A84-007
Matrix: AQUEOUS
Received Date: 9/19/2017 4:24:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	9/27/2017 7:47:57 PM	D45921
Surr: BFB	90.4	0	70-130		%Rec	1	9/27/2017 7:47:57 PM	D45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	09/30/2017 14:54	WG1025416

1 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/30/2017 14:55	WG1025416

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/30/2017 14:56	WG1025416

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/30/2017 14:57	WG1025416

Method Blank (MB)

(MB) R3253672-1 09/30/17 14:40

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L938273-01 Original Sample (OS) • Duplicate (DUP)

(OS) L938273-01 09/30/17 14:46 • (DUP) R3253672-4 09/30/17 14:47

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.00291	1	0		20

L938534-01 Original Sample (OS) • Duplicate (DUP)

(OS) L938534-01 09/30/17 15:04 • (DUP) R3253672-7 09/30/17 15:05

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	U	0.00276	1	200	J P1	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3253672-2 09/30/17 14:41 • (LCSD) R3253672-3 09/30/17 14:42

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0985	0.0976	99	98	85-115			1	20

L938392-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L938392-01 09/30/17 14:58 • (MS) R3253672-5 09/30/17 14:59 • (MSD) R3253672-6 09/30/17 15:00

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0385	0.0690	36	67	1	75-125	J6	J3 J6	57	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C46098**	RunNo: **46098**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466556** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0011	0.0020								J
Cadmium	ND	0.0020								
Calcium	0.23	1.0								J
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	0.34	1.0								J

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C46098**	RunNo: **46098**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466557** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	93.5	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			
Calcium	0.54	1.0	0.5000	0	109	50	150			J
Chromium	0.0073	0.0060	0.006000	0	122	50	150			
Copper	0.0033	0.0060	0.006000	0	55.3	50	150			J
Iron	0.023	0.020	0.02000	0	113	50	150			
Magnesium	0.52	1.0	0.5000	0	105	50	150			J
Potassium	0.46	1.0	0.5000	0	91.8	50	150			J
Sodium	0.64	1.0	0.5000	0	128	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C46098**	RunNo: **46098**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466562** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Calcium	51	1.0	50.00	0	103	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.50	0.0060	0.5000	0	99.7	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Magnesium	50	1.0	50.00	0	99.1	85	115			
Potassium	48	1.0	50.00	0	96.4	85	115			
Sodium	48	1.0	50.00	0	96.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46143**	RunNo: **46143**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1469293** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46143**	RunNo: **46143**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1469296** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0022	0.0020	0.002000	0	110	50	150			
Zinc	0.0060	0.010	0.005000	0	119	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46143**	RunNo: **46143**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1469451** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.49	0.0020	0.5000	0	98.4	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C46201**	RunNo: **46201**
Prep Date:	Analysis Date: **10/9/2017**	SeqNo: **1471869** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C46201**	RunNo: **46201**
Prep Date:	Analysis Date: **10/9/2017**	SeqNo: **1471872** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0047	0.0050	0.005000	0	93.4	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C46201**	RunNo: **46201**
Prep Date:	Analysis Date: **10/9/2017**	SeqNo: **1471875** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **MB-34158**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34158**	RunNo: **46032**
Prep Date: **9/29/2017**	Analysis Date: **10/2/2017**	SeqNo: **1463922** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-34158**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34158**	RunNo: **46032**
Prep Date: **9/29/2017**	Analysis Date: **10/2/2017**	SeqNo: **1463923** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	102	50	150			
Cadmium	0.0022	0.0020	0.002000	0	111	50	150			
Chromium	0.0060	0.0060	0.006000	0	100	50	150			
Copper	0.0057	0.0060	0.006000	0	95.0	50	150			J
Iron	0.025	0.020	0.02000	0	126	50	150			
Manganese	0.0022	0.0020	0.002000	0	111	50	150			
Silver	0.0050	0.0050	0.005000	0	101	50	150			
Zinc	0.0058	0.010	0.005000	0	116	50	150			J

Sample ID **LCS-34158**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34158**	RunNo: **46032**
Prep Date: **9/29/2017**	Analysis Date: **10/2/2017**	SeqNo: **1463925** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.1	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Chromium	0.49	0.0060	0.5000	0	98.3	85	115			
Copper	0.50	0.0060	0.5000	0	99.3	85	115			
Iron	0.49	0.020	0.5000	0	98.2	85	115			
Manganese	0.48	0.0020	0.5000	0	96.5	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	96.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID	**1709A84-003DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PW-3**	Batch ID:	**34158**		RunNo:	**46032**				
Prep Date:	**9/29/2017**	Analysis Date:	**10/2/2017**		SeqNo:	**1463931**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0.01039	91.3	70	130			
Cadmium	0.47	0.0020	0.5000	0	94.4	70	130			
Chromium	0.46	0.0060	0.5000	0	91.5	70	130			
Copper	0.53	0.0060	0.5000	0	106	70	130			
Iron	0.57	0.020	0.5000	0.1227	89.4	70	130			
Manganese	0.46	0.0020	0.5000	0.002100	90.7	70	130			
Silver	0.10	0.0050	0.1000	0	105	70	130			

Sample ID	**1709A84-003DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PW-3**	Batch ID:	**34158**		RunNo:	**46032**				
Prep Date:	**9/29/2017**	Analysis Date:	**10/2/2017**		SeqNo:	**1463932**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0.01039	91.6	70	130	0.359	20	
Cadmium	0.47	0.0020	0.5000	0	94.9	70	130	0.537	20	
Chromium	0.46	0.0060	0.5000	0	91.6	70	130	0.0983	20	
Copper	0.53	0.0060	0.5000	0	106	70	130	0.426	20	
Iron	0.57	0.020	0.5000	0.1227	88.6	70	130	0.712	20	
Manganese	0.46	0.0020	0.5000	0.002100	91.3	70	130	0.641	20	
Silver	0.11	0.0050	0.1000	0	105	70	130	0.524	20	

Sample ID	**1709A84-003DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PW-3**	Batch ID:	**34158**		RunNo:	**46143**				
Prep Date:	**9/29/2017**	Analysis Date:	**10/5/2017**		SeqNo:	**1469459**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.44	0.010	0.5000	0.003880	88.1	70	130			

Sample ID	**1709A84-003DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PW-3**	Batch ID:	**34158**		RunNo:	**46143**				
Prep Date:	**9/29/2017**	Analysis Date:	**10/5/2017**		SeqNo:	**1469460**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.44	0.010	0.5000	0.003880	87.6	70	130	0.544	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID	**1709A84-007ELLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**OW-11**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455120**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0010	0.02500	0.002592	101	70	130			
Lead	0.013	0.00050	0.01250	0	108	70	130			
Selenium	0.030	0.0010	0.02500	0.004234	102	70	130			

Sample ID	**1709A84-007ELLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**OW-11**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455121**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0010	0.02500	0.002592	100	70	130	1.18	20	
Lead	0.013	0.00050	0.01250	0	107	70	130	0.425	20	
Selenium	0.030	0.0010	0.02500	0.004234	101	70	130	0.859	20	

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455122**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.3	85	115			
Lead	0.012	0.00050	0.01250	0	95.6	85	115			
Selenium	0.023	0.0010	0.02500	0	93.4	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455123**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00049	0.00050	0.0005000	0	97.7	50	150			J
Selenium	0.0010	0.0010	0.001000	0	104	50	150			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B45795**		RunNo:	**45795**				
Prep Date:		Analysis Date:	**9/21/2017**		SeqNo:	**1455124**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID	**MB-34158**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34158**	RunNo:	**46021**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/2/2017**	SeqNo:	**1463033**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00032	0.0010								J
Lead	0.00010	0.00050								J
Uranium	ND	0.00050								

Sample ID	**MSLCS-34158**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34158**	RunNo:	**46021**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/2/2017**	SeqNo:	**1463034**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Uranium	0.013	0.00050	0.01250	0	102	85	115			

Sample ID	**MSLLLCS-34158**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34158**	RunNo:	**46021**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/2/2017**	SeqNo:	**1463035**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	114	50	150			
Lead	0.00052	0.00050	0.0005000	0	104	50	150			
Uranium	0.00050	0.00050	0.0005000	0	101	50	150			

Sample ID	**MB-34158**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34158**	RunNo:	**46065**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/3/2017**	SeqNo:	**1465113**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID	**MSLCS-34158**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34158**	RunNo:	**46065**					
Prep Date:	**9/29/2017**	Analysis Date:	**10/3/2017**	SeqNo:	**1465115**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	94.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID	**MSLLLCS-34158**	SampType: **LCSLL**		TestCode: **200.8 ICPMS Metals:Total**						
Client ID:	**BatchQC**	Batch ID: **34158**		RunNo: **46065**						
Prep Date:	**9/29/2017**	Analysis Date: **10/3/2017**		SeqNo: **1465117**		Units: **mg/L**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00092	0.0010	0.001000	0	91.6	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
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WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID	**MB-34186**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**
Client ID:	**PBW**	Batch ID: **34186**	RunNo: **46040**
Prep Date:	**10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1463777** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34186**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**
Client ID:	**LCSW**	Batch ID: **34186**	RunNo: **46040**
Prep Date:	**10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1463778** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.9	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
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WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A45874**	RunNo: **45874**
Prep Date:	Analysis Date: **9/26/2017**	SeqNo: **1457811** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A45874**	RunNo: **45874**
Prep Date:	Analysis Date: **9/26/2017**	SeqNo: **1457812** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.57	0.10	0.5000	0	114	90	110			S
Chloride	4.9	0.50	5.000	0	97.6	90	110			
Bromide	2.6	0.10	2.500	0	105	90	110			
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	103	90	110			
Sulfate	9.9	0.50	10.00	0	99.5	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A46049**	RunNo: **46049**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1464287** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Sulfate	0.11	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A46049**	RunNo: **46049**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1464288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Sulfate	10	0.50	10.00	0	103	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **LCS-34023**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **34023**	RunNo: **45861**
Prep Date: **9/22/2017**	Analysis Date: **9/25/2017**	SeqNo: **1457346** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	113	92.3	135			
Surr: DNOP	0.61		0.5000		122	72.4	157			

Sample ID **MB-34023**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **34023**	RunNo: **45861**
Prep Date: **9/22/2017**	Analysis Date: **9/25/2017**	SeqNo: **1457347** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		127	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460174** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460174** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460175** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.0	70	130			
Toluene	19	1.0	20.00	0	95.3	70	130			
Chlorobenzene	19	1.0	20.00	0	93.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460175** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	91.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.5	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.0	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.4	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **lcs-34036**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460044** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	68	10	100.0	0	67.5	41.2	98.9			
4-Chloro-3-methylphenol	150	10	200.0	0	75.1	29.1	111			
2-Chlorophenol	130	10	200.0	0	62.6	23.3	108			
1,4-Dichlorobenzene	58	10	100.0	0	57.8	29.4	84.5			
2,4-Dinitrotoluene	63	10	100.0	0	62.7	36.6	88.7			
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.9	46.9	106			
4-Nitrophenol	94	10	200.0	0	47.1	15	74.7			
Pentachlorophenol	82	20	200.0	0	41.2	28.1	85.4			
Phenol	93	10	200.0	0	46.6	15	78.2			
Pyrene	78	10	100.0	0	78.2	44.4	96.8			
1,2,4-Trichlorobenzene	72	10	100.0	0	72.1	34.3	89			
Surr: 2-Fluorophenol	100		200.0		51.2	15	88			
Surr: Phenol-d5	100		200.0		49.9	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		69.7	15	117			
Surr: Nitrobenzene-d5	75		100.0		75.2	33.5	120			
Surr: 2-Fluorobiphenyl	70		100.0		70.5	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		58.8	21.7	98.7			

Sample ID **lcsd-34036**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460046** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	70.0	41.2	98.9	3.52	37.4	
4-Chloro-3-methylphenol	140	10	200.0	0	72.0	29.1	111	4.19	26.8	
2-Chlorophenol	130	10	200.0	0	65.2	23.3	108	4.12	30.3	
1,4-Dichlorobenzene	62	10	100.0	0	62.4	29.4	84.5	7.55	32	
2,4-Dinitrotoluene	62	10	100.0	0	61.8	36.6	88.7	1.41	36.7	
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.9	46.9	106	0.0267	29.9	
4-Nitrophenol	90	10	200.0	0	45.2	15	74.7	4.05	28.8	
Pentachlorophenol	93	20	200.0	0	46.5	28.1	85.4	12.2	38.2	
Phenol	98	10	200.0	0	49.1	15	78.2	5.21	39.8	
Pyrene	82	10	100.0	0	82.2	44.4	96.8	5.01	28.3	
1,2,4-Trichlorobenzene	75	10	100.0	0	74.6	34.3	89	3.35	39.8	
Surr: 2-Fluorophenol	100		200.0		51.9	15	88	0	0	
Surr: Phenol-d5	110		200.0		52.8	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	140		200.0		68.5	15	117	0	0	
Surr: Nitrobenzene-d5	77		100.0		76.9	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	75		100.0		74.8	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **lcsd-34036**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**							
Client ID: **LCSS02**	Batch ID: **34036**	RunNo: **45933**							
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460046**	Units: **µg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	59		100.0		58.6	21.7	98.7	0	0	

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**							
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**							
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048**	Units: **µg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**	
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**
16-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	71		200.0		35.3	15	88			
Surr: Phenol-d5	64		200.0		31.9	15	72.4			
Surr: 2,4,6-Tribromophenol	110		200.0		56.1	15	117			
Surr: Nitrobenzene-d5	75		100.0		74.7	33.5	120			
Surr: 2-Fluorobiphenyl	69		100.0		68.7	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		59.0	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709A84**

16-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Quarter/Annual PW Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **D45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460211** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.3		10.00		93.3	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **D45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460212** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.54	0.050	0.5000	0	108	75.9	120			
Surr: BFB	9.3		10.00		93.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1709A84 RcptNo: 1

Received By: Sophia Campuzano 9/19/2017 4:24:00 PM Sophia Campuzano

Completed By: Anne Thorne 9/20/2017 9:59:25 AM Anne Thorne

Reviewed By: Dennis Angos/Re 9/20/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☒	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 15,4 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? no
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.1	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: ! Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0330

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 3rd Quarter/Annual- PW Wells

Project #:
PW 2, 3, 4, OW-11

Project Manager:
C. JOHNSON (cheryl.a.johnson@anadarko.com)

Sampler:

On Ice: X Yes ☐ No

Sample Temperature: 3.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709A84	8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GRO/DRO/MRO)	8270	MAJOR CATIONS/ANIONS	CYANIDE						Air Bubbles (Y or N)
9/18/2017	700	aqueous	FIELD BLANK	3-40ML VOAs	HCL	-001	X												
9/18/2017	700	aqueous	TRIP BLANK	3-40ML VOAs	HCL	-002	X												
9/18/2017	1125	aqueous	PW-3	Misc	Misc	-003	X	X	X		X	X	X						
9/18/2017	1210	aqueous	PW-4	Misc	Misc	-004	X	X	X		X	X	X						
9/18/2017	1240	aqueous	PW-2	Misc	Misc	-005	X	X	X		X	X	X						
9/18/2017	1250	aqueous	DUPLICATE	Misc	Misc	-006	X	X	X		X	X	X						
9/18/2017	1420	aqueous	OW-11	Misc	Misc	-007	X	X	X	X		X							

Date:	Time:	Relinquished by	Received by	Date	Time
9/19/17	1400			9/19/17	1400
Date:	Time:	Relinquished by	Received by	Date	Time
9/19/17	16 24		Sigh Cur	09/19/17	1624

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS - MINUS URANIUM

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Client

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 24, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 Annual MW Wells PO 20837992 CO 1 OrderNo.: 1709C61

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 9/22/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 7:00:00 AM
Lab ID: 1709C61-001
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.19	0.062	1.0	J	µg/L	1	9/28/2017 2:56:42 AM	C45921
Toluene	0.44	0.064	1.0	J	µg/L	1	9/28/2017 2:56:42 AM	C45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Acetone	5.3	0.82	10	J	µg/L	1	9/28/2017 2:56:42 AM	C45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Bromoform	ND	0.21	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
2-Butanone	ND	1.1	10		µg/L	1	9/28/2017 2:56:42 AM	C45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/28/2017 2:56:42 AM	C45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Chloroform	ND	0.40	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/28/2017 2:56:42 AM	C45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 7:00:00 AM
Lab ID: 1709C61-001
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
2-Hexanone	ND	0.66	10		µg/L	1	9/28/2017 2:56:42 AM	C45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/28/2017 2:56:42 AM	C45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Styrene	ND	0.16	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/28/2017 2:56:42 AM	C45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/28/2017 2:56:42 AM	C45921
Surr: 1,2-Dichloroethane-d4	98.0	0	70-130		%Rec	1	9/28/2017 2:56:42 AM	C45921
Surr: 4-Bromofluorobenzene	99.3	0	70-130		%Rec	1	9/28/2017 2:56:42 AM	C45921
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	9/28/2017 2:56:42 AM	C45921
Surr: Toluene-d8	100	0	70-130		%Rec	1	9/28/2017 2:56:42 AM	C45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date:
Lab ID: 1709C61-002
Matrix: TRIP BLANK
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Toluene	0.11	0.064	1.0	J	µg/L	1	9/28/2017 3:25:19 AM	C45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Acetone	7.2	0.82	10	J	µg/L	1	9/28/2017 3:25:19 AM	C45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Bromoform	ND	0.21	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
2-Butanone	ND	1.1	10		µg/L	1	9/28/2017 3:25:19 AM	C45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/28/2017 3:25:19 AM	C45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Chloroform	ND	0.40	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/28/2017 3:25:19 AM	C45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date:
Lab ID: 1709C61-002
Matrix: TRIP BLANK
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
2-Hexanone	ND	0.66	10		µg/L	1	9/28/2017 3:25:19 AM	C45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/28/2017 3:25:19 AM	C45921
Methylene Chloride	0.35	0.11	3.0	J	µg/L	1	9/28/2017 3:25:19 AM	C45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Styrene	ND	0.16	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/28/2017 3:25:19 AM	C45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/28/2017 3:25:19 AM	C45921
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	9/28/2017 3:25:19 AM	C45921
Surr: 4-Bromofluorobenzene	96.3	0	70-130		%Rec	1	9/28/2017 3:25:19 AM	C45921
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	9/28/2017 3:25:19 AM	C45921
Surr: Toluene-d8	98.6	0	70-130		%Rec	1	9/28/2017 3:25:19 AM	C45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-1
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 12:00:00 PM
Lab ID: 1709C61-003
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/26/2017 1:07:09 PM	34052
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/26/2017 1:07:09 PM	34052
Surr: DNOP	135	0	72.4-157		%Rec	1	9/26/2017 1:07:09 PM	34052
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.61	0.22	0.50		mg/L	5	10/10/2017 11:11:38 AM	R46252
Chloride	48	1.2	2.5		mg/L	5	9/27/2017 3:12:31 AM	R45881
Bromide	0.29	0.073	0.50	J	mg/L	5	9/27/2017 3:12:31 AM	R45881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/27/2017 3:12:31 AM	R45881
Sulfate	170	0.48	2.5		mg/L	5	9/27/2017 3:12:31 AM	R45881
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 4:51:49 AM	R45881
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.013	0.00085	0.0020		mg/L	1	10/6/2017 4:39:00 PM	B46184
Cadmium	ND	0.0010	0.0020		mg/L	1	10/6/2017 4:39:00 PM	B46184
Calcium	1.7	0.078	1.0		mg/L	1	10/6/2017 4:39:00 PM	B46184
Chromium	ND	0.0013	0.0060		mg/L	1	10/6/2017 4:39:00 PM	B46184
Copper	ND	0.0032	0.0060		mg/L	1	10/6/2017 4:39:00 PM	B46184
Iron	ND	0.016	0.020		mg/L	1	10/6/2017 4:39:00 PM	B46184
Magnesium	ND	0.25	1.0		mg/L	1	10/6/2017 4:39:00 PM	B46184
Manganese	0.0018	0.00039	0.0020	J	mg/L	1	10/6/2017 4:39:00 PM	B46184
Potassium	0.69	0.11	1.0	J	mg/L	1	10/6/2017 4:39:00 PM	B46184
Sodium	260	0.82	5.0		mg/L	5	10/9/2017 8:12:32 PM	A46201
Zinc	0.011	0.0021	0.010		mg/L	1	10/6/2017 4:39:00 PM	B46184
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.015	0.00093	0.0020		mg/L	1	10/4/2017 9:55:35 PM	34220
Cadmium	ND	0.00058	0.0020		mg/L	1	10/4/2017 9:55:35 PM	34220
Chromium	0.0074	0.0018	0.0060		mg/L	1	10/4/2017 9:55:35 PM	34220
Copper	0.0018	0.0017	0.0060	J	mg/L	1	10/4/2017 9:55:35 PM	34220
Iron	0.26	0.010	0.020		mg/L	1	10/4/2017 9:55:35 PM	34220
Manganese	0.014	0.0011	0.0020		mg/L	1	10/6/2017 5:23:58 PM	34272
Zinc	ND	0.0033	0.010		mg/L	1	10/6/2017 5:23:58 PM	34272
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Silver	ND	0.000053	0.00050		mg/L	1	10/5/2017 2:10:21 PM	B46150
Arsenic	0.0013	0.00018	0.0010		mg/L	1	9/28/2017 6:39:28 PM	D45969
Lead	ND	0.00017	0.00050		mg/L	1	9/28/2017 6:39:28 PM	D45969
Selenium	0.00088	0.00039	0.0010	J	mg/L	1	9/28/2017 6:39:28 PM	D45969
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Silver	ND	0.00039	0.00050		mg/L	1	10/4/2017 2:01:10 PM	34220

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-1
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 12:00:00 PM
Lab ID: 1709C61-003
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00097	0.00030	0.0010	J	mg/L	1	10/4/2017 2:01:10 PM	34220
Lead	0.0016	0.000095	0.00050		mg/L	1	10/4/2017 2:01:10 PM	34220
Selenium	ND	0.00071	0.0010		mg/L	1	10/4/2017 2:01:10 PM	34220
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/8/2017 10:46:49 AM	34293
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Benzoic acid	ND	3.9	20		µg/L	1	9/29/2017 8:33:57 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	9/29/2017 8:33:57 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 8:33:57 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 8:33:57 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 8:33:57 PM	34036

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Collection Date: 9/20/2017 12:00:00 PM
Lab ID: 1709C61-003
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 8:33:57 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 8:33:57 PM	34036
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 8:33:57 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 8:33:57 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 8:33:57 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 8:33:57 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 8:33:57 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 8:33:57 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 8:33:57 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 8:33:57 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 8:33:57 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 8:33:57 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 8:33:57 PM	34036

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Collection Date: 9/20/2017 12:00:00 PM
Lab ID: 1709C61-003
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	45.8	0	15-88		%Rec	1	9/29/2017 8:33:57 PM	34036
Surr: Phenol-d5	35.5	0	15-72.4		%Rec	1	9/29/2017 8:33:57 PM	34036
Surr: 2,4,6-Tribromophenol	61.0	0	15-117		%Rec	1	9/29/2017 8:33:57 PM	34036
Surr: Nitrobenzene-d5	76.6	0	33.5-120		%Rec	1	9/29/2017 8:33:57 PM	34036
Surr: 2-Fluorobiphenyl	73.1	0	26.5-109		%Rec	1	9/29/2017 8:33:57 PM	34036
Surr: 4-Terphenyl-d14	55.0	0	21.7-98.7		%Rec	1	9/29/2017 8:33:57 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Toluene	ND	0.064	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Acetone	4.4	0.82	10	J	µg/L	1	9/28/2017 3:53:55 AM	C45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Bromoform	ND	0.21	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
2-Butanone	ND	1.1	10		µg/L	1	9/28/2017 3:53:55 AM	C45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/28/2017 3:53:55 AM	C45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Chloroform	ND	0.40	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
2-Hexanone	ND	0.66	10		µg/L	1	9/28/2017 3:53:55 AM	C45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/28/2017 3:53:55 AM	C45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Styrene	ND	0.16	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/28/2017 3:53:55 AM	C45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/28/2017 3:53:55 AM	C45921
Surr: 1,2-Dichloroethane-d4	96.3	0	70-130		%Rec	1	9/28/2017 3:53:55 AM	C45921
Surr: 4-Bromofluorobenzene	94.9	0	70-130		%Rec	1	9/28/2017 3:53:55 AM	C45921
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	9/28/2017 3:53:55 AM	C45921
Surr: Toluene-d8	100	0	70-130		%Rec	1	9/28/2017 3:53:55 AM	C45921
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	9/28/2017 3:53:55 AM	D45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-1
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 12:00:00 PM
Lab ID: 1709C61-003
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	90.0	0	70-130		%Rec	1	9/28/2017 3:53:55 AM	D45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-2
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:30:00 PM
Lab ID: 1709C61-004
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/26/2017 1:29:30 PM	34052
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/26/2017 1:29:30 PM	34052
Surr: DNOP	136	0	72.4-157		%Rec	1	9/26/2017 1:29:30 PM	34052
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.63	0.22	0.50		mg/L	5	10/10/2017 11:24:03 AM	R46252
Chloride	56	1.2	2.5		mg/L	5	9/27/2017 3:37:21 AM	R45881
Bromide	0.28	0.073	0.50	J	mg/L	5	9/27/2017 3:37:21 AM	R45881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/27/2017 3:37:21 AM	R45881
Sulfate	170	0.48	2.5		mg/L	5	9/27/2017 3:37:21 AM	R45881
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 5:41:27 AM	R45881
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.018	0.00085	0.0020		mg/L	1	10/6/2017 4:40:57 PM	B46184
Cadmium	ND	0.0010	0.0020		mg/L	1	10/6/2017 4:40:57 PM	B46184
Calcium	1.5	0.078	1.0		mg/L	1	10/6/2017 4:40:57 PM	B46184
Chromium	ND	0.0013	0.0060		mg/L	1	10/6/2017 4:40:57 PM	B46184
Copper	ND	0.0032	0.0060		mg/L	1	10/6/2017 4:40:57 PM	B46184
Iron	ND	0.016	0.020		mg/L	1	10/6/2017 4:40:57 PM	B46184
Magnesium	ND	0.25	1.0		mg/L	1	10/6/2017 4:40:57 PM	B46184
Manganese	0.0028	0.00039	0.0020		mg/L	1	10/6/2017 4:40:57 PM	B46184
Potassium	0.64	0.11	1.0	J	mg/L	1	10/6/2017 4:40:57 PM	B46184
Sodium	270	1.6	10		mg/L	10	10/9/2017 8:25:29 PM	A46201
Zinc	ND	0.0021	0.010		mg/L	1	10/6/2017 4:40:57 PM	B46184
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.022	0.00093	0.0020		mg/L	1	10/4/2017 10:06:28 PM	34220
Cadmium	ND	0.00058	0.0020		mg/L	1	10/4/2017 10:06:28 PM	34220
Chromium	ND	0.0018	0.0060		mg/L	1	10/4/2017 10:06:28 PM	34220
Copper	ND	0.0017	0.0060		mg/L	1	10/4/2017 10:06:28 PM	34220
Iron	0.097	0.010	0.020		mg/L	1	10/4/2017 10:06:28 PM	34220
Manganese	0.018	0.0011	0.0020		mg/L	1	10/6/2017 5:25:54 PM	34272
Zinc	ND	0.0033	0.010		mg/L	1	10/6/2017 5:25:54 PM	34272
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Silver	ND	0.000053	0.00050		mg/L	1	10/5/2017 2:15:29 PM	B46150
Arsenic	0.0011	0.00018	0.0010		mg/L	1	9/28/2017 6:42:31 PM	D45969
Lead	ND	0.00017	0.00050		mg/L	1	9/28/2017 6:42:31 PM	D45969
Selenium	0.00081	0.00039	0.0010	J	mg/L	1	9/28/2017 6:42:31 PM	D45969
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Silver	ND	0.00039	0.00050		mg/L	1	10/4/2017 2:06:18 PM	34220

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-2
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:30:00 PM
Lab ID: 1709C61-004
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00073	0.00030	0.0010	J	mg/L	1	10/4/2017 2:06:18 PM	34220
Lead	0.00055	0.000095	0.00050		mg/L	1	10/4/2017 2:06:18 PM	34220
Selenium	ND	0.00071	0.0010		mg/L	1	10/4/2017 2:06:18 PM	34220
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000040	0.000037	0.00020	J	mg/L	1	10/8/2017 10:48:48 AM	34293
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Benzoic acid	7.3	3.9	20	J	µg/L	1	9/29/2017 9:01:49 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Bis(2-ethylhexyl)phthalate	6.0	4.8	10	J	µg/L	1	9/29/2017 9:01:49 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 9:01:49 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 9:01:49 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 9:01:49 PM	34036

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-2
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:30:00 PM
Lab ID: 1709C61-004
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 9:01:49 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 9:01:49 PM	34036
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 9:01:49 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 9:01:49 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 9:01:49 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 9:01:49 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 9:01:49 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 9:01:49 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 9:01:49 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 9:01:49 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 9:01:49 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 9:01:49 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 9:01:49 PM	34036

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-2
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:30:00 PM
Lab ID: 1709C61-004
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	49.9	0	15-88		%Rec	1	9/29/2017 9:01:49 PM	34036
Surr: Phenol-d5	39.4	0	15-72.4		%Rec	1	9/29/2017 9:01:49 PM	34036
Surr: 2,4,6-Tribromophenol	67.1	0	15-117		%Rec	1	9/29/2017 9:01:49 PM	34036
Surr: Nitrobenzene-d5	81.2	0	33.5-120		%Rec	1	9/29/2017 9:01:49 PM	34036
Surr: 2-Fluorobiphenyl	74.0	0	26.5-109		%Rec	1	9/29/2017 9:01:49 PM	34036
Surr: 4-Terphenyl-d14	61.3	0	21.7-98.7		%Rec	1	9/29/2017 9:01:49 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Toluene	ND	0.064	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Acetone	4.3	0.82	10	J	µg/L	1	9/28/2017 5:19:45 AM	C45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Bromoform	ND	0.21	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
2-Butanone	ND	1.1	10		µg/L	1	9/28/2017 5:19:45 AM	C45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/28/2017 5:19:45 AM	C45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Chloroform	ND	0.40	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-2
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:30:00 PM
Lab ID: 1709C61-004
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
2-Hexanone	ND	0.66	10		µg/L	1	9/28/2017 5:19:45 AM	C45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/28/2017 5:19:45 AM	C45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Styrene	ND	0.16	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/28/2017 5:19:45 AM	C45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/28/2017 5:19:45 AM	C45921
Surr: 1,2-Dichloroethane-d4	97.3	0	70-130		%Rec	1	9/28/2017 5:19:45 AM	C45921
Surr: 4-Bromofluorobenzene	97.7	0	70-130		%Rec	1	9/28/2017 5:19:45 AM	C45921
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	9/28/2017 5:19:45 AM	C45921
Surr: Toluene-d8	98.5	0	70-130		%Rec	1	9/28/2017 5:19:45 AM	C45921
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	9/28/2017 5:19:45 AM	D45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-2
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:30:00 PM
Lab ID: 1709C61-004
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	91.3	0	70-130		%Rec	1	9/28/2017 5:19:45 AM	D45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-4
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/21/2017 10:56:00 AM
Lab ID: 1709C61-005
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/26/2017 1:51:31 PM	34052
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/26/2017 1:51:31 PM	34052
Surr: DNOP	132	0	72.4-157		%Rec	1	9/26/2017 1:51:31 PM	34052
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/10/2017 12:01:17 PM	R46252
Chloride	16	1.2	2.5		mg/L	5	9/27/2017 4:02:10 AM	R45881
Bromide	0.25	0.073	0.50	J	mg/L	5	9/27/2017 4:02:10 AM	R45881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/27/2017 4:02:10 AM	R45881
Sulfate	160	0.48	2.5		mg/L	5	9/27/2017 4:02:10 AM	R45881
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 5:53:51 AM	R45881
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.020	0.00085	0.0020		mg/L	1	10/6/2017 4:42:56 PM	B46184
Cadmium	ND	0.0010	0.0020		mg/L	1	10/6/2017 4:42:56 PM	B46184
Calcium	1.9	0.078	1.0		mg/L	1	10/6/2017 4:42:56 PM	B46184
Chromium	ND	0.0013	0.0060		mg/L	1	10/6/2017 4:42:56 PM	B46184
Copper	ND	0.0032	0.0060		mg/L	1	10/6/2017 4:42:56 PM	B46184
Iron	ND	0.016	0.020		mg/L	1	10/6/2017 4:42:56 PM	B46184
Magnesium	ND	0.25	1.0		mg/L	1	10/6/2017 4:42:56 PM	B46184
Manganese	0.0052	0.00039	0.0020		mg/L	1	10/6/2017 4:42:56 PM	B46184
Potassium	0.74	0.11	1.0	J	mg/L	1	10/6/2017 4:42:56 PM	B46184
Sodium	280	0.82	5.0		mg/L	5	10/10/2017 7:53:02 PM	B46240
Zinc	0.011	0.0021	0.010		mg/L	1	10/6/2017 4:42:56 PM	B46184
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.020	0.00093	0.0020		mg/L	1	10/4/2017 10:10:13 PM	34220
Cadmium	ND	0.00058	0.0020		mg/L	1	10/4/2017 10:10:13 PM	34220
Chromium	ND	0.0018	0.0060		mg/L	1	10/4/2017 10:10:13 PM	34220
Copper	0.0019	0.0017	0.0060	J	mg/L	1	10/4/2017 10:10:13 PM	34220
Iron	0.021	0.010	0.020		mg/L	1	10/4/2017 10:10:13 PM	34220
Manganese	0.0069	0.0011	0.0020		mg/L	1	10/6/2017 5:27:53 PM	34272
Zinc	ND	0.0033	0.010		mg/L	1	10/6/2017 5:27:53 PM	34272
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Silver	ND	0.000053	0.00050		mg/L	1	10/5/2017 2:30:58 PM	B46150
Arsenic	0.00087	0.00018	0.0010	J	mg/L	1	9/28/2017 6:51:45 PM	D45969
Lead	ND	0.00017	0.00050		mg/L	1	9/28/2017 6:51:45 PM	D45969
Selenium	0.00088	0.00039	0.0010	J	mg/L	1	9/28/2017 6:51:45 PM	D45969
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Silver	ND	0.00039	0.00050		mg/L	1	10/4/2017 2:11:27 PM	34220

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-4
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/21/2017 10:56:00 AM
Lab ID: 1709C61-005
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00084	0.00030	0.0010	J	mg/L	1	10/4/2017 2:11:27 PM	34220
Lead	0.00017	0.000095	0.00050	J	mg/L	1	10/4/2017 2:11:27 PM	34220
Selenium	ND	0.00071	0.0010		mg/L	1	10/4/2017 2:11:27 PM	34220
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/8/2017 10:50:47 AM	34293
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Benzoic acid	14	3.9	20	J	µg/L	1	9/29/2017 9:29:45 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Bis(2-ethylhexyl)phthalate	5.1	4.8	10	J	µg/L	1	9/29/2017 9:29:45 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 9:29:45 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 9:29:45 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 9:29:45 PM	34036

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-4
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/21/2017 10:56:00 AM
Lab ID: 1709C61-005
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 9:29:45 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 9:29:45 PM	34036
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 9:29:45 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 9:29:45 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 9:29:45 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 9:29:45 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 9:29:45 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 9:29:45 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 9:29:45 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 9:29:45 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 9:29:45 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 9:29:45 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 9:29:45 PM	34036

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-4
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/21/2017 10:56:00 AM
Lab ID: 1709C61-005
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	43.8	0	15-88		%Rec	1	9/29/2017 9:29:45 PM	34036
Surr: Phenol-d5	31.4	0	15-72.4		%Rec	1	9/29/2017 9:29:45 PM	34036
Surr: 2,4,6-Tribromophenol	57.6	0	15-117		%Rec	1	9/29/2017 9:29:45 PM	34036
Surr: Nitrobenzene-d5	70.3	0	33.5-120		%Rec	1	9/29/2017 9:29:45 PM	34036
Surr: 2-Fluorobiphenyl	67.7	0	26.5-109		%Rec	1	9/29/2017 9:29:45 PM	34036
Surr: 4-Terphenyl-d14	53.9	0	21.7-98.7		%Rec	1	9/29/2017 9:29:45 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Toluene	ND	0.064	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Acetone	3.7	0.82	10	J	µg/L	1	9/28/2017 6:45:35 AM	C45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Bromoform	ND	0.21	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
2-Butanone	ND	1.1	10		µg/L	1	9/28/2017 6:45:35 AM	C45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/28/2017 6:45:35 AM	C45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Chloroform	ND	0.40	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-4
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/21/2017 10:56:00 AM
Lab ID: 1709C61-005
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
2-Hexanone	ND	0.66	10		µg/L	1	9/28/2017 6:45:35 AM	C45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/28/2017 6:45:35 AM	C45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Styrene	ND	0.16	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/28/2017 6:45:35 AM	C45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/28/2017 6:45:35 AM	C45921
Surr: 1,2-Dichloroethane-d4	95.6	0	70-130		%Rec	1	9/28/2017 6:45:35 AM	C45921
Surr: 4-Bromofluorobenzene	95.9	0	70-130		%Rec	1	9/28/2017 6:45:35 AM	C45921
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	9/28/2017 6:45:35 AM	C45921
Surr: Toluene-d8	100	0	70-130		%Rec	1	9/28/2017 6:45:35 AM	C45921
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	9/28/2017 6:45:35 AM	D45921

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-4
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/21/2017 10:56:00 AM
Lab ID: 1709C61-005 **Matrix:** AQUEOUS **Received Date:** 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	92.2	0	70-130		%Rec	1	9/28/2017 6:45:35 AM	D45921

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:45:00 PM
Lab ID: 1709C61-006
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/26/2017 2:13:43 PM	34052
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/26/2017 2:13:43 PM	34052
Surr: DNOP	136	0	72.4-157		%Rec	1	9/26/2017 2:13:43 PM	34052
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.65	0.22	0.50		mg/L	5	10/10/2017 12:13:41 PM	R46252
Chloride	55	1.2	2.5		mg/L	5	9/27/2017 4:26:59 AM	R45881
Bromide	0.29	0.073	0.50	J	mg/L	5	9/27/2017 4:26:59 AM	R45881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/27/2017 4:26:59 AM	R45881
Sulfate	170	0.48	2.5		mg/L	5	9/27/2017 4:26:59 AM	R45881
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 6:06:17 AM	R45881
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.018	0.00085	0.0020		mg/L	1	10/6/2017 4:50:25 PM	B46184
Cadmium	ND	0.0010	0.0020		mg/L	1	10/6/2017 4:50:25 PM	B46184
Calcium	1.5	0.078	1.0		mg/L	1	10/6/2017 4:50:25 PM	B46184
Chromium	ND	0.0013	0.0060		mg/L	1	10/6/2017 4:50:25 PM	B46184
Copper	ND	0.0032	0.0060		mg/L	1	10/6/2017 4:50:25 PM	B46184
Iron	ND	0.016	0.020		mg/L	1	10/6/2017 4:50:25 PM	B46184
Magnesium	ND	0.25	1.0		mg/L	1	10/6/2017 4:50:25 PM	B46184
Manganese	0.0034	0.00039	0.0020		mg/L	1	10/6/2017 4:50:25 PM	B46184
Potassium	0.61	0.11	1.0	J	mg/L	1	10/6/2017 4:50:25 PM	B46184
Sodium	250	0.82	5.0		mg/L	5	10/10/2017 7:54:47 PM	B46240
Zinc	ND	0.0021	0.010		mg/L	1	10/6/2017 4:50:25 PM	B46184
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.021	0.00093	0.0020		mg/L	1	10/4/2017 10:13:56 PM	34220
Cadmium	ND	0.00058	0.0020		mg/L	1	10/4/2017 10:13:56 PM	34220
Chromium	ND	0.0018	0.0060		mg/L	1	10/4/2017 10:13:56 PM	34220
Copper	ND	0.0017	0.0060		mg/L	1	10/6/2017 5:29:51 PM	34272
Iron	0.055	0.010	0.020		mg/L	1	10/4/2017 10:13:56 PM	34220
Manganese	0.017	0.0011	0.0020		mg/L	1	10/6/2017 5:29:51 PM	34272
Zinc	ND	0.0033	0.010		mg/L	1	10/6/2017 5:29:51 PM	34272
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Silver	ND	0.000053	0.00050		mg/L	1	10/5/2017 2:36:07 PM	B46150
Arsenic	0.0012	0.00018	0.0010		mg/L	1	9/28/2017 6:54:49 PM	D45969
Lead	ND	0.00017	0.00050		mg/L	1	9/28/2017 6:54:49 PM	D45969
Selenium	0.00093	0.00039	0.0010	J	mg/L	1	9/28/2017 6:54:49 PM	D45969
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Silver	ND	0.00039	0.00050		mg/L	1	10/4/2017 2:26:55 PM	34220

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:45:00 PM
Lab ID: 1709C61-006
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0011	0.00030	0.0010		mg/L	1	10/4/2017 2:26:55 PM	34220
Lead	0.00087	0.000095	0.00050		mg/L	1	10/4/2017 2:26:55 PM	34220
Selenium	ND	0.00071	0.0010		mg/L	1	10/4/2017 2:26:55 PM	34220
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/8/2017 10:52:46 AM	34293
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Aniline	ND	3.1	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Benzoic acid	7.6	3.9	20	J	µg/L	1	9/29/2017 9:57:35 PM	34036
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	9/29/2017 9:57:35 PM	34036
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 9:57:35 PM	34036
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 9:57:35 PM	34036
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 9:57:35 PM	34036

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:45:00 PM
Lab ID: 1709C61-006
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 9:57:35 PM	34036
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 9:57:35 PM	34036
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 9:57:35 PM	34036
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 9:57:35 PM	34036
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 9:57:35 PM	34036
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 9:57:35 PM	34036
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 9:57:35 PM	34036
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 9:57:35 PM	34036
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 9:57:35 PM	34036
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Phenol	ND	3.1	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 9:57:35 PM	34036
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 9:57:35 PM	34036
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 9:57:35 PM	34036
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 9:57:35 PM	34036

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:45:00 PM
Lab ID: 1709C61-006
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	46.7	0	15-88		%Rec	1	9/29/2017 9:57:35 PM	34036
Surr: Phenol-d5	36.2	0	15-72.4		%Rec	1	9/29/2017 9:57:35 PM	34036
Surr: 2,4,6-Tribromophenol	64.3	0	15-117		%Rec	1	9/29/2017 9:57:35 PM	34036
Surr: Nitrobenzene-d5	78.3	0	33.5-120		%Rec	1	9/29/2017 9:57:35 PM	34036
Surr: 2-Fluorobiphenyl	71.6	0	26.5-109		%Rec	1	9/29/2017 9:57:35 PM	34036
Surr: 4-Terphenyl-d14	56.0	0	21.7-98.7		%Rec	1	9/29/2017 9:57:35 PM	34036
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Toluene	ND	0.064	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Naphthalene	ND	0.11	2.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Acetone	5.4	0.82	10	J	µg/L	1	9/28/2017 7:14:12 AM	C45921
Bromobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Bromoform	ND	0.21	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Bromomethane	ND	0.26	3.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
2-Butanone	ND	1.1	10		µg/L	1	9/28/2017 7:14:12 AM	C45921
Carbon disulfide	ND	0.40	10		µg/L	1	9/28/2017 7:14:12 AM	C45921
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Chloroethane	ND	0.23	2.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Chloroform	ND	0.40	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Chloromethane	ND	0.29	3.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Dibromomethane	ND	0.091	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:45:00 PM
Lab ID: 1709C61-006
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
2-Hexanone	ND	0.66	10		µg/L	1	9/28/2017 7:14:12 AM	C45921
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/28/2017 7:14:12 AM	C45921
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Styrene	ND	0.16	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/28/2017 7:14:12 AM	C45921
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/28/2017 7:14:12 AM	C45921
Surr: 1,2-Dichloroethane-d4	98.0	0	70-130		%Rec	1	9/28/2017 7:14:12 AM	C45921
Surr: 4-Bromofluorobenzene	92.7	0	70-130		%Rec	1	9/28/2017 7:14:12 AM	C45921
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	9/28/2017 7:14:12 AM	C45921
Surr: Toluene-d8	101	0	70-130		%Rec	1	9/28/2017 7:14:12 AM	C45921
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	9/28/2017 7:14:12 AM	D45921

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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Project: 2017 Annual MW Wells PO 20837992 C
Collection Date: 9/20/2017 4:45:00 PM
Lab ID: 1709C61-006
Matrix: AQUEOUS
Received Date: 9/22/2017 10:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	90.1	0	70-130		%Rec	1	9/28/2017 7:14:12 AM	D45921

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	10/04/2017 02:21	WG1026973

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	10/03/2017 02:23	WG1026344

1 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	10/04/2017 01:32	WG1026391

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	10/04/2017 01:33	WG1026391

Method Blank (MB)

(MB) R3254161-1 10/03/17 01:58

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L938655-01 Original Sample (OS) • Duplicate (DUP)

(OS) L938655-01 10/03/17 02:12 • (DUP) R3254161-4 10/03/17 02:13

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L939163-02 Original Sample (OS) • Duplicate (DUP)

(OS) L939163-02 10/03/17 02:23 • (DUP) R3254161-5 10/03/17 02:24

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254161-2 10/03/17 01:59 • (LCSD) R3254161-3 10/03/17 02:00

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0955	0.0927	96	93	85-115			3	20

L939168-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939168-03 10/03/17 02:26 • (MS) R3254161-6 10/03/17 02:27 • (MSD) R3254161-7 10/03/17 02:28

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	0.0870	0.109	0.148	22	61	1	75-125	J6	J3 J6	30	20

Method Blank (MB)

(MB) R3254503-1 10/04/17 01:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L939249-01 Original Sample (OS) • Duplicate (DUP)

(OS) L939249-01 10/04/17 01:40 • (DUP) R3254503-4 10/04/17 01:41

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.00389	1	0		20

L939327-02 Original Sample (OS) • Duplicate (DUP)

(OS) L939327-02 10/04/17 01:45 • (DUP) R3254503-5 10/04/17 01:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254503-2 10/04/17 01:26 • (LCSD) R3254503-3 10/04/17 01:27

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0966	0.0962	97	96	85-115			0	20

L939702-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939702-02 10/04/17 01:55 • (MS) R3254503-6 10/04/17 01:56 • (MSD) R3254503-7 10/04/17 01:57

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0885	0.0878	89	88	1	75-125			1	20

Method Blank (MB)

(MB) R3254507-1 10/04/17 02:09

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L940107-01 Original Sample (OS) • Duplicate (DUP)

(OS) L940107-01 10/04/17 02:44 • (DUP) R3254507-7 10/04/17 02:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	0.859	0.757	10	13		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254507-2 10/04/17 02:10 • (LCSD) R3254507-3 10/04/17 02:11

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0990	0.0987	99	99	85-115			0	20

L939702-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939702-14 10/04/17 02:26 • (MS) R3254507-4 10/04/17 02:27 • (MSD) R3254507-5 10/04/17 02:28

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.130	0.0841	130	84	1	75-125	J5	J3	43	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46184**	RunNo: **46184**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1471132** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46184**	RunNo: **46184**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1471134** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.5	50	150			J
Cadmium	0.0016	0.0020	0.002000	0	80.0	50	150			J
Calcium	0.52	1.0	0.5000	0	104	50	150			J
Chromium	0.0066	0.0060	0.006000	0	110	50	150			
Copper	0.0062	0.0060	0.006000	0	104	50	150			
Iron	0.022	0.020	0.02000	0	109	50	150			
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Manganese	0.0020	0.0020	0.002000	0	98.5	50	150			J
Potassium	0.49	1.0	0.5000	0	97.2	50	150			J
Zinc	0.0052	0.010	0.005000	0	104	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46184**	RunNo: **46184**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1471136** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.3	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Calcium	50	1.0	50.00	0	99.1	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Copper	0.49	0.0060	0.5000	0	98.3	85	115			
Iron	0.49	0.020	0.5000	0	98.5	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Manganese	0.48	0.0020	0.5000	0	95.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID	**LCS-B**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B46184**		RunNo:	**46184**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1471136**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	48	1.0	50.00	0	96.8	85	115			
Zinc	0.49	0.010	0.5000	0	97.1	85	115			

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46201**		RunNo:	**46201**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471867**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	**LLLCS-A**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**A46201**		RunNo:	**46201**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471870**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.49	1.0	0.5000	0	97.7	50	150			J

Sample ID	**LCS-A**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A46201**		RunNo:	**46201**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471873**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	97.2	85	115			

Sample ID	**1709C61-003EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MW-1**	Batch ID:	**A46201**		RunNo:	**46201**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471948**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	500	5.0	250.0	262.5	93.1	70	130			

Sample ID	**1709C61-003EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MW-1**	Batch ID:	**A46201**		RunNo:	**46201**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471949**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	500	5.0	250.0	262.5	93.5	70	130	0.206	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472334** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472337** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.50	1.0	0.5000	0	99.8	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472340** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	51	1.0	50.00	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID	**MB-34220**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**34220**	RunNo:	**46098**					
Prep Date:	**10/3/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1466549**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								

Sample ID	**LLLCS-34220**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**34220**	RunNo:	**46098**					
Prep Date:	**10/3/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1466550**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	108	50	150			
Cadmium	0.0026	0.0020	0.002000	0	130	50	150			
Chromium	0.0068	0.0060	0.006000	0	113	50	150			
Copper	0.0068	0.0060	0.006000	0	113	50	150			
Iron	0.023	0.020	0.02000	0	116	50	150			

Sample ID	**LCS-34220**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**34220**	RunNo:	**46098**					
Prep Date:	**10/3/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1466551**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.8	85	115			
Cadmium	0.49	0.0020	0.5000	0	99.0	85	115			
Chromium	0.49	0.0060	0.5000	0	97.5	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.49	0.020	0.5000	0	98.5	85	115			

Sample ID	**MB-34272**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**34272**	RunNo:	**46184**					
Prep Date:	**10/5/2017**	Analysis Date:	**10/6/2017**	SeqNo:	**1471056**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								
Manganese	ND	0.0020								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID	**LLLCS-34272**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**34272**		RunNo:	**46184**				
Prep Date:	**10/5/2017**	Analysis Date:	**10/6/2017**		SeqNo:	**1471057**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0065	0.0060	0.006000	0	109	50	150			
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Zinc	0.0055	0.010	0.005000	0	110	50	150			J

Sample ID	**LCS-34272**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**34272**		RunNo:	**46184**				
Prep Date:	**10/5/2017**	Analysis Date:	**10/6/2017**		SeqNo:	**1471058**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.49	0.0060	0.5000	0	97.8	85	115			
Manganese	0.47	0.0020	0.5000	0	94.1	85	115			
Zinc	0.47	0.010	0.5000	0	94.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **D45969**			RunNo: **45969**					
Prep Date:		Analysis Date: **9/28/2017**			SeqNo: **1461601**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.8	85	115			
Lead	0.011	0.00050	0.01250	0	91.3	85	115			
Selenium	0.022	0.0010	0.02500	0	87.6	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **D45969**			RunNo: **45969**					
Prep Date:		Analysis Date: **9/28/2017**			SeqNo: **1461602**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00089	0.0010	0.001000	0	89.3	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.0	50	150			J
Selenium	0.00080	0.0010	0.001000	0	80.2	50	150			J

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **D45969**			RunNo: **45969**					
Prep Date:		Analysis Date: **9/28/2017**			SeqNo: **1461603**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468975**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.011	0.00050	0.01250	0	91.2	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468978**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.00042	0.00050	0.0005000	0	83.5	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**						
Client ID: **PBW**	Batch ID: **B46150**			RunNo: **46150**						
Prep Date:	Analysis Date: **10/5/2017**			SeqNo: **1468981**		Units: **mg/L**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **1709C61-006FLLMS** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**

Client ID: **DUPLICATE** Batch ID: **34220** RunNo: **46114**

Prep Date: **10/3/2017** Analysis Date: **10/4/2017** SeqNo: **1467018** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.001132	101	70	130			
Lead	0.013	0.00050	0.01250	0.0008742	98.8	70	130			
Selenium	0.024	0.0010	0.02500	0	94.3	70	130			
Silver	0.012	0.00050	0.01250	0	96.0	70	130			

Sample ID **1709C61-006FLLMS** SampType: **MSDLL** TestCode: **200.8 ICPMS Metals:Total**

Client ID: **DUPLICATE** Batch ID: **34220** RunNo: **46114**

Prep Date: **10/3/2017** Analysis Date: **10/4/2017** SeqNo: **1467019** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.001132	100	70	130	1.13	20	
Lead	0.013	0.00050	0.01250	0.0008742	98.3	70	130	0.494	20	
Selenium	0.024	0.0010	0.02500	0	94.4	70	130	0.106	20	
Silver	0.012	0.00050	0.01250	0	96.7	70	130	0.687	20	

Sample ID **MB-34220** SampType: **MBLK** TestCode: **200.8 ICPMS Metals:Total**

Client ID: **PBW** Batch ID: **34220** RunNo: **46114**

Prep Date: **10/3/2017** Analysis Date: **10/4/2017** SeqNo: **1467037** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Silver	ND	0.00050								

Sample ID **MSLCS-34220** SampType: **LCS** TestCode: **200.8 ICPMS Metals:Total**

Client ID: **LCSW** Batch ID: **34220** RunNo: **46114**

Prep Date: **10/3/2017** Analysis Date: **10/4/2017** SeqNo: **1467038** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.3	85	115			
Lead	0.012	0.00050	0.01250	0	99.4	85	115			
Selenium	0.024	0.0010	0.02500	0	94.0	85	115			
Silver	0.013	0.00050	0.01250	0	103	85	115			

Sample ID **MSLLLCS-34220** SampType: **LCSLL** TestCode: **200.8 ICPMS Metals:Total**

Client ID: **BatchQC** Batch ID: **34220** RunNo: **46114**

Prep Date: **10/3/2017** Analysis Date: **10/4/2017** SeqNo: **1467039** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID	**MSLLLCS-34220**	SampType: **LCSLL**		TestCode: **200.8 ICPMS Metals:Total**	
Client ID:	**BatchQC**	Batch ID: **34220**		RunNo: **46114**	
Prep Date:	**10/3/2017**	Analysis Date: **10/4/2017**		SeqNo: **1467039**	Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00084	0.0010	0.001000	0	84.4	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.1	50	150			J
Selenium	0.00072	0.0010	0.001000	0	72.1	50	150			J
Silver	0.00049	0.00050	0.0005000	0	98.3	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID	**MB-34293**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34293**	RunNo:	**46187**					
Prep Date:	**10/7/2017**	Analysis Date:	**10/8/2017**	SeqNo:	**1470349**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34293**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34293**	RunNo:	**46187**					
Prep Date:	**10/7/2017**	Analysis Date:	**10/8/2017**	SeqNo:	**1470350**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45881**	RunNo: **45881**
Prep Date:	Analysis Date: **9/26/2017**	SeqNo: **1459310** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	0.041	0.20								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45881**	RunNo: **45881**
Prep Date:	Analysis Date: **9/26/2017**	SeqNo: **1459311** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	95.0	90	110			
Bromide	2.6	0.10	2.500	0	103	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.3	90	110			
Sulfate	9.7	0.50	10.00	0	97.2	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46252**	RunNo: **46252**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472959** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46252**	RunNo: **46252**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472960** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	95.0	90	110			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **LCS-34052**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **34052**	RunNo: **45871**
Prep Date: **9/25/2017**	Analysis Date: **9/26/2017**	SeqNo: **1457743** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	109	92.3	135			
Surr: DNOP	0.61		0.5000		123	72.4	157			

Sample ID **MB-34052**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **34052**	RunNo: **45871**
Prep Date: **9/25/2017**	Analysis Date: **9/26/2017**	SeqNo: **1457744** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		125	72.4	157			

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **RB1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**	
Client ID: **PBW**	Batch ID: **C45921**	RunNo: **45921**	
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460199**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **RB1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **C45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460199** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.0	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **C45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460200** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.8	70	130			
Toluene	18	1.0	20.00	0	91.3	70	130			
Chlorobenzene	18	1.0	20.00	0	88.5	70	130			

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **C45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460200** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.2	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.3	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Sample ID **1709c61-003a ms2**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-1**	Batch ID: **C45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/28/2017**	SeqNo: **1460204** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	19	1.0	20.00	0	96.2	70	130			
Chlorobenzene	19	1.0	20.00	0	93.5	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.9	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **1709c61-003a msd2**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MW-1**	Batch ID: **C45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/28/2017**	SeqNo: **1460205** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.4	70	130	5.64	20	
Toluene	19	1.0	20.00	0	94.5	70	130	1.81	20	
Chlorobenzene	18	1.0	20.00	0	92.1	70	130	1.57	20	
1,1-Dichloroethene	22	1.0	20.00	0	109	70	130	3.47	20	
Trichloroethene (TCE)	19	1.0	20.00	0	92.8	70	130	5.63	20	
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.6		10.00		95.7	70	130	0	0	
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.0	70	130	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **lcs-34036**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460044** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	68	10	100.0	0	67.5	41.2	98.9			
4-Chloro-3-methylphenol	150	10	200.0	0	75.1	29.1	111			
2-Chlorophenol	130	10	200.0	0	62.6	23.3	108			
1,4-Dichlorobenzene	58	10	100.0	0	57.8	29.4	84.5			
2,4-Dinitrotoluene	63	10	100.0	0	62.7	36.6	88.7			
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.9	46.9	106			
4-Nitrophenol	94	10	200.0	0	47.1	15	74.7			
Pentachlorophenol	82	20	200.0	0	41.2	28.1	85.4			
Phenol	93	10	200.0	0	46.6	15	78.2			
Pyrene	78	10	100.0	0	78.2	44.4	96.8			
1,2,4-Trichlorobenzene	72	10	100.0	0	72.1	34.3	89			
Surr: 2-Fluorophenol	100		200.0		51.2	15	88			
Surr: Phenol-d5	100		200.0		49.9	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		69.7	15	117			
Surr: Nitrobenzene-d5	75		100.0		75.2	33.5	120			
Surr: 2-Fluorobiphenyl	70		100.0		70.5	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		58.8	21.7	98.7			

Sample ID **lcsd-34036**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460046** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	70.0	41.2	98.9	3.52	37.4	
4-Chloro-3-methylphenol	140	10	200.0	0	72.0	29.1	111	4.19	26.8	
2-Chlorophenol	130	10	200.0	0	65.2	23.3	108	4.12	30.3	
1,4-Dichlorobenzene	62	10	100.0	0	62.4	29.4	84.5	7.55	32	
2,4-Dinitrotoluene	62	10	100.0	0	61.8	36.6	88.7	1.41	36.7	
N-Nitrosodi-n-propylamine	75	10	100.0	0	74.9	46.9	106	0.0267	29.9	
4-Nitrophenol	90	10	200.0	0	45.2	15	74.7	4.05	28.8	
Pentachlorophenol	93	20	200.0	0	46.5	28.1	85.4	12.2	38.2	
Phenol	98	10	200.0	0	49.1	15	78.2	5.21	39.8	
Pyrene	82	10	100.0	0	82.2	44.4	96.8	5.01	28.3	
1,2,4-Trichlorobenzene	75	10	100.0	0	74.6	34.3	89	3.35	39.8	
Surr: 2-Fluorophenol	100		200.0		51.9	15	88	0	0	
Surr: Phenol-d5	110		200.0		52.8	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	140		200.0		68.5	15	117	0	0	
Surr: Nitrobenzene-d5	77		100.0		76.9	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	75		100.0		74.8	26.5	109	0	0	

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID	**lcsd-34036**	SampType:	**LCSD**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSS02**	Batch ID:	**34036**		RunNo:	**45933**				
Prep Date:	**9/25/2017**	Analysis Date:	**9/27/2017**		SeqNo:	**1460046**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	59		100.0		58.6	21.7	98.7	0	0	

Sample ID	**mb-34036**	SampType:	**MBLK**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**PBW**	Batch ID:	**34036**		RunNo:	**45933**				
Prep Date:	**9/25/2017**	Analysis Date:	**9/27/2017**		SeqNo:	**1460048**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**
24-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **mb-34036**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34036**	RunNo: **45933**
Prep Date: **9/25/2017**	Analysis Date: **9/27/2017**	SeqNo: **1460048** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	71		200.0		35.3	15	88			
Surr: Phenol-d5	64		200.0		31.9	15	72.4			
Surr: 2,4,6-Tribromophenol	110		200.0		56.1	15	117			
Surr: Nitrobenzene-d5	75		100.0		74.7	33.5	120			
Surr: 2-Fluorobiphenyl	69		100.0		68.7	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		59.0	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709C61**

24-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual MW Wells PO 20837992 CO 1

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **D45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460211** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.3		10.00		93.3	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **D45921**	RunNo: **45921**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460212** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.54	0.050	0.5000	0	108	75.9	120			
Surr: BFB	9.3		10.00		93.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709C61** RcptNo: **1**

Received By: **Isaiah Ortiz** **9/22/2017 10:20:00 AM** IO

Completed By: **Ashley Gallegos** **9/22/2017 11:23:08 AM** AG

Reviewed By: JMO 9/22/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 12, 4
(<2 or >12 unless noted)
Adjusted? No
Checked by: Re

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

[illegible] Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2017 ANNUAL-MW WELLS **(PO #20837992 CO #1)**

Project #:

MW-1, 2, 4

Project Manager:

C. JOHNSON (cheryl.a.johnson@andeavor.com)

Sampler:

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.7 +0.3 (IR) 4.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709C108	Analysis Request: 8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GRO/DRO/MRO)	8270	MAJOR CATIONS/ANIONS	CYANIDE						Air Bubbles (Y or N)
9/20/2017	700	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001	X												
9/20/2017	700	aqueous	TRIP BLANK	3-40ML VOAS	HCL	-002	X												
9/20/2017	1200	aqueous	MW-1	Misc	Misc	-003	X	X	X	X	X	X	X						
9/20/2017	1630	aqueous	MW-2	Misc	Misc	-004	X	X	X	X	X	X	X						
9/21/2017	1056	aqueous	MW-4	Misc	Misc	-005	X	X	X	X	X	X	X						
9/20/2017	1645	aqueous	DUPLICATE	Misc	Misc	-006	X	X	X	X	X	X	X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/22/17	1020			9/22/17	10:20
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS - MINUS URANIUM

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 02, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd QTR MKTF OrderNo.: 1709F70

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 12 sample(s) on 9/27/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 7:00:00 AM
Lab ID: 1709F70-001
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.15	0.062	1.0	J	µg/L	1	10/4/2017 3:04:00 AM	B46072
Toluene	0.39	0.064	1.0	J	µg/L	1	10/4/2017 3:04:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Acetone	3.2	0.82	10	J	µg/L	1	10/4/2017 3:04:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 3:04:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 3:04:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 3:04:00 AM	B46072

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 7:00:00 AM
Lab ID: 1709F70-001
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 3:04:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 3:04:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 3:04:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 3:04:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	10/4/2017 3:04:00 AM	B46072
Surr: 4-Bromofluorobenzene	99.5	0	70-130		%Rec	1	10/4/2017 3:04:00 AM	B46072
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	10/4/2017 3:04:00 AM	B46072
Surr: Toluene-d8	98.8	0	70-130		%Rec	1	10/4/2017 3:04:00 AM	B46072

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date:
Lab ID: 1709F70-002
Matrix: TRIP BLANK
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Acetone	3.0	0.82	10	J	µg/L	1	10/4/2017 3:27:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 3:27:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 3:27:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 3:27:00 AM	B46072

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date:
Lab ID: 1709F70-002
Matrix: TRIP BLANK
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 3:27:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 3:27:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 3:27:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 3:27:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	10/4/2017 3:27:00 AM	B46072
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	10/4/2017 3:27:00 AM	B46072
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	10/4/2017 3:27:00 AM	B46072
Surr: Toluene-d8	97.5	0	70-130		%Rec	1	10/4/2017 3:27:00 AM	B46072

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:15:00 AM
Lab ID: 1709F70-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	72	3.6	10		mg/L	10	10/3/2017 9:17:21 PM	34173
Motor Oil Range Organics (MRO)	ND	50	50		mg/L	10	10/3/2017 9:17:21 PM	34173
Surr: DNOP	0	0	77.5-161	S	%Rec	10	10/3/2017 9:17:21 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.21	0.025	0.050		mg/L	1	10/2/2017 12:42:46 PM	G46025
Surr: BFB	112	0	52.3-138		%Rec	1	10/2/2017 12:42:46 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.60	0.22	0.50		mg/L	5	10/11/2017 2:07:23 PM	R46291
Chloride	820	25	50		mg/L	100	10/11/2017 2:19:48 PM	R46291
Bromide	2.0	0.073	0.50		mg/L	5	10/4/2017 8:13:52 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 8:13:52 PM	A46128
Sulfate	100	0.48	2.5		mg/L	5	10/4/2017 8:13:52 PM	A46128
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/10/2017 8:16:23 PM	A46255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.059	0.00085	0.0020		mg/L	1	10/10/2017 8:17:17 PM	B46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:17:17 PM	B46240
Calcium	22	0.078	1.0		mg/L	1	10/10/2017 8:17:17 PM	B46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:17:17 PM	B46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:17:17 PM	B46240
Iron	0.056	0.016	0.020		mg/L	1	10/10/2017 8:17:17 PM	B46240
Magnesium	2.9	0.25	1.0		mg/L	1	10/10/2017 8:17:17 PM	B46240
Manganese	0.19	0.00039	0.0020	*	mg/L	1	10/10/2017 8:17:17 PM	B46240
Potassium	1.4	0.11	1.0		mg/L	1	10/10/2017 8:17:17 PM	B46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:17:17 PM	B46240
Sodium	710	1.6	10		mg/L	10	10/10/2017 8:19:08 PM	B46240
Zinc	0.0060	0.0021	0.010	J	mg/L	1	10/11/2017 6:18:40 PM	A46308
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.061	0.00093	0.0020		mg/L	1	10/10/2017 11:54:17 AM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 11:54:17 AM	34312
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 11:54:17 AM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 11:54:17 AM	34312
Iron	0.22	0.010	0.020		mg/L	1	10/10/2017 11:54:17 AM	34312
Manganese	0.20	0.0011	0.0020	*	mg/L	1	10/10/2017 11:54:17 AM	34312
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 11:54:17 AM	34312
Zinc	ND	0.0033	0.010		mg/L	1	10/10/2017 11:54:17 AM	34312
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0036	0.00089	0.0050	J	mg/L	5	10/6/2017 3:38:58 PM	A46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:15:00 AM
Lab ID: 1709F70-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 3:43:32 PM	B46150
Selenium	0.0086	0.0019	0.0050		mg/L	5	10/6/2017 3:38:58 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0032	0.0015	0.0050	J	mg/L	5	10/12/2017 2:20:37 PM	34312
Lead	0.00023	0.000095	0.00050	J	mg/L	1	10/11/2017 1:41:28 PM	34312
Selenium	0.0068	0.0036	0.0050		mg/L	5	10/12/2017 2:20:37 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000048	0.000037	0.00020	J	mg/L	1	10/11/2017 2:40:15 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	72	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Acenaphthylene	ND	71	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Aniline	ND	61	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Anthracene	ND	71	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Azobenzene	ND	91	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Benz(a)anthracene	ND	77	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Benzo(a)pyrene	ND	80	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Benzo(b)fluoranthene	ND	79	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Benzo(g,h,i)perylene	ND	81	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Benzo(k)fluoranthene	ND	88	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Benzoic acid	ND	79	400	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Benzyl alcohol	ND	92	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Bis(2-chloroethoxy)methane	ND	86	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Bis(2-chloroethyl)ether	ND	87	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Bis(2-chloroisopropyl)ether	ND	77	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Bis(2-ethylhexyl)phthalate	ND	96	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
4-Bromophenyl phenyl ether	ND	92	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Butyl benzyl phthalate	ND	93	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Carbazole	ND	92	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
4-Chloro-3-methylphenol	ND	130	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
4-Chloroaniline	ND	70	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2-Chloronaphthalene	ND	74	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2-Chlorophenol	ND	150	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
4-Chlorophenyl phenyl ether	ND	72	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Chrysene	ND	76	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Di-n-butyl phthalate	ND	100	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Di-n-octyl phthalate	ND	94	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Dibenz(a,h)anthracene	ND	93	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Dibenzofuran	ND	82	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:15:00 AM
Lab ID: 1709F70-003 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	40	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
1,3-Dichlorobenzene	ND	37	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
1,4-Dichlorobenzene	ND	43	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
3,3´-Dichlorobenzidine	ND	78	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Diethyl phthalate	ND	81	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Dimethyl phthalate	ND	72	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2,4-Dichlorophenol	ND	110	400	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2,4-Dimethylphenol	ND	57	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
4,6-Dinitro-2-methylphenol	ND	77	400	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2,4-Dinitrophenol	ND	52	400	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2,4-Dinitrotoluene	ND	79	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2,6-Dinitrotoluene	ND	90	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Fluoranthene	ND	85	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Fluorene	ND	80	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Hexachlorobenzene	ND	77	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Hexachlorobutadiene	ND	27	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Hexachlorocyclopentadiene	ND	25	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Hexachloroethane	ND	24	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Indeno(1,2,3-cd)pyrene	ND	83	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Isophorone	ND	87	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
1-Methylnaphthalene	270	66	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2-Methylnaphthalene	ND	65	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2-Methylphenol	ND	66	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
3+4-Methylphenol	ND	64	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
N-Nitrosodi-n-propylamine	ND	91	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
N-Nitrosodimethylamine	ND	70	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
N-Nitrosodiphenylamine	ND	78	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Naphthalene	ND	57	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2-Nitroaniline	ND	99	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
3-Nitroaniline	ND	87	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
4-Nitroaniline	ND	81	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Nitrobenzene	ND	72	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2-Nitrophenol	ND	100	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
4-Nitrophenol	ND	110	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Pentachlorophenol	ND	98	400	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Phenanthrene	ND	87	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Phenol	ND	62	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Pyrene	ND	89	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Pyridine	ND	46	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:15:00 AM
Lab ID: 1709F70-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	43	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2,4,5-Trichlorophenol	ND	100	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
2,4,6-Trichlorophenol	ND	110	200	D	µg/L	1	10/9/2017 10:09:39 PM	34167
Surr: 2-Fluorophenol	66.7	0	15-88	D	%Rec	1	10/9/2017 10:09:39 PM	34167
Surr: Phenol-d5	58.2	0	15-72.4	D	%Rec	1	10/9/2017 10:09:39 PM	34167
Surr: 2,4,6-Tribromophenol	113	0	15-117	D	%Rec	1	10/9/2017 10:09:39 PM	34167
Surr: Nitrobenzene-d5	90.1	0	33.5-120	D	%Rec	1	10/9/2017 10:09:39 PM	34167
Surr: 2-Fluorobiphenyl	70.2	0	26.5-109	D	%Rec	1	10/9/2017 10:09:39 PM	34167
Surr: 4-Terphenyl-d14	75.1	0	21.7-98.7	D	%Rec	1	10/9/2017 10:09:39 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	9.3	0.062	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Toluene	0.98	0.064	1.0	J	µg/L	1	10/4/2017 3:51:00 AM	B46072
Ethylbenzene	3.9	0.093	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Methyl tert-butyl ether (MTBE)	2.0	0.24	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2,4-Trimethylbenzene	18	0.11	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,3,5-Trimethylbenzene	6.5	0.087	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2-Dichloroethane (EDC)	1.7	0.40	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Naphthalene	62	0.11	2.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1-Methylnaphthalene	35	0.16	4.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
2-Methylnaphthalene	26	0.15	4.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Acetone	37	0.82	10		µg/L	1	10/4/2017 3:51:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
2-Butanone	10	1.1	10		µg/L	1	10/4/2017 3:51:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 3:51:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:15:00 AM
Lab ID: 1709F70-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,1-Dichloroethene	0.19	0.081	1.0	J	µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 3:51:00 AM	B46072
Isopropylbenzene	1.1	0.051	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
4-Isopropyltoluene	2.0	0.096	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 3:51:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
n-Butylbenzene	0.59	0.13	3.0	J	µg/L	1	10/4/2017 3:51:00 AM	B46072
n-Propylbenzene	1.7	0.074	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
sec-Butylbenzene	0.46	0.11	1.0	J	µg/L	1	10/4/2017 3:51:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 3:51:00 AM	B46072
Xylenes, Total	46	0.32	1.5		µg/L	1	10/4/2017 3:51:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	99.2	0	70-130		%Rec	1	10/4/2017 3:51:00 AM	B46072
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	10/4/2017 3:51:00 AM	B46072
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/4/2017 3:51:00 AM	B46072

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:15:00 AM
Lab ID: 1709F70-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	96.8	0	70-130		%Rec	1	10/4/2017 3:51:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:58:00 AM
Lab ID: 1709F70-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	10/4/2017 4:51:19 PM	34228
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 9:39:48 PM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 9:39:48 PM	34173
Surr: DNOP	123	0	77.5-161		%Rec	1	10/3/2017 9:39:48 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.73	0.025	0.050		mg/L	1	10/2/2017 1:06:25 PM	G46025
Surr: BFB	105	0	52.3-138		%Rec	1	10/2/2017 1:06:25 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.32	0.22	0.50	J	mg/L	5	10/4/2017 8:38:41 PM	A46128
Chloride	420	12	25		mg/L	50	10/11/2017 2:57:02 PM	R46291
Bromide	1.7	0.073	0.50		mg/L	5	10/4/2017 8:38:41 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 8:38:41 PM	A46128
Sulfate	100	0.48	2.5		mg/L	5	10/4/2017 8:38:41 PM	A46128
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/10/2017 8:28:47 PM	A46255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.045	0.00085	0.0020		mg/L	1	10/10/2017 8:20:59 PM	B46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:20:59 PM	B46240
Calcium	29	0.078	1.0		mg/L	1	10/10/2017 8:20:59 PM	B46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:20:59 PM	B46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:20:59 PM	B46240
Iron	0.023	0.016	0.020		mg/L	1	10/10/2017 8:20:59 PM	B46240
Magnesium	5.6	0.25	1.0		mg/L	1	10/10/2017 8:20:59 PM	B46240
Manganese	0.075	0.00039	0.0020	*	mg/L	1	10/10/2017 8:20:59 PM	B46240
Potassium	0.63	0.11	1.0	J	mg/L	1	10/10/2017 8:20:59 PM	B46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:20:59 PM	B46240
Sodium	610	1.6	10		mg/L	10	10/12/2017 7:52:58 PM	A46309
Zinc	0.0087	0.0021	0.010	J	mg/L	1	10/11/2017 6:20:17 PM	A46308
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.10	0.00093	0.0020		mg/L	1	10/10/2017 11:56:12 AM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 11:56:12 AM	34312
Chromium	0.0035	0.0018	0.0060	J	mg/L	1	10/10/2017 11:56:12 AM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 11:56:12 AM	34312
Iron	2.2	0.051	0.10	*	mg/L	5	10/10/2017 2:24:09 PM	34312
Manganese	0.15	0.0011	0.0020	*	mg/L	1	10/10/2017 11:56:12 AM	34312
Silver	0.0013	0.0012	0.0050	J	mg/L	1	10/10/2017 11:56:12 AM	34312
Zinc	ND	0.010	0.010		mg/L	1	10/10/2017 11:56:12 AM	34312

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:58:00 AM
Lab ID: 1709F70-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0036	0.0018	0.010	J	mg/L	10	10/6/2017 3:48:08 PM	A46196
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 3:49:39 PM	B46150
Selenium	0.0050	0.0039	0.010	J	mg/L	10	10/6/2017 3:48:08 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0035	0.00030	0.0010		mg/L	1	10/11/2017 1:53:33 PM	34312
Lead	0.0021	0.000095	0.00050		mg/L	1	10/11/2017 1:53:33 PM	34312
Selenium	0.0045	0.00071	0.0010		mg/L	1	10/11/2017 1:53:33 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000069	0.000037	0.00020	J	mg/L	1	10/11/2017 2:42:13 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 5:16:45 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/6/2017 5:16:45 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167

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Collection Date: 9/25/2017 9:58:00 AM
Lab ID: 1709F70-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 5:16:45 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 5:16:45 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 5:16:45 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 5:16:45 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 5:16:45 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 5:16:45 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 5:16:45 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 5:16:45 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 5:16:45 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 5:16:45 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 5:16:45 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 5:16:45 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 5:16:45 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:58:00 AM
Lab ID: 1709F70-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 5:16:45 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 5:16:45 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 5:16:45 PM	34167
Surr: 2-Fluorophenol	66.7	0	15-88		%Rec	1	10/6/2017 5:16:45 PM	34167
Surr: Phenol-d5	56.5	0	15-72.4		%Rec	1	10/6/2017 5:16:45 PM	34167
Surr: 2,4,6-Tribromophenol	108	0	15-117		%Rec	1	10/6/2017 5:16:45 PM	34167
Surr: Nitrobenzene-d5	99.3	0	33.5-120		%Rec	1	10/6/2017 5:16:45 PM	34167
Surr: 2-Fluorobiphenyl	86.6	0	26.5-109		%Rec	1	10/6/2017 5:16:45 PM	34167
Surr: 4-Terphenyl-d14	75.9	0	21.7-98.7		%Rec	1	10/6/2017 5:16:45 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.38	0.062	1.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Methyl tert-butyl ether (MTBE)	690	2.4	10		µg/L	10	10/4/2017 12:33:00 PM	R46113
1,2,4-Trimethylbenzene	0.12	0.11	1.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2-Dichloroethane (EDC)	17	0.40	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Naphthalene	0.98	0.11	2.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
1-Methylnaphthalene	1.8	0.16	4.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
2-Methylnaphthalene	1.3	0.15	4.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
Acetone	4.9	0.82	10	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 5:02:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 5:02:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
cis-1,2-DCE	1.7	0.20	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 5:02:00 AM	B46072

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:58:00 AM
Lab ID: 1709F70-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,1-Dichloroethane	16	0.40	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,1-Dichloroethene	29	0.081	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 5:02:00 AM	B46072
Isopropylbenzene	0.12	0.051	1.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 5:02:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
sec-Butylbenzene	0.79	0.11	1.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,1,1-Trichloroethane	0.47	0.073	1.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
1,1,2-Trichloroethane	1.4	0.14	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Trichloroethene (TCE)	0.30	0.11	1.0	J	µg/L	1	10/4/2017 5:02:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 5:02:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 5:02:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	96.8	0	70-130		%Rec	1	10/4/2017 5:02:00 AM	B46072
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	10/4/2017 5:02:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 9:58:00 AM
Lab ID: 1709F70-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/4/2017 5:02:00 AM	B46072
Surr: Toluene-d8	100	0	70-130		%Rec	1	10/4/2017 5:02:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 10:30:00 AM
Lab ID: 1709F70-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	10/4/2017 5:06:28 PM	34228
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 10:02:00 PM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 10:02:00 PM	34173
Surr: DNOP	128	0	77.5-161		%Rec	1	10/3/2017 10:02:00 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.029	0.025	0.050	J	mg/L	1	10/2/2017 1:30:00 PM	G46025
Surr: BFB	110	0	52.3-138		%Rec	1	10/2/2017 1:30:00 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.47	0.22	0.50	J	mg/L	5	10/4/2017 9:03:31 PM	A46128
Chloride	810	12	25		mg/L	50	10/11/2017 3:09:27 PM	R46291
Bromide	2.8	0.073	0.50		mg/L	5	10/4/2017 9:03:31 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 9:03:31 PM	A46128
Sulfate	65	0.48	2.5		mg/L	5	10/4/2017 9:03:31 PM	A46128
Nitrate+Nitrite as N	5.3	0.13	1.0		mg/L	5	10/10/2017 8:41:11 PM	A46255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.063	0.00085	0.0020		mg/L	1	10/10/2017 8:24:51 PM	B46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:24:51 PM	B46240
Calcium	15	0.078	1.0		mg/L	1	10/10/2017 8:24:51 PM	B46240
Chromium	0.0021	0.0013	0.0060	J	mg/L	1	10/10/2017 8:24:51 PM	B46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:24:51 PM	B46240
Iron	0.018	0.016	0.020	J	mg/L	1	10/10/2017 8:24:51 PM	B46240
Magnesium	2.0	0.25	1.0		mg/L	1	10/10/2017 8:24:51 PM	B46240
Manganese	0.0014	0.00039	0.0020	J	mg/L	1	10/10/2017 8:24:51 PM	B46240
Potassium	1.6	0.11	1.0		mg/L	1	10/10/2017 8:24:51 PM	B46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:24:51 PM	B46240
Sodium	650	1.6	10		mg/L	10	10/10/2017 8:26:51 PM	B46240
Zinc	0.065	0.0021	0.010		mg/L	1	10/11/2017 6:21:54 PM	A46308
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.092	0.00093	0.0020		mg/L	1	10/10/2017 11:57:59 AM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 11:57:59 AM	34312
Chromium	0.0022	0.0018	0.0060	J	mg/L	1	10/10/2017 11:57:59 AM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 11:57:59 AM	34312
Iron	0.99	0.010	0.020	*	mg/L	1	10/10/2017 11:57:59 AM	34312
Manganese	0.031	0.0011	0.0020		mg/L	1	10/10/2017 11:57:59 AM	34312
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 11:57:59 AM	34312
Zinc	ND	0.010	0.010		mg/L	1	10/10/2017 11:57:59 AM	34312

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 10:30:00 AM
Lab ID: 1709F70-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0063	0.0018	0.010	J	mg/L	10	10/6/2017 3:51:11 PM	A46196
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 3:58:57 PM	B46150
Selenium	0.045	0.0039	0.010		mg/L	10	10/6/2017 3:51:11 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0053	0.0015	0.0050		mg/L	5	10/12/2017 2:26:38 PM	34312
Lead	0.0010	0.000095	0.00050		mg/L	1	10/11/2017 1:56:34 PM	34312
Selenium	0.044	0.0036	0.0050		mg/L	5	10/12/2017 2:26:38 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000074	0.000037	0.00020	J	mg/L	1	10/11/2017 2:48:14 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 5:44:52 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/6/2017 5:44:52 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 10:30:00 AM
Lab ID: 1709F70-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 5:44:52 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 5:44:52 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 5:44:52 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 5:44:52 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 5:44:52 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 5:44:52 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 5:44:52 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 5:44:52 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 5:44:52 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 5:44:52 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 5:44:52 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 5:44:52 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 5:44:52 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 10:30:00 AM
Lab ID: 1709F70-005 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 5:44:52 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 5:44:52 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 5:44:52 PM	34167
Surr: 2-Fluorophenol	45.6	0	15-88		%Rec	1	10/6/2017 5:44:52 PM	34167
Surr: Phenol-d5	41.7	0	15-72.4		%Rec	1	10/6/2017 5:44:52 PM	34167
Surr: 2,4,6-Tribromophenol	84.3	0	15-117		%Rec	1	10/6/2017 5:44:52 PM	34167
Surr: Nitrobenzene-d5	69.8	0	33.5-120		%Rec	1	10/6/2017 5:44:52 PM	34167
Surr: 2-Fluorobiphenyl	60.6	0	26.5-109		%Rec	1	10/6/2017 5:44:52 PM	34167
Surr: 4-Terphenyl-d14	57.9	0	21.7-98.7		%Rec	1	10/6/2017 5:44:52 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Methyl tert-butyl ether (MTBE)	1.2	0.24	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2-Dichloroethane (EDC)	2.7	0.40	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Naphthalene	0.30	0.11	2.0	J	µg/L	1	10/4/2017 5:26:00 AM	B46072
1-Methylnaphthalene	0.40	0.16	4.0	J	µg/L	1	10/4/2017 5:26:00 AM	B46072
2-Methylnaphthalene	0.39	0.15	4.0	J	µg/L	1	10/4/2017 5:26:00 AM	B46072
Acetone	3.4	0.82	10	J	µg/L	1	10/4/2017 5:26:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 5:26:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 5:26:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 5:26:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 10:30:00 AM
Lab ID: 1709F70-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,1-Dichloroethane	3.4	0.40	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,1-Dichloroethene	4.3	0.081	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 5:26:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 5:26:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,1,2-Trichloroethane	0.63	0.14	1.0	J	µg/L	1	10/4/2017 5:26:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 5:26:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 5:26:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	96.0	0	70-130		%Rec	1	10/4/2017 5:26:00 AM	B46072
Surr: 4-Bromofluorobenzene	98.7	0	70-130		%Rec	1	10/4/2017 5:26:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 10:30:00 AM
Lab ID: 1709F70-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	10/4/2017 5:26:00 AM	B46072
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	10/4/2017 5:26:00 AM	B46072

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:15:00 AM
Lab ID: 1709F70-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 10:24:19 PM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 10:24:19 PM	34173
Surr: DNOP	126	0	77.5-161		%Rec	1	10/3/2017 10:24:19 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	10/2/2017 1:53:33 PM	G46025
Surr: BFB	109	0	52.3-138		%Rec	1	10/2/2017 1:53:33 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 9:28:20 PM	A46128
Chloride	9500	250	500		mg/L	1000	10/11/2017 3:21:52 PM	R46291
Bromide	8.0	0.073	0.50		mg/L	5	10/4/2017 9:28:20 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 9:28:20 PM	A46128
Sulfate	1100	96	500		mg/L	1000	10/11/2017 3:21:52 PM	R46291
Nitrate+Nitrite as N	13	1.3	10	*	mg/L	50	10/11/2017 4:36:20 PM	R46291
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.071	0.00085	0.0020		mg/L	1	10/10/2017 8:28:39 PM	B46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:28:39 PM	B46240
Calcium	2200	3.9	50		mg/L	50	10/25/2017 8:01:41 PM	A46658
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:28:39 PM	B46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:28:39 PM	B46240
Iron	0.022	0.016	0.020		mg/L	1	10/10/2017 8:28:39 PM	B46240
Magnesium	340	2.5	10		mg/L	10	10/10/2017 8:30:42 PM	B46240
Manganese	9.7	0.0039	0.020	*	mg/L	10	10/10/2017 8:30:42 PM	B46240
Potassium	7.8	0.11	1.0		mg/L	1	10/10/2017 8:28:39 PM	B46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:28:39 PM	B46240
Sodium	5000	8.2	50		mg/L	50	10/25/2017 8:01:41 PM	A46658
Zinc	ND	0.0042	0.020		mg/L	2	10/31/2017 4:31:00 PM	A46782
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.10	0.00093	0.0020		mg/L	1	10/10/2017 11:59:44 AM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 11:59:44 AM	34312
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 11:59:44 AM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 11:59:44 AM	34312
Iron	1.4	0.10	0.20	*	mg/L	10	10/10/2017 2:26:05 PM	34312
Manganese	8.4	0.011	0.020	*	mg/L	10	10/10/2017 2:26:05 PM	34312
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 11:59:44 AM	34312
Zinc	ND	0.010	0.010		mg/L	1	10/10/2017 11:59:44 AM	34312
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.018	0.10		mg/L	100	10/6/2017 4:09:36 PM	A46196

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:15:00 AM
Lab ID: 1709F70-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.0017	0.0050		mg/L	10	10/6/2017 4:06:32 PM	A46196
Selenium	0.044	0.0039	0.010		mg/L	10	10/6/2017 4:06:32 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.016	0.015	0.050	J*	mg/L	50	10/12/2017 2:41:44 PM	34312
Lead	0.0015	0.00048	0.0025	J	mg/L	5	10/12/2017 2:29:39 PM	34312
Selenium	0.045	0.0071	0.010		mg/L	10	10/12/2017 2:32:39 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 2:50:13 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 6:13:02 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/6/2017 6:13:02 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 6:13:02 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:15:00 AM
Lab ID: 1709F70-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 6:13:02 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 6:13:02 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 6:13:02 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 6:13:02 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 6:13:02 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 6:13:02 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 6:13:02 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 6:13:02 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 6:13:02 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 6:13:02 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 6:13:02 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 6:13:02 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:15:00 AM
Lab ID: 1709F70-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 6:13:02 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 6:13:02 PM	34167
Surr: 2-Fluorophenol	1.32	0	15-88	S	%Rec	1	10/6/2017 6:13:02 PM	34167
Surr: Phenol-d5	0.950	0	15-72.4	S	%Rec	1	10/6/2017 6:13:02 PM	34167
Surr: 2,4,6-Tribromophenol	0.290	0	15-117	S	%Rec	1	10/6/2017 6:13:02 PM	34167
Surr: Nitrobenzene-d5	70.8	0	33.5-120		%Rec	1	10/6/2017 6:13:02 PM	34167
Surr: 2-Fluorobiphenyl	62.7	0	26.5-109		%Rec	1	10/6/2017 6:13:02 PM	34167
Surr: 4-Terphenyl-d14	35.9	0	21.7-98.7		%Rec	1	10/6/2017 6:13:02 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Acetone	9.1	0.82	10	J	µg/L	1	10/4/2017 5:50:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 5:50:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 5:50:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:15:00 AM
Lab ID: 1709F70-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 5:50:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 5:50:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 5:50:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 5:50:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/4/2017 5:50:00 AM	B46072
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	10/4/2017 5:50:00 AM	B46072
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/4/2017 5:50:00 AM	B46072

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:15:00 AM
Lab ID: 1709F70-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	100	0	70-130		%Rec	1	10/4/2017 5:50:00 AM	B46072

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 1:48:00 PM
Lab ID: 1709F70-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 10:46:41 PM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 10:46:41 PM	34173
Surr: DNOP	123	0	77.5-161		%Rec	1	10/3/2017 10:46:41 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.26	0.025	0.050		mg/L	1	10/2/2017 3:51:39 PM	G46025
Surr: BFB	108	0	52.3-138		%Rec	1	10/2/2017 3:51:39 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.33	0.22	0.50	J	mg/L	5	10/4/2017 9:53:08 PM	A46128
Chloride	93	5.0	10		mg/L	20	10/4/2017 10:05:33 PM	A46128
Bromide	0.68	0.073	0.50		mg/L	5	10/4/2017 9:53:08 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 9:53:08 PM	A46128
Sulfate	270	1.9	10		mg/L	20	10/4/2017 10:05:33 PM	A46128
Nitrate+Nitrite as N	0.24	0.13	1.0	J	mg/L	5	10/10/2017 9:43:16 PM	A46255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.037	0.00085	0.0020		mg/L	1	10/10/2017 8:32:36 PM	B46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:32:36 PM	B46240
Calcium	82	0.078	1.0		mg/L	1	10/10/2017 8:32:36 PM	B46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:32:36 PM	B46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:32:36 PM	B46240
Iron	ND	0.016	0.020		mg/L	1	10/10/2017 8:32:36 PM	B46240
Magnesium	18	0.25	1.0		mg/L	1	10/10/2017 8:32:36 PM	B46240
Manganese	0.19	0.00039	0.0020	*	mg/L	1	10/10/2017 8:32:36 PM	B46240
Potassium	0.98	0.11	1.0	J	mg/L	1	10/10/2017 8:32:36 PM	B46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:32:36 PM	B46240
Sodium	300	1.6	10		mg/L	10	10/10/2017 8:40:09 PM	B46240
Zinc	0.014	0.0021	0.010		mg/L	1	10/11/2017 6:33:30 PM	R46308
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.22	0.00093	0.0020		mg/L	1	10/10/2017 12:23:39 PM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 12:23:39 PM	34312
Chromium	0.0058	0.0018	0.0060	J	mg/L	1	10/10/2017 12:23:39 PM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 12:23:39 PM	34312
Iron	4.4	0.051	0.10	*	mg/L	5	10/10/2017 2:27:59 PM	34312
Manganese	0.60	0.0011	0.0020	*	mg/L	1	10/10/2017 12:23:39 PM	34312
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 12:23:39 PM	34312
Zinc	0.012	0.0033	0.010		mg/L	1	10/10/2017 12:23:39 PM	34312
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.00089	0.0050		mg/L	5	10/6/2017 4:12:39 PM	A46196

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EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:05:04 PM	B46150
Selenium	0.0020	0.0019	0.0050	J	mg/L	5	10/6/2017 4:12:39 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0015	0.0050		mg/L	5	10/12/2017 2:44:45 PM	34312
Lead	0.0046	0.000095	0.00050		mg/L	1	10/11/2017 2:02:35 PM	34312
Selenium	ND	0.0036	0.0050		mg/L	5	10/12/2017 2:44:45 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 2:52:12 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 6:41:15 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/6/2017 6:41:15 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 6:41:15 PM	34167

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 6:41:15 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 6:41:15 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 6:41:15 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 6:41:15 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 6:41:15 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 6:41:15 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 6:41:15 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 6:41:15 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 6:41:15 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 6:41:15 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 6:41:15 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 6:41:15 PM	34167

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 6:41:15 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 6:41:15 PM	34167
Surr: 2-Fluorophenol	45.0	0	15-88		%Rec	1	10/6/2017 6:41:15 PM	34167
Surr: Phenol-d5	39.0	0	15-72.4		%Rec	1	10/6/2017 6:41:15 PM	34167
Surr: 2,4,6-Tribromophenol	72.6	0	15-117		%Rec	1	10/6/2017 6:41:15 PM	34167
Surr: Nitrobenzene-d5	70.3	0	33.5-120		%Rec	1	10/6/2017 6:41:15 PM	34167
Surr: 2-Fluorobiphenyl	65.4	0	26.5-109		%Rec	1	10/6/2017 6:41:15 PM	34167
Surr: 4-Terphenyl-d14	42.4	0	21.7-98.7		%Rec	1	10/6/2017 6:41:15 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Methyl tert-butyl ether (MTBE)	250	2.4	10		µg/L	10	10/4/2017 12:57:00 PM	R46113
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Acetone	ND	0.82	10		µg/L	1	10/4/2017 6:14:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 6:14:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 6:14:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072

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EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 6:14:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 6:14:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
sec-Butylbenzene	0.29	0.11	1.0	J	µg/L	1	10/4/2017 6:14:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 6:14:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 6:14:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/4/2017 6:14:00 AM	B46072
Surr: 4-Bromofluorobenzene	97.9	0	70-130		%Rec	1	10/4/2017 6:14:00 AM	B46072
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/4/2017 6:14:00 AM	B46072

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 1:48:00 PM
Lab ID: 1709F70-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	10/4/2017 6:14:00 AM	B46072

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DULICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:30:00 AM
Lab ID: 1709F70-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 11:09:03 PM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 11:09:03 PM	34173
Surr: DNOP	124	0	77.5-161		%Rec	1	10/3/2017 11:09:03 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	10/2/2017 4:15:14 PM	G46025
Surr: BFB	113	0	52.3-138		%Rec	1	10/2/2017 4:15:14 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 10:42:47 PM	A46128
Chloride	9200	250	500		mg/L	1000	10/11/2017 3:34:17 PM	R46291
Bromide	8.0	0.073	0.50		mg/L	5	10/4/2017 10:42:47 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 10:42:47 PM	A46128
Sulfate	1100	96	500		mg/L	1000	10/11/2017 3:34:17 PM	R46291
Nitrate+Nitrite as N	13	1.3	10	*	mg/L	50	10/11/2017 5:25:59 PM	R46291
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.068	0.00085	0.0020		mg/L	1	10/10/2017 8:42:01 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:42:01 PM	C46240
Calcium	2200	3.9	50		mg/L	50	10/11/2017 6:35:07 PM	R46308
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:42:01 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:42:01 PM	C46240
Iron	0.026	0.016	0.020		mg/L	1	10/10/2017 8:42:01 PM	C46240
Magnesium	330	2.5	10		mg/L	10	10/10/2017 8:43:57 PM	C46240
Manganese	8.9	0.0039	0.020	*	mg/L	10	10/10/2017 8:43:57 PM	C46240
Potassium	7.7	0.11	1.0		mg/L	1	10/10/2017 8:42:01 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:42:01 PM	C46240
Sodium	4800	8.2	50		mg/L	50	10/11/2017 6:35:07 PM	R46308
Zinc	0.012	0.0021	0.010		mg/L	1	10/10/2017 8:42:01 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.099	0.00093	0.0020		mg/L	1	10/10/2017 12:25:15 PM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 12:25:15 PM	34312
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 12:25:15 PM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 12:25:15 PM	34312
Iron	1.2	0.10	0.20	*	mg/L	10	10/10/2017 2:29:43 PM	34312
Manganese	8.2	0.011	0.020	*	mg/L	10	10/10/2017 2:29:43 PM	34312
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 12:25:15 PM	34312
Zinc	0.0061	0.0033	0.010	J	mg/L	1	10/10/2017 12:25:15 PM	34312
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.018	0.10		mg/L	100	10/6/2017 4:21:54 PM	A46196

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DULICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:30:00 AM
Lab ID: 1709F70-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.0017	0.0050		mg/L	10	10/6/2017 4:18:51 PM	A46196
Selenium	0.044	0.0039	0.010		mg/L	10	10/6/2017 4:18:51 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.015	0.050		mg/L	50	10/12/2017 2:53:46 PM	34312
Lead	0.0013	0.00048	0.0025	J	mg/L	5	10/12/2017 2:47:45 PM	34312
Selenium	0.046	0.036	0.050	J	mg/L	50	10/12/2017 2:53:46 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 2:54:13 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 7:09:25 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/6/2017 7:09:25 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 7:09:25 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DULICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:30:00 AM
Lab ID: 1709F70-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 7:09:25 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 7:09:25 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 7:09:25 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 7:09:25 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 7:09:25 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 7:09:25 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 7:09:25 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 7:09:25 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 7:09:25 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 7:09:25 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 7:09:25 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 7:09:25 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DULICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:30:00 AM
Lab ID: 1709F70-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 7:09:25 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 7:09:25 PM	34167
Surr: 2-Fluorophenol	1.57	0	15-88	S	%Rec	1	10/6/2017 7:09:25 PM	34167
Surr: Phenol-d5	1.32	0	15-72.4	S	%Rec	1	10/6/2017 7:09:25 PM	34167
Surr: 2,4,6-Tribromophenol	1.28	0	15-117	S	%Rec	1	10/6/2017 7:09:25 PM	34167
Surr: Nitrobenzene-d5	80.9	0	33.5-120		%Rec	1	10/6/2017 7:09:25 PM	34167
Surr: 2-Fluorobiphenyl	73.3	0	26.5-109		%Rec	1	10/6/2017 7:09:25 PM	34167
Surr: 4-Terphenyl-d14	49.9	0	21.7-98.7		%Rec	1	10/6/2017 7:09:25 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Acetone	9.0	0.82	10	J	µg/L	1	10/4/2017 6:38:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 6:38:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 6:38:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DULICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:30:00 AM
Lab ID: 1709F70-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 6:38:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 6:38:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 6:38:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 6:38:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/4/2017 6:38:00 AM	B46072
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	10/4/2017 6:38:00 AM	B46072
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/4/2017 6:38:00 AM	B46072

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DULICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 11:30:00 AM
Lab ID: 1709F70-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	98.2	0	70-130		%Rec	1	10/4/2017 6:38:00 AM	B46072

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 2:50:00 PM
Lab ID: 1709F70-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 11:31:12 PM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 11:31:12 PM	34173
Surr: DNOP	129	0	77.5-161		%Rec	1	10/3/2017 11:31:12 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	10/2/2017 4:38:50 PM	G46025
Surr: BFB	107	0	52.3-138		%Rec	1	10/2/2017 4:38:50 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 11:07:37 PM	A46128
Chloride	1100	25	50		mg/L	100	10/11/2017 3:46:41 PM	R46291
Bromide	1.3	0.073	0.50		mg/L	5	10/4/2017 11:07:37 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 11:07:37 PM	A46128
Sulfate	85	0.48	2.5		mg/L	5	10/4/2017 11:07:37 PM	A46128
Nitrate+Nitrite as N	7.0	0.13	1.0		mg/L	5	10/10/2017 10:08:05 PM	A46255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.16	0.00085	0.0020		mg/L	1	10/10/2017 8:45:49 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:45:49 PM	C46240
Calcium	45	0.078	1.0		mg/L	1	10/10/2017 8:45:49 PM	C46240
Chromium	0.013	0.0013	0.0060		mg/L	1	10/10/2017 8:45:49 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:45:49 PM	C46240
Iron	ND	0.016	0.020		mg/L	1	10/10/2017 8:45:49 PM	C46240
Magnesium	2.3	0.25	1.0		mg/L	1	10/10/2017 8:45:49 PM	C46240
Manganese	0.00064	0.00039	0.0020	J	mg/L	1	10/10/2017 8:45:49 PM	C46240
Potassium	2.5	0.11	1.0		mg/L	1	10/10/2017 8:45:49 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:45:49 PM	C46240
Sodium	940	3.3	20		mg/L	20	10/11/2017 6:38:20 PM	R46308
Zinc	0.011	0.0021	0.010		mg/L	1	10/10/2017 8:45:49 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.19	0.00093	0.0020		mg/L	1	10/10/2017 12:27:00 PM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 12:27:00 PM	34312
Chromium	0.013	0.0018	0.0060		mg/L	1	10/10/2017 12:27:00 PM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 12:27:00 PM	34312
Iron	1.6	0.051	0.10	*	mg/L	5	10/10/2017 2:31:34 PM	34312
Manganese	0.047	0.0011	0.0020		mg/L	1	10/10/2017 12:27:00 PM	34312
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 12:27:00 PM	34312
Zinc	0.0072	0.0033	0.010	J	mg/L	1	10/10/2017 12:27:00 PM	34312
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.0018	0.010	J	mg/L	10	10/6/2017 4:24:58 PM	A46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 2:50:00 PM
Lab ID: 1709F70-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:11:10 PM	B46150
Selenium	0.012	0.0039	0.010		mg/L	10	10/6/2017 4:24:58 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0036	0.00030	0.0010		mg/L	1	10/11/2017 2:08:36 PM	34312
Lead	0.0019	0.000095	0.00050		mg/L	1	10/11/2017 2:08:36 PM	34312
Selenium	0.011	0.00071	0.0010		mg/L	1	10/11/2017 2:08:36 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 2:56:13 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 7:37:29 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Bis(2-ethylhexyl)phthalate	24	4.8	10	B	µg/L	1	10/6/2017 7:37:29 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 7:37:29 PM	34167

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 2:50:00 PM
Lab ID: 1709F70-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 7:37:29 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 7:37:29 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 7:37:29 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 7:37:29 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 7:37:29 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 7:37:29 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 7:37:29 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 7:37:29 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 7:37:29 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 7:37:29 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 7:37:29 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 7:37:29 PM	34167

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 2:50:00 PM
Lab ID: 1709F70-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 7:37:29 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 7:37:29 PM	34167
Surr: 2-Fluorophenol	51.1	0	15-88		%Rec	1	10/6/2017 7:37:29 PM	34167
Surr: Phenol-d5	46.0	0	15-72.4		%Rec	1	10/6/2017 7:37:29 PM	34167
Surr: 2,4,6-Tribromophenol	91.4	0	15-117		%Rec	1	10/6/2017 7:37:29 PM	34167
Surr: Nitrobenzene-d5	77.3	0	33.5-120		%Rec	1	10/6/2017 7:37:29 PM	34167
Surr: 2-Fluorobiphenyl	67.6	0	26.5-109		%Rec	1	10/6/2017 7:37:29 PM	34167
Surr: 4-Terphenyl-d14	40.5	0	21.7-98.7		%Rec	1	10/6/2017 7:37:29 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Acetone	2.6	0.82	10	J	µg/L	1	10/4/2017 7:02:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 7:02:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 7:02:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 2:50:00 PM
Lab ID: 1709F70-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 7:02:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 7:02:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 7:02:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 7:02:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/4/2017 7:02:00 AM	B46072
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	10/4/2017 7:02:00 AM	B46072
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/4/2017 7:02:00 AM	B46072

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 2:50:00 PM
Lab ID: 1709F70-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.7	0	70-130		%Rec	1	10/4/2017 7:02:00 AM	B46072

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 3:30:00 PM
Lab ID: 1709F70-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 11:53:37 PM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 11:53:37 PM	34173
Surr: DNOP	124	0	77.5-161		%Rec	1	10/3/2017 11:53:37 PM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	10/2/2017 5:02:21 PM	G46025
Surr: BFB	109	0	52.3-138		%Rec	1	10/2/2017 5:02:21 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 11:32:27 PM	A46128
Chloride	3600	120	250		mg/L	500	10/11/2017 3:59:06 PM	R46291
Bromide	3.0	0.073	0.50		mg/L	5	10/4/2017 11:32:27 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 11:32:27 PM	A46128
Sulfate	590	1.9	10		mg/L	20	10/4/2017 11:44:51 PM	A46128
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	10/11/2017 5:38:24 PM	R46291
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.072	0.00085	0.0020		mg/L	1	10/10/2017 8:49:45 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:49:45 PM	C46240
Calcium	320	0.78	10		mg/L	10	10/10/2017 8:51:44 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:49:45 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:49:45 PM	C46240
Iron	0.094	0.016	0.020		mg/L	1	10/10/2017 8:49:45 PM	C46240
Magnesium	61	0.25	1.0		mg/L	1	10/10/2017 8:49:45 PM	C46240
Manganese	0.052	0.00039	0.0020	*	mg/L	1	10/10/2017 8:49:45 PM	C46240
Potassium	6.4	0.11	1.0		mg/L	1	10/10/2017 8:49:45 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:49:45 PM	C46240
Sodium	2300	8.2	50		mg/L	50	10/11/2017 6:39:57 PM	R46308
Zinc	0.012	0.0021	0.010		mg/L	1	10/10/2017 8:49:45 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.14	0.00093	0.0020		mg/L	1	10/10/2017 12:28:48 PM	34312
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 12:28:48 PM	34312
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 12:28:48 PM	34312
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 12:28:48 PM	34312
Iron	2.5	0.051	0.10	*	mg/L	5	10/10/2017 2:33:29 PM	34312
Manganese	0.21	0.0011	0.0020	*	mg/L	1	10/10/2017 12:28:48 PM	34312
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 12:28:48 PM	34312
Zinc	0.0081	0.0033	0.010	J	mg/L	1	10/10/2017 12:28:48 PM	34312
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0026	0.00089	0.0050	J	mg/L	5	10/6/2017 4:28:01 PM	A46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 3:30:00 PM
Lab ID: 1709F70-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	10/6/2017 4:28:01 PM	A46196
Selenium	0.0082	0.0019	0.0050		mg/L	5	10/6/2017 4:28:01 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0022	0.0015	0.0050	J	mg/L	5	10/12/2017 2:56:47 PM	34312
Lead	0.0028	0.00048	0.0025		mg/L	5	10/12/2017 2:56:47 PM	34312
Selenium	0.0071	0.0036	0.0050		mg/L	5	10/12/2017 2:56:47 PM	34312
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 2:58:14 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Benzoic acid	6.9	3.9	20	J	µg/L	1	10/6/2017 8:05:31 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Bis(2-ethylhexyl)phthalate	26	4.8	10	B	µg/L	1	10/6/2017 8:05:31 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 8:05:31 PM	34167

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Qualifiers:

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Collection Date: 9/25/2017 3:30:00 PM
Lab ID: 1709F70-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 8:05:31 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 8:05:31 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 8:05:31 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 8:05:31 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 8:05:31 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 8:05:31 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 8:05:31 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 8:05:31 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 8:05:31 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 8:05:31 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 8:05:31 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 8:05:31 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 3:30:00 PM
Lab ID: 1709F70-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 8:05:31 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 8:05:31 PM	34167
Surr: 2-Fluorophenol	60.2	0	15-88		%Rec	1	10/6/2017 8:05:31 PM	34167
Surr: Phenol-d5	54.3	0	15-72.4		%Rec	1	10/6/2017 8:05:31 PM	34167
Surr: 2,4,6-Tribromophenol	102	0	15-117		%Rec	1	10/6/2017 8:05:31 PM	34167
Surr: Nitrobenzene-d5	88.2	0	33.5-120		%Rec	1	10/6/2017 8:05:31 PM	34167
Surr: 2-Fluorobiphenyl	79.1	0	26.5-109		%Rec	1	10/6/2017 8:05:31 PM	34167
Surr: 4-Terphenyl-d14	48.3	0	21.7-98.7		%Rec	1	10/6/2017 8:05:31 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Methyl tert-butyl ether (MTBE)	0.46	0.24	1.0	J	µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Acetone	5.5	0.82	10	J	µg/L	1	10/4/2017 7:25:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 7:25:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 7:25:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 3:30:00 PM
Lab ID: 1709F70-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,1-Dichloroethane	0.81	0.40	1.0	J	µg/L	1	10/4/2017 7:25:00 AM	B46072
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 7:25:00 AM	B46072
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 7:25:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 7:25:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 7:25:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/4/2017 7:25:00 AM	B46072
Surr: 4-Bromofluorobenzene	97.7	0	70-130		%Rec	1	10/4/2017 7:25:00 AM	B46072
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/4/2017 7:25:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 3:30:00 PM
Lab ID: 1709F70-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.0	0	70-130		%Rec	1	10/4/2017 7:25:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:00:00 PM
Lab ID: 1709F70-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	0.010	0.0060	0.0095		µg/L	1	10/4/2017 5:21:41 PM	34228
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/4/2017 12:15:57 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 12:15:57 AM	34173
Surr: DNOP	125	0	77.5-161		%Rec	1	10/4/2017 12:15:57 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.20	0.025	0.050		mg/L	1	10/2/2017 5:25:54 PM	G46025
Surr: BFB	129	0	52.3-138		%Rec	1	10/2/2017 5:25:54 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 11:57:16 PM	A46128
Chloride	770	12	25		mg/L	50	10/11/2017 4:11:31 PM	R46291
Bromide	2.2	0.073	0.50		mg/L	5	10/4/2017 11:57:16 PM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/4/2017 11:57:16 PM	A46128
Sulfate	76	0.48	2.5		mg/L	5	10/4/2017 11:57:16 PM	A46128
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/10/2017 10:32:55 PM	A46255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.12	0.00085	0.0020		mg/L	1	10/10/2017 8:53:46 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:53:46 PM	C46240
Calcium	130	0.78	10		mg/L	10	10/10/2017 8:55:37 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:53:46 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:53:46 PM	C46240
Iron	ND	0.016	0.020		mg/L	1	10/10/2017 8:53:46 PM	C46240
Magnesium	30	0.25	1.0		mg/L	1	10/10/2017 8:53:46 PM	C46240
Manganese	0.029	0.00039	0.0020		mg/L	1	10/10/2017 8:53:46 PM	C46240
Potassium	1.5	0.11	1.0		mg/L	1	10/10/2017 8:53:46 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:53:46 PM	C46240
Sodium	530	1.6	10		mg/L	10	10/10/2017 8:55:37 PM	C46240
Zinc	0.012	0.0021	0.010		mg/L	1	10/10/2017 8:53:46 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.17	0.00093	0.0020		mg/L	1	10/10/2017 12:56:34 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 12:56:34 PM	34315
Chromium	0.0023	0.0018	0.0060	J	mg/L	1	10/10/2017 12:56:34 PM	34315
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 12:56:34 PM	34315
Iron	1.3	0.051	0.10	*	mg/L	5	10/10/2017 2:35:17 PM	34315
Manganese	0.14	0.0011	0.0020	*	mg/L	1	10/10/2017 12:56:34 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 12:56:34 PM	34315
Zinc	0.0043	0.0033	0.010	J	mg/L	1	10/10/2017 12:56:34 PM	34315

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Client Sample ID: MKTF-31
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:00:00 PM
Lab ID: 1709F70-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0025	0.00089	0.0050	J	mg/L	5	10/6/2017 4:46:25 PM	A46196
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:17:17 PM	B46150
Selenium	0.0062	0.0019	0.0050		mg/L	5	10/6/2017 4:46:25 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0025	0.0015	0.0050	J	mg/L	5	10/12/2017 3:02:48 PM	34315
Lead	0.0023	0.000095	0.00050		mg/L	1	10/11/2017 2:26:42 PM	34315
Selenium	0.0081	0.0036	0.0050		mg/L	5	10/24/2017 4:25:19 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 3:00:09 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 8:33:33 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Bis(2-ethylhexyl)phthalate	5.5	4.8	10	J	µg/L	1	10/6/2017 8:33:33 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:00:00 PM
Lab ID: 1709F70-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 8:33:33 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 8:33:33 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 8:33:33 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 8:33:33 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 8:33:33 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 8:33:33 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 8:33:33 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 8:33:33 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 8:33:33 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 8:33:33 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 8:33:33 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 8:33:33 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 8:33:33 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:00:00 PM
Lab ID: 1709F70-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 8:33:33 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 8:33:33 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 8:33:33 PM	34167
Surr: 2-Fluorophenol	52.1	0	15-88		%Rec	1	10/6/2017 8:33:33 PM	34167
Surr: Phenol-d5	45.3	0	15-72.4		%Rec	1	10/6/2017 8:33:33 PM	34167
Surr: 2,4,6-Tribromophenol	91.9	0	15-117		%Rec	1	10/6/2017 8:33:33 PM	34167
Surr: Nitrobenzene-d5	81.8	0	33.5-120		%Rec	1	10/6/2017 8:33:33 PM	34167
Surr: 2-Fluorobiphenyl	73.0	0	26.5-109		%Rec	1	10/6/2017 8:33:33 PM	34167
Surr: 4-Terphenyl-d14	42.5	0	21.7-98.7		%Rec	1	10/6/2017 8:33:33 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.85	0.062	1.0	J	µg/L	1	10/4/2017 7:49:00 AM	B46072
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Methyl tert-butyl ether (MTBE)	76	0.24	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2-Dichloroethane (EDC)	25	0.40	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Acetone	ND	0.82	10		µg/L	1	10/4/2017 7:49:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 7:49:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 7:49:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Chloroform	0.52	0.40	1.0	J	µg/L	1	10/4/2017 7:49:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
cis-1,2-DCE	1.7	0.20	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 7:49:00 AM	B46072

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:00:00 PM
Lab ID: 1709F70-011 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,1-Dichloroethane	41	0.40	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,1-Dichloroethene	80	0.081	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 7:49:00 AM	B46072
Isopropylbenzene	1.8	0.051	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 7:49:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
n-Butylbenzene	0.35	0.13	3.0	J	µg/L	1	10/4/2017 7:49:00 AM	B46072
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
sec-Butylbenzene	0.54	0.11	1.0	J	µg/L	1	10/4/2017 7:49:00 AM	B46072
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,1,1-Trichloroethane	5.3	0.073	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,1,2-Trichloroethane	2.7	0.14	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Trichloroethene (TCE)	4.8	0.11	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 7:49:00 AM	B46072
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 7:49:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	97.4	0	70-130		%Rec	1	10/4/2017 7:49:00 AM	B46072
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	10/4/2017 7:49:00 AM	B46072

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:00:00 PM
Lab ID: 1709F70-011 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/4/2017 7:49:00 AM	B46072
Surr: Toluene-d8	99.4	0	70-130		%Rec	1	10/4/2017 7:49:00 AM	B46072

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:58:00 PM
Lab ID: 1709F70-012
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	10/4/2017 5:36:54 PM	34228
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.0	0.36	1.0		mg/L	1	10/4/2017 12:38:30 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 12:38:30 AM	34173
Surr: DNOP	125	0	77.5-161		%Rec	1	10/4/2017 12:38:30 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	16	0.12	0.25		mg/L	5	10/2/2017 5:49:21 PM	G46025
Surr: BFB	208	0	52.3-138	S	%Rec	5	10/2/2017 5:49:21 PM	G46025
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.25	0.22	0.50	J	mg/L	5	10/5/2017 12:22:05 AM	A46128
Chloride	500	12	25		mg/L	50	10/11/2017 4:23:55 PM	R46291
Bromide	1.6	0.073	0.50		mg/L	5	10/5/2017 12:22:05 AM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/5/2017 12:22:05 AM	A46128
Sulfate	31	0.48	2.5		mg/L	5	10/5/2017 12:22:05 AM	A46128
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/10/2017 10:45:19 PM	A46255
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.24	0.00085	0.0020		mg/L	1	10/10/2017 8:57:30 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:57:30 PM	C46240
Calcium	110	0.78	10		mg/L	10	10/10/2017 9:05:07 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:57:30 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:57:30 PM	C46240
Iron	0.57	0.016	0.020	*	mg/L	1	10/10/2017 8:57:30 PM	C46240
Magnesium	20	0.25	1.0		mg/L	1	10/10/2017 8:57:30 PM	C46240
Manganese	2.4	0.0039	0.020	*	mg/L	10	10/10/2017 9:05:07 PM	C46240
Potassium	1.1	0.11	1.0		mg/L	1	10/10/2017 8:57:30 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:57:30 PM	C46240
Sodium	560	1.6	10		mg/L	10	10/10/2017 9:05:07 PM	C46240
Zinc	0.018	0.0021	0.010		mg/L	1	10/10/2017 8:57:30 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.38	0.00093	0.0020		mg/L	1	10/10/2017 12:58:10 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 12:58:10 PM	34315
Chromium	0.0048	0.0018	0.0060	J	mg/L	1	10/10/2017 12:58:10 PM	34315
Copper	0.0098	0.0017	0.0060		mg/L	1	10/10/2017 12:58:10 PM	34315
Iron	4.1	0.051	0.10	*	mg/L	5	10/10/2017 2:37:12 PM	34315
Manganese	2.8	0.0055	0.010	*	mg/L	5	10/10/2017 2:37:12 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 12:58:10 PM	34315
Zinc	0.0086	0.0033	0.010	J	mg/L	1	10/10/2017 12:58:10 PM	34315

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:58:00 PM
Lab ID: 1709F70-012
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0044	0.00089	0.0050	J	mg/L	5	10/6/2017 4:52:31 PM	A46196
Lead	0.00039	0.00017	0.00050	J	mg/L	1	10/5/2017 4:20:20 PM	B46150
Selenium	0.0047	0.0019	0.0050	J	mg/L	5	10/6/2017 4:52:31 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0052	0.0015	0.0050		mg/L	5	10/12/2017 3:05:49 PM	34315
Lead	0.0057	0.000095	0.00050		mg/L	1	10/11/2017 2:29:43 PM	34315
Selenium	0.0061	0.0036	0.0050		mg/L	5	10/24/2017 4:34:24 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000040	0.000037	0.00020	J	mg/L	1	10/11/2017 3:02:03 PM	34350
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/6/2017 9:01:32 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/6/2017 9:01:32 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

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Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:58:00 PM
Lab ID: 1709F70-012
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 9:01:32 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 9:01:32 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 9:01:32 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 9:01:32 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 9:01:32 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 9:01:32 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 9:01:32 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 9:01:32 PM	34167
1-Methylnaphthalene	7.5	3.3	10	J	µg/L	1	10/6/2017 9:01:32 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 9:01:32 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Naphthalene	7.0	2.9	10	J	µg/L	1	10/6/2017 9:01:32 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 9:01:32 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 9:01:32 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 9:01:32 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Phenol	12	3.1	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 9:01:32 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:58:00 PM
Lab ID: 1709F70-012
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 9:01:32 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 9:01:32 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 9:01:32 PM	34167
Surr: 2-Fluorophenol	58.7	0	15-88		%Rec	1	10/6/2017 9:01:32 PM	34167
Surr: Phenol-d5	46.6	0	15-72.4		%Rec	1	10/6/2017 9:01:32 PM	34167
Surr: 2,4,6-Tribromophenol	99.7	0	15-117		%Rec	1	10/6/2017 9:01:32 PM	34167
Surr: Nitrobenzene-d5	85.8	0	33.5-120		%Rec	1	10/6/2017 9:01:32 PM	34167
Surr: 2-Fluorobiphenyl	78.6	0	26.5-109		%Rec	1	10/6/2017 9:01:32 PM	34167
Surr: 4-Terphenyl-d14	43.5	0	21.7-98.7		%Rec	1	10/6/2017 9:01:32 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1600	6.2	100		µg/L	100	10/4/2017 1:21:00 PM	R46113
Toluene	10	0.064	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Ethylbenzene	130	0.93	10		µg/L	10	10/4/2017 1:45:00 PM	R46113
Methyl tert-butyl ether (MTBE)	230	2.4	10		µg/L	10	10/4/2017 1:45:00 PM	R46113
1,2,4-Trimethylbenzene	3.5	0.11	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,3,5-Trimethylbenzene	1.2	0.087	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Naphthalene	7.9	0.11	2.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1-Methylnaphthalene	3.8	0.16	4.0	J	µg/L	1	10/4/2017 8:13:00 AM	B46072
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Acetone	ND	0.82	10		µg/L	1	10/4/2017 8:13:00 AM	B46072
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 8:13:00 AM	B46072
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 8:13:00 AM	B46072
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Chloroethane	0.46	0.23	2.0	J	µg/L	1	10/4/2017 8:13:00 AM	B46072
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
cis-1,2-DCE	52	0.20	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 8:13:00 AM	B46072

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Client Sample ID: MKTF-25
Project: 2017 3rd QTR MKTF
Collection Date: 9/25/2017 4:58:00 PM
Lab ID: 1709F70-012
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,2-Dichlorobenzene	0.11	0.090	1.0	J	µg/L	1	10/4/2017 8:13:00 AM	B46072
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,1-Dichloroethane	240	4.0	10		µg/L	10	10/4/2017 1:45:00 PM	R46113
1,1-Dichloroethene	110	0.81	10		µg/L	10	10/4/2017 1:45:00 PM	R46113
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 8:13:00 AM	B46072
Isopropylbenzene	46	0.051	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
4-Isopropyltoluene	0.89	0.096	1.0	J	µg/L	1	10/4/2017 8:13:00 AM	B46072
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 8:13:00 AM	B46072
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
n-Butylbenzene	15	0.13	3.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
n-Propylbenzene	57	0.074	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
sec-Butylbenzene	7.5	0.11	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Styrene	0.17	0.16	1.0	J	µg/L	1	10/4/2017 8:13:00 AM	B46072
tert-Butylbenzene	0.12	0.10	1.0	J	µg/L	1	10/4/2017 8:13:00 AM	B46072
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Tetrachloroethene (PCE)	2.3	0.13	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,1,1-Trichloroethane	20	0.073	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,1,2-Trichloroethane	1.2	0.14	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Trichloroethene (TCE)	27	0.11	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Vinyl chloride	3.1	0.18	1.0		µg/L	1	10/4/2017 8:13:00 AM	B46072
Xylenes, Total	14	0.32	1.5		µg/L	1	10/4/2017 8:13:00 AM	B46072
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	10/4/2017 8:13:00 AM	B46072
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	10/4/2017 8:13:00 AM	B46072

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Qualifiers:

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Lab ID: 1709F70-012
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	10/4/2017 8:13:00 AM	B46072
Surr: Toluene-d8	99.6	0	70-130		%Rec	1	10/4/2017 8:13:00 AM	B46072

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472334** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472335** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472337** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	105	50	150			
Cadmium	0.0022	0.0020	0.002000	0	112	50	150			
Calcium	0.51	1.0	0.5000	0	103	50	150			J
Chromium	0.0070	0.0060	0.006000	0	116	50	150			
Copper	0.0068	0.0060	0.006000	0	112	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472337** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.021	0.020	0.02000	0	106	50	150			
Magnesium	0.53	1.0	0.5000	0	105	50	150			J
Manganese	0.0022	0.0020	0.002000	0	108	50	150			
Potassium	0.57	1.0	0.5000	0	114	50	150			J
Silver	0.0050	0.0050	0.005000	0	101	50	150			
Sodium	0.50	1.0	0.5000	0	99.8	50	150			J

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472338** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Cadmium	0.0022	0.0020	0.002000	0	109	50	150			
Calcium	0.52	1.0	0.5000	0	103	50	150			J
Chromium	0.0053	0.0060	0.006000	0	89.0	50	150			J
Copper	0.0063	0.0060	0.006000	0	105	50	150			
Iron	0.021	0.020	0.02000	0	103	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0022	0.0020	0.002000	0	108	50	150			
Potassium	0.61	1.0	0.5000	0	123	50	150			J
Silver	0.0049	0.0050	0.005000	0	97.2	50	150			J
Sodium	0.51	1.0	0.5000	0	101	50	150			J
Zinc	0.0052	0.010	0.005000	0	104	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472340** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.1	85	115			
Calcium	50	1.0	50.00	0	99.6	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.49	0.020	0.5000	0	98.4	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.8	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472340** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	51	1.0	50.00	0	102	85	115			

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472341** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Calcium	50	1.0	50.00	0	100	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.50	0.020	0.5000	0	99.2	85	115			
Magnesium	51	1.0	50.00	0	103	85	115			
Manganese	0.49	0.0020	0.5000	0	98.9	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	96.1	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46308**	RunNo: **46308**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474985** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46308**	RunNo: **46308**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474986** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.49	1.0	0.5000	0	99.0	50	150			J
Iron	0.021	0.020	0.02000	0	104	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**LLLCS-A**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A46308**	RunNo:	**46308**					
Prep Date:		Analysis Date:	**10/11/2017**	SeqNo:	**1474986**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	0.50	1.0	0.5000	0	101	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Potassium	0.58	1.0	0.5000	0	117	50	150			J
Sodium	0.51	1.0	0.5000	0	102	50	150			J
Zinc	0.0039	0.010	0.005000	0	78.2	50	150			J

Sample ID	**LCS-A**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**A46308**	RunNo:	**46308**					
Prep Date:		Analysis Date:	**10/11/2017**	SeqNo:	**1474987**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	95.4	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Manganese	0.48	0.0020	0.5000	0	95.7	85	115			
Potassium	51	1.0	50.00	0	101	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.47	0.010	0.5000	0	93.1	85	115			

Sample ID	**MB-A**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**A46309**	RunNo:	**46309**					
Prep Date:		Analysis Date:	**10/12/2017**	SeqNo:	**1475103**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	**LLLCS-A**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A46309**	RunNo:	**46309**					
Prep Date:		Analysis Date:	**10/12/2017**	SeqNo:	**1475106**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.51	1.0	0.5000	0	103	50	150			J

Sample ID	**LCS-A**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**A46309**	RunNo:	**46309**					
Prep Date:		Analysis Date:	**10/12/2017**	SeqNo:	**1475109**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46658**	RunNo: **46658**
Prep Date:	Analysis Date: **10/25/2017**	SeqNo: **1486426** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46658**	RunNo: **46658**
Prep Date:	Analysis Date: **10/25/2017**	SeqNo: **1486428** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Sodium	0.53	1.0	0.5000	0	105	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46658**	RunNo: **46658**
Prep Date:	Analysis Date: **10/25/2017**	SeqNo: **1486441** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	98.8	85	115			
Sodium	49	1.0	50.00	0	97.2	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46782**	RunNo: **46782**
Prep Date:	Analysis Date: **10/31/2017**	SeqNo: **1491403** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46782**	RunNo: **46782**
Prep Date:	Analysis Date: **10/31/2017**	SeqNo: **1491404** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0054	0.010	0.005000	0	108	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46782**	RunNo: **46782**
Prep Date:	Analysis Date: **10/31/2017**	SeqNo: **1491405** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.51	0.010	0.5000	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**1709F70-010GMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-40**	Batch ID: **34312**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473329**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.60	0.0020	0.5000	0.1378	92.3	70	130			
Cadmium	0.47	0.0020	0.5000	0	94.2	70	130			
Chromium	0.47	0.0060	0.5000	0	93.6	70	130			
Copper	0.49	0.0060	0.5000	0	98.2	70	130			
Manganese	0.66	0.0020	0.5000	0.2132	89.1	70	130			
Silver	0.10	0.0050	0.1000	0	103	70	130			
Zinc	0.46	0.010	0.5000	0.008140	91.3	70	130			

Sample ID	**1709F70-010GMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-40**	Batch ID: **34312**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473330**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.59	0.0020	0.5000	0.1378	91.4	70	130	0.795	20	
Cadmium	0.47	0.0020	0.5000	0	94.6	70	130	0.373	20	
Chromium	0.47	0.0060	0.5000	0	93.7	70	130	0.0235	20	
Copper	0.50	0.0060	0.5000	0	99.1	70	130	0.821	20	
Manganese	0.66	0.0020	0.5000	0.2132	89.0	70	130	0.103	20	
Silver	0.10	0.0050	0.1000	0	104	70	130	0.270	20	
Zinc	0.46	0.010	0.5000	0.008140	91.0	70	130	0.401	20	

Sample ID	**MB-34312**	SampType: **MBLK**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID: **34312**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473601**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LLLCS-34312**	SampType: **LCSLL**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID: **34312**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473602**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LLLCS-34312**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34312**	RunNo: **46262**
Prep Date: **10/9/2017**	Analysis Date: **10/10/2017**	SeqNo: **1473602** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0015	0.0020	0.002000	0	76.0	50	150			J
Cadmium	0.0024	0.0020	0.002000	0	120	50	150			
Chromium	0.0069	0.0060	0.006000	0	115	50	150			
Copper	0.0046	0.0060	0.006000	0	76.5	50	150			J
Iron	0.027	0.020	0.02000	0	134	50	150			
Manganese	0.0025	0.0020	0.002000	0	127	50	150			
Silver	0.0056	0.0050	0.005000	0	111	50	150			
Zinc	0.0061	0.010	0.005000	0	123	50	150			J

Sample ID **LCS-34312**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34312**	RunNo: **46262**
Prep Date: **10/9/2017**	Analysis Date: **10/10/2017**	SeqNo: **1473603** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.8	85	115			
Chromium	0.50	0.0060	0.5000	0	99.3	85	115			
Copper	0.49	0.0060	0.5000	0	97.6	85	115			
Iron	0.50	0.020	0.5000	0	99.3	85	115			
Manganese	0.49	0.0020	0.5000	0	97.4	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.50	0.010	0.5000	0	99.2	85	115			

Sample ID **MB-34315**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34315**	RunNo: **46262**
Prep Date: **10/9/2017**	Analysis Date: **10/10/2017**	SeqNo: **1473604** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LLLCS-34315**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34315**	RunNo: **46262**
Prep Date: **10/9/2017**	Analysis Date: **10/10/2017**	SeqNo: **1473605** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	104	50	150			
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			
Chromium	0.0066	0.0060	0.006000	0	111	50	150			
Copper	0.0051	0.0060	0.006000	0	85.3	50	150			J
Iron	0.021	0.020	0.02000	0	104	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0053	0.0050	0.005000	0	106	50	150			
Zinc	0.0062	0.010	0.005000	0	123	50	150			J

Sample ID **LCS-34315**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34315**	RunNo: **46262**
Prep Date: **10/9/2017**	Analysis Date: **10/10/2017**	SeqNo: **1473606** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.5	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.6	85	115			
Chromium	0.48	0.0060	0.5000	0	96.2	85	115			
Copper	0.47	0.0060	0.5000	0	94.5	85	115			
Iron	0.48	0.020	0.5000	0	95.2	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Silver	0.098	0.0050	0.1000	0	98.1	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID	**1709F70-003FLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-42**	Batch ID:	**B46150**		RunNo:	**46150**				
Prep Date:		Analysis Date:	**10/5/2017**		SeqNo:	**1468915**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0	106	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B46150**		RunNo:	**46150**				
Prep Date:		Analysis Date:	**10/5/2017**		SeqNo:	**1468975**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	96.1	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B46150**		RunNo:	**46150**				
Prep Date:		Analysis Date:	**10/5/2017**		SeqNo:	**1468978**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	97.4	50	150			J

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B46150**		RunNo:	**46150**				
Prep Date:		Analysis Date:	**10/5/2017**		SeqNo:	**1468981**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID	**1709F70-003FLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-42**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470641**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.003561	95.9	70	130			
Selenium	0.12	0.0050	0.1250	0.008595	91.0	70	130			

Sample ID	**1709F70-010FLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-40**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470655**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.002608	96.0	70	130			
Lead	0.066	0.0025	0.06250	0	106	70	130			
Selenium	0.11	0.0050	0.1250	0.008178	85.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**1709F70-010FLLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-40**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470656**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.002608	97.1	70	130	1.15	20	
Lead	0.066	0.0025	0.06250	0	106	70	130	0.500	20	
Selenium	0.12	0.0050	0.1250	0.008178	85.5	70	130	0.312	20	

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470728**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	94.0	85	115			
Lead	0.012	0.00050	0.01250	0	96.4	85	115			
Selenium	0.023	0.0010	0.02500	0	91.1	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470732**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00091	0.0010	0.001000	0	90.8	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.5	50	150			J
Selenium	0.00083	0.0010	0.001000	0	83.4	50	150			J

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470736**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID	**1709F70-003GLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-42**	Batch ID:	**34312**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1473971**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.014	0.00050	0.01250	0.0002335	107	70	130			

Sample ID	**1709F70-009GLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-44**	Batch ID:	**34312**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1473978**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.003637	91.3	70	130			
Lead	0.015	0.00050	0.01250	0.001943	106	70	130			
Selenium	0.029	0.0010	0.02500	0.01119	72.3	70	130			

Sample ID	**1709F70-009GLLMS**	SampType:	**MSDLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-44**	Batch ID:	**34312**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1473979**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.003637	91.4	70	130	0.0657	20	
Lead	0.015	0.00050	0.01250	0.001943	107	70	130	0.929	20	
Selenium	0.029	0.0010	0.02500	0.01119	71.1	70	130	1.06	20	

Sample ID	**MB-34312**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**34312**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1474008**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MB-34315**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**34315**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1474009**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MSLCS-34312**	SampType:	**LCS**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**LCSW**	Batch ID:	**34312**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1474012**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.9	85	115			
Lead	0.012	0.00050	0.01250	0	98.8	85	115			
Selenium	0.024	0.0010	0.02500	0	95.5	85	115			

Sample ID	**MSLCS-34315**	SampType:	**LCS**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**LCSW**	Batch ID:	**34315**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1474013**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0	109	85	115			
Lead	0.012	0.00050	0.01250	0	93.9	85	115			

Sample ID	**MSLLLCS-34312**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**34312**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1474016**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	97.8	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.2	50	150			J
Selenium	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID	**MSLLLCS-34315**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**34315**		RunNo:	**46279**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**		SeqNo:	**1474017**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0012	0.0010	0.001000	0	116	50	150			
Lead	0.00036	0.00050	0.0005000	0	72.5	50	150			J

Sample ID	**1709F70-003GLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-42**	Batch ID:	**34312**		RunNo:	**46310**				
Prep Date:	**10/9/2017**	Analysis Date:	**10/12/2017**		SeqNo:	**1475201**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0050	0.02500	0.003224	100	70	130			
Selenium	0.030	0.0050	0.02500	0.006764	91.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **1709F70-011HLLMS** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-31** Batch ID: **34472** RunNo: **46591**
Prep Date: **10/18/2017** Analysis Date: **10/24/2017** SeqNo: **1484395** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.031	0.0050	0.02500	0.008113	91.0	70	130			

Sample ID **1709F70-011HLLMS** SampType: **MSDLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-31** Batch ID: **34472** RunNo: **46591**
Prep Date: **10/18/2017** Analysis Date: **10/24/2017** SeqNo: **1484396** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.031	0.0050	0.02500	0.008113	92.0	70	130	0.772	20	

Sample ID **MB-34472** SampType: **MBLK** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **PBW** Batch ID: **34472** RunNo: **46591**
Prep Date: **10/18/2017** Analysis Date: **10/24/2017** SeqNo: **1484407** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **MSLCS-34472** SampType: **LCS** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **LCSW** Batch ID: **34472** RunNo: **46591**
Prep Date: **10/18/2017** Analysis Date: **10/24/2017** SeqNo: **1484408** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.025	0.0010	0.02500	0	98.2	85	115			

Sample ID **MSLLLCS-34472** SampType: **LCSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **BatchQC** Batch ID: **34472** RunNo: **46591**
Prep Date: **10/18/2017** Analysis Date: **10/24/2017** SeqNo: **1484409** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00097	0.0010	0.001000	0	96.7	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34350**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34350**	RunNo:	**46278**					
Prep Date:	**10/11/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1473819**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34350**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34350**	RunNo:	**46278**					
Prep Date:	**10/11/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1473820**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A46128**	RunNo: **46128**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467462** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.12	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A46128**	RunNo: **46128**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467463** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.57	0.10	0.5000	0	114	90	110			S
Chloride	5.0	0.50	5.000	0	100	90	110			
Bromide	2.7	0.10	2.500	0	108	90	110			
Phosphorus, Orthophosphate (As P	5.2	0.50	5.000	0	105	90	110			
Sulfate	10	0.50	10.00	0	103	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A46255**	RunNo: **46255**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1473135** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A46255**	RunNo: **46255**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1473136** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46291**	RunNo: **46291**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474546** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	0.12	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46291**	RunNo: **46291**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474547** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.1	90	110			
Chloride	4.8	0.50	5.000	0	95.3	90	110			
Sulfate	9.8	0.50	10.00	0	98.1	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34228**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**34228**	RunNo:	**46127**					
Prep Date:	**10/4/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467396**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-34228**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**34228**	RunNo:	**46127**					
Prep Date:	**10/4/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467397**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.083	0.010	0.1000	0	83.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LCS-34173**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **34173**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1465752** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	117	92.3	135			
Surr: DNOP	0.61		0.5000		123	77.5	161			

Sample ID **MB-34173**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **34173**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1465753** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G46025**	RunNo: **46025**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463580** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	22		20.00		111	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G46025**	RunNo: **46025**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463581** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	103	75.8	123			
Surr: BFB	24		20.00		119	52.3	138			

Sample ID **1709F70-012BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-25**	Batch ID: **G46025**	RunNo: **46025**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463592** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	0.25	2.500	16.25	115	53.2	134			
Surr: BFB	230		100.0		226	52.3	138			S

Sample ID **1709F70-012BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-25**	Batch ID: **G46025**	RunNo: **46025**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463593** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	0.25	2.500	16.25	122	53.2	134	0.906	20	
Surr: BFB	220		100.0		220	52.3	138	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B46072**	RunNo: **46072**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1465418** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	116	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	110	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.7	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B46072**	RunNo: **46072**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1465419** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B46072**	RunNo: **46072**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1465419** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B46072**	RunNo: **46072**
Prep Date:	Analysis Date: **10/3/2017**	SeqNo: **1465419** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **1709F70-003AMS**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-42**	Batch ID: **B46072**	RunNo: **46072**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1465432** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	29	1.0	20.00	9.276	99.8	70	130			
Toluene	20	1.0	20.00	0.9800	96.7	70	130			
Chlorobenzene	19	1.0	20.00	0	96.1	70	130			
1,1-Dichloroethene	21	1.0	20.00	0.1880	104	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Sample ID **1709F70-003AMSD**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-42**	Batch ID: **B46072**	RunNo: **46072**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1465433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	29	1.0	20.00	9.276	96.6	70	130			
Toluene	20	1.0	20.00	0.9800	94.8	70	130			
Chlorobenzene	19	1.0	20.00	0	94.9	70	130			
1,1-Dichloroethene	20	1.0	20.00	0.1880	102	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	95.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466926** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466927** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **lcs-34167**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470514** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	90	10	100.0	0	89.5	41.2	98.9			
4-Chloro-3-methylphenol	180	10	200.0	0	89.8	29.1	111			
2-Chlorophenol	180	10	200.0	0	88.9	23.3	108			
1,4-Dichlorobenzene	73	10	100.0	0	73.0	29.4	84.5			
2,4-Dinitrotoluene	84	10	100.0	0	83.8	36.6	88.7			
N-Nitrosodi-n-propylamine	94	10	100.0	0	94.0	46.9	106			
4-Nitrophenol	110	10	200.0	0	53.0	15	74.7			
Pentachlorophenol	170	20	200.0	0	86.8	28.1	85.4			S
Phenol	110	10	200.0	0	56.7	15	78.2			
Pyrene	90	10	100.0	0	89.8	44.4	96.8			
1,2,4-Trichlorobenzene	87	10	100.0	0	87.3	34.3	89			
Surr: 2-Fluorophenol	130		200.0		63.1	15	88			
Surr: Phenol-d5	110		200.0		55.7	15	72.4			
Surr: 2,4,6-Tribromophenol	210		200.0		105	15	117			
Surr: Nitrobenzene-d5	90		100.0		89.9	33.5	120			
Surr: 2-Fluorobiphenyl	78		100.0		77.9	26.5	109			
Surr: 4-Terphenyl-d14	73		100.0		72.7	21.7	98.7			

Sample ID **lcsd-34167**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470515** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	83	10	100.0	0	83.2	41.2	98.9	7.27	37.4	
4-Chloro-3-methylphenol	180	10	200.0	0	91.7	29.1	111	2.17	26.8	
2-Chlorophenol	170	10	200.0	0	86.8	23.3	108	2.41	30.3	
1,4-Dichlorobenzene	71	10	100.0	0	71.4	29.4	84.5	2.13	32	
2,4-Dinitrotoluene	73	10	100.0	0	72.7	36.6	88.7	14.2	36.7	
N-Nitrosodi-n-propylamine	91	10	100.0	0	91.2	46.9	106	3.05	29.9	
4-Nitrophenol	120	10	200.0	0	59.3	15	74.7	11.1	28.8	
Pentachlorophenol	160	20	200.0	0	81.6	28.1	85.4	6.17	38.2	
Phenol	130	10	200.0	0	64.1	15	78.2	12.3	39.8	
Pyrene	78	10	100.0	0	77.8	44.4	96.8	14.3	28.3	
1,2,4-Trichlorobenzene	84	10	100.0	0	84.2	34.3	89	3.64	39.8	
Surr: 2-Fluorophenol	130		200.0		66.8	15	88	0	0	
Surr: Phenol-d5	130		200.0		62.9	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	190		200.0		96.8	15	117	0	0	
Surr: Nitrobenzene-d5	84		100.0		84.0	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	74		100.0		74.3	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **lcsd-34167**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470515** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	57		100.0		56.6	21.7	98.7	0	0	

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	130	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**

02-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	91		200.0		45.7	15	88			
Surr: Phenol-d5	72		200.0		35.9	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		71.4	15	117			
Surr: Nitrobenzene-d5	63		100.0		62.7	33.5	120			
Surr: 2-Fluorobiphenyl	54		100.0		53.6	26.5	109			
Surr: 4-Terphenyl-d14	50		100.0		49.7	21.7	98.7			

Sample ID **lcs-34645**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489971** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	130		200.0		64.9	15	88			
Surr: Phenol-d5	120		200.0		60.8	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		73.1	15	117			
Surr: Nitrobenzene-d5	70		100.0		69.6	33.5	120			
Surr: 2-Fluorobiphenyl	72		100.0		72.1	26.5	109			
Surr: 4-Terphenyl-d14	52		100.0		51.6	21.7	98.7			

Sample ID **lcsd-34645**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489972** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	93		200.0		46.5	15	88	0	0	
Surr: Phenol-d5	82		200.0		40.9	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		61.5	15	117	0	0	
Surr: Nitrobenzene-d5	59		100.0		59.0	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	58		100.0		58.2	26.5	109	0	0	
Surr: 4-Terphenyl-d14	63		100.0		62.9	21.7	98.7	0	0	

Sample ID **mb-34645**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489973** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		60.5	15	88			
Surr: Phenol-d5	110		200.0		55.2	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		71.3	15	117			
Surr: Nitrobenzene-d5	68		100.0		67.9	33.5	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F70**
02-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **mb-34645**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489973** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	70		100.0		69.7	26.5	109			
Surr: 4-Terphenyl-d14	70		100.0		70.5	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709F70** RcptNo: **1**

Received By: **Andy Freeman** **9/27/2017 4:00:00 PM**

Completed By: **Ashley Gallegos** **9/28/2017 11:41:25 AM**

Reviewed By: 9/28/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 30

(<2 or >12 unless noted)

Adjusted? NO

Checked by: Re

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

2017 3rd QTR - MKTF

PO #20837992-CO#1

Project Manager:

C. JOHNSON (cheryl.a.johnson@andeavor.com)

Sampler: C. JOHNSON

On Ice: X Yes ☐ No

Sample Temperature: 1.1 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709F70	8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1	Air Bubbles (Y or N)
9/25/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X							
9/25/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X							
9/25/2017	915	AQUEOUS	MKTF-42	MISC	MISC	-003	X	X	X	X	X	X		
9/25/2017	958	AQUEOUS	MKTF-32	MISC	MISC	-004	X	X	X	X	X	X	X	
9/25/2017	1030	AQUEOUS	MKTF-41	MISC	MISC	-005	X	X	X	X	X	X	X	
9/25/2017	1115	AQUEOUS	MKTF-43	MISC	MISC	-006	X	X	X	X	X	X		
9/25/2017	1348	AQUEOUS	MKTF-33	MISC	MISC	-007	X	X	X	X	X	X		
9/25/2017	1130	AQUEOUS	DUPLICATE	MISC	MISC	-008	X	X	X	X	X	X		
9/25/2017	1450	AQUEOUS	MKTF-44	MISC	MISC	-009	X	X	X	X	X	X		
9/25/2017	1530	AQUEOUS	MKTF-40	MISC	MISC	-010	X	X	X	X	X	X		
9/25/2017	1600	AQUEOUS	MKTF-31	MISC	MISC	-011	X	X	X	X	X	X	X	
9/25/2017	1658	AQUEOUS	MKTF-25	MISC	MISC	-012	X	X	X	X	X	X	X	
		~~AQ~~	~~MKTF-16~~			-013	~~X~~	~~X~~						

Date: 9/27/17 Time: 1600 Relinquished by:

Received by: Date 9/27/17 Time 1600

Date: Time: Relinquished by:

Received by: Date Time

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS MINUS URANIUM, INCLUDES MERCURY

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 26, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd QTR MKTF OrderNo.: 1709F73

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 11 sample(s) on 9/27/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FIELD BLANK
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 7:00:00 AM
Lab ID: 1709F73-001 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.32	0.062	1.0	J	µg/L	1	10/4/2017 2:09:00 PM	R46113
Toluene	0.40	0.064	1.0	J	µg/L	1	10/4/2017 2:09:00 PM	R46113
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Acetone	2.5	0.82	10	J	µg/L	1	10/4/2017 2:09:00 PM	R46113
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 2:09:00 PM	R46113
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 2:09:00 PM	R46113
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 2:09:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: FIELD BLANK
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 7:00:00 AM
Lab ID: 1709F73-001 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 2:09:00 PM	R46113
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 2:09:00 PM	R46113
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 2:09:00 PM	R46113
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 2:09:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	10/4/2017 2:09:00 PM	R46113
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	10/4/2017 2:09:00 PM	R46113
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/4/2017 2:09:00 PM	R46113
Surr: Toluene-d8	98.4	0	70-130		%Rec	1	10/4/2017 2:09:00 PM	R46113

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 7:00:00 AM
Lab ID: 1709F73-002 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Acetone	ND	0.82	10		µg/L	1	10/4/2017 2:33:00 PM	R46113
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 2:33:00 PM	R46113
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 2:33:00 PM	R46113
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 2:33:00 PM	R46113

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 7:00:00 AM
Lab ID: 1709F73-002 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 2:33:00 PM	R46113
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 2:33:00 PM	R46113
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 2:33:00 PM	R46113
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 2:33:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	10/4/2017 2:33:00 PM	R46113
Surr: 4-Bromofluorobenzene	97.9	0	70-130		%Rec	1	10/4/2017 2:33:00 PM	R46113
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/4/2017 2:33:00 PM	R46113
Surr: Toluene-d8	98.6	0	70-130		%Rec	1	10/4/2017 2:33:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 8:49:00 AM
Lab ID: 1709F73-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.0	0.36	1.0		mg/L	1	10/3/2017 10:56:10 AM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 10:56:10 AM	34174
Surr: DNOP	126	0	77.5-161		%Rec	1	10/3/2017 10:56:10 AM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	4.3	0.25	0.50		mg/L	10	10/2/2017 3:20:46 PM	G46024
Surr: BFB	158	0	52.3-138	S	%Rec	10	10/2/2017 3:20:46 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.76	0.22	0.50		mg/L	5	10/4/2017 4:04:23 PM	R46119
Chloride	83	1.2	2.5		mg/L	5	10/4/2017 4:04:23 PM	R46119
Bromide	1.1	0.073	0.50		mg/L	5	10/4/2017 4:04:23 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 4:04:23 PM	R46119
Sulfate	22	0.48	2.5		mg/L	5	10/4/2017 4:04:23 PM	R46119
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/4/2017 8:37:25 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.73	0.00085	0.0020		mg/L	1	10/10/2017 9:07:00 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:07:00 PM	C46240
Calcium	99	0.078	1.0		mg/L	1	10/10/2017 9:07:00 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:07:00 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:07:00 PM	C46240
Iron	3.2	0.16	0.20	*	mg/L	10	10/10/2017 9:08:36 PM	C46240
Magnesium	21	0.25	1.0		mg/L	1	10/10/2017 9:07:00 PM	C46240
Manganese	2.8	0.0039	0.020	*	mg/L	10	10/10/2017 9:08:36 PM	C46240
Potassium	0.53	0.11	1.0	J	mg/L	1	10/10/2017 9:07:00 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:07:00 PM	C46240
Sodium	230	1.6	10		mg/L	10	10/10/2017 9:08:36 PM	C46240
Zinc	0.021	0.0021	0.010		mg/L	1	10/10/2017 9:07:00 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.77	0.00093	0.0020		mg/L	1	10/10/2017 12:59:46 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 12:59:46 PM	34315
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 12:59:46 PM	34315
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 12:59:46 PM	34315
Iron	4.2	0.10	0.20	*	mg/L	10	10/10/2017 2:38:56 PM	34315
Manganese	2.9	0.011	0.020	*	mg/L	10	10/10/2017 2:38:56 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 12:59:46 PM	34315
Zinc	0.0044	0.0033	0.010	J	mg/L	1	10/10/2017 12:59:46 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0065	0.0018	0.010	J	mg/L	10	10/6/2017 4:58:38 PM	A46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 8:49:00 AM
Lab ID: 1709F73-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:23:23 PM	B46150
Selenium	ND	0.0039	0.010		mg/L	10	10/6/2017 4:58:38 PM	A46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0080	0.0015	0.0050		mg/L	5	10/12/2017 3:14:54 PM	34315
Lead	0.0014	0.000095	0.00050		mg/L	1	10/11/2017 2:32:51 PM	34315
Selenium	0.0056	0.0036	0.0050		mg/L	5	10/24/2017 4:37:24 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 3:11:54 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Aniline	ND	3.1	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 6:28:07 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Bis(2-ethylhexyl)phthalate	310	9.6	20	B	µg/L	2	10/10/2017 12:05:46 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Carbazole	ND	4.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 6:28:07 PM	34143

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 8:49:00 AM
Lab ID: 1709F73-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 6:28:07 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 6:28:07 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 6:28:07 PM	34143
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/9/2017 6:28:07 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 6:28:07 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 6:28:07 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Fluorene	4.6	4.0	10	J	µg/L	1	10/9/2017 6:28:07 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 6:28:07 PM	34143
1-Methylnaphthalene	10	3.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 6:28:07 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Naphthalene	8.0	2.9	10	J	µg/L	1	10/9/2017 6:28:07 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 6:28:07 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 6:28:07 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 6:28:07 PM	34143
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Phenol	ND	3.1	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 6:28:07 PM	34143

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 8:49:00 AM
Lab ID: 1709F73-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 6:28:07 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 6:28:07 PM	34143
Surr: 2-Fluorophenol	65.2	0	15-88		%Rec	1	10/9/2017 6:28:07 PM	34143
Surr: Phenol-d5	53.5	0	15-72.4		%Rec	1	10/9/2017 6:28:07 PM	34143
Surr: 2,4,6-Tribromophenol	113	0	15-117		%Rec	1	10/9/2017 6:28:07 PM	34143
Surr: Nitrobenzene-d5	94.7	0	33.5-120		%Rec	1	10/9/2017 6:28:07 PM	34143
Surr: 2-Fluorobiphenyl	87.1	0	26.5-109		%Rec	1	10/9/2017 6:28:07 PM	34143
Surr: 4-Terphenyl-d14	72.2	0	21.7-98.7		%Rec	1	10/9/2017 6:28:07 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	47	0.31	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Toluene	1.1	0.32	5.0	J	µg/L	5	10/4/2017 3:21:00 PM	R46113
Ethylbenzene	680	4.7	50		µg/L	50	10/4/2017 2:57:00 PM	R46113
Methyl tert-butyl ether (MTBE)	940	1.2	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2,4-Trimethylbenzene	0.73	0.56	5.0	J	µg/L	5	10/4/2017 3:21:00 PM	R46113
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Naphthalene	7.9	0.57	10	J	µg/L	5	10/4/2017 3:21:00 PM	R46113
1-Methylnaphthalene	12	0.80	20	J	µg/L	5	10/4/2017 3:21:00 PM	R46113
2-Methylnaphthalene	ND	0.76	20		µg/L	5	10/4/2017 3:21:00 PM	R46113
Acetone	ND	4.1	50		µg/L	5	10/4/2017 3:21:00 PM	R46113
Bromobenzene	ND	0.70	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Bromodichloromethane	ND	0.88	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Bromoform	ND	1.1	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Bromomethane	ND	1.3	15		µg/L	5	10/4/2017 3:21:00 PM	R46113
2-Butanone	ND	5.7	50		µg/L	5	10/4/2017 3:21:00 PM	R46113
Carbon disulfide	ND	2.0	50		µg/L	5	10/4/2017 3:21:00 PM	R46113
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Chlorobenzene	ND	0.53	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Chloroethane	ND	1.2	10		µg/L	5	10/4/2017 3:21:00 PM	R46113
Chloroform	ND	2.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Chloromethane	ND	1.5	15		µg/L	5	10/4/2017 3:21:00 PM	R46113
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	10/4/2017 3:21:00 PM	R46113
Dibromochloromethane	ND	0.36	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 8:49:00 AM
Lab ID: 1709F73-003 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.45	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
2,2-Dichloropropane	ND	0.79	10		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
2-Hexanone	ND	3.3	50		µg/L	5	10/4/2017 3:21:00 PM	R46113
Isopropylbenzene	49	0.26	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
4-Isopropyltoluene	2.2	0.48	5.0	J	µg/L	5	10/4/2017 3:21:00 PM	R46113
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	10/4/2017 3:21:00 PM	R46113
Methylene Chloride	ND	0.54	15		µg/L	5	10/4/2017 3:21:00 PM	R46113
n-Butylbenzene	4.9	0.65	15	J	µg/L	5	10/4/2017 3:21:00 PM	R46113
n-Propylbenzene	110	0.37	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
sec-Butylbenzene	8.7	0.55	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Styrene	ND	0.78	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	10/4/2017 3:21:00 PM	R46113
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	10/4/2017 3:21:00 PM	R46113
Vinyl chloride	ND	0.89	5.0		µg/L	5	10/4/2017 3:21:00 PM	R46113
Xylenes, Total	ND	1.6	7.5		µg/L	5	10/4/2017 3:21:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	98.2	0	70-130		%Rec	5	10/4/2017 3:21:00 PM	R46113
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	5	10/4/2017 3:21:00 PM	R46113
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	10/4/2017 3:21:00 PM	R46113

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 8:49:00 AM
Lab ID: 1709F73-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.5	0	70-130		%Rec	5	10/4/2017 3:21:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:20:00 AM
Lab ID: 1709F73-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	11	0.36	1.0		mg/L	1	10/3/2017 12:02:23 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 12:02:23 PM	34174
Surr: DNOP	127	0	77.5-161		%Rec	1	10/3/2017 12:02:23 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	29	1.2	2.5		mg/L	50	10/2/2017 4:31:00 PM	G46024
Surr: BFB	98.1	0	52.3-138		%Rec	50	10/2/2017 4:31:00 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 4:54:03 PM	R46119
Chloride	120	5.0	10		mg/L	20	10/4/2017 5:06:27 PM	R46119
Bromide	1.2	0.073	0.50		mg/L	5	10/4/2017 4:54:03 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 4:54:03 PM	R46119
Sulfate	0.77	0.48	2.5	J	mg/L	5	10/4/2017 4:54:03 PM	R46119
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/4/2017 8:49:49 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.6	0.0085	0.020		mg/L	10	10/10/2017 9:12:06 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:10:30 PM	C46240
Calcium	150	0.78	10		mg/L	10	10/10/2017 9:12:06 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:10:30 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:10:30 PM	C46240
Iron	12	0.33	0.40	*	mg/L	20	10/11/2017 6:41:33 PM	A46308
Magnesium	29	0.25	1.0		mg/L	1	10/10/2017 9:10:30 PM	C46240
Manganese	3.1	0.0039	0.020	*	mg/L	10	10/10/2017 9:12:06 PM	C46240
Potassium	0.99	0.11	1.0	J	mg/L	1	10/10/2017 9:10:30 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:10:30 PM	C46240
Sodium	260	1.6	10		mg/L	10	10/10/2017 9:12:06 PM	C46240
Zinc	0.021	0.0021	0.010		mg/L	1	10/10/2017 9:10:30 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	2.4	0.0047	0.010	*	mg/L	5	10/10/2017 2:40:56 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:01:22 PM	34315
Chromium	0.012	0.0018	0.0060		mg/L	1	10/10/2017 1:01:22 PM	34315
Copper	0.015	0.0017	0.0060		mg/L	1	10/10/2017 1:01:22 PM	34315
Iron	20	0.51	1.0	*	mg/L	50	10/10/2017 2:48:10 PM	34315
Manganese	3.4	0.0055	0.010	*	mg/L	5	10/10/2017 2:40:56 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:01:22 PM	34315
Zinc	0.062	0.0033	0.010		mg/L	1	10/10/2017 1:01:22 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.014	0.0018	0.010	*	mg/L	10	10/6/2017 5:17:03 PM	B46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:20:00 AM
Lab ID: 1709F73-004
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0016	0.00017	0.00050		mg/L	1	10/5/2017 4:32:36 PM	B46150
Selenium	0.0048	0.0039	0.010	J	mg/L	10	10/6/2017 5:17:03 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.015	0.0015	0.0050	*	mg/L	5	10/12/2017 3:17:54 PM	34315
Lead	0.026	0.00048	0.0025	*	mg/L	5	10/12/2017 3:17:54 PM	34315
Selenium	0.0077	0.0036	0.0050		mg/L	5	10/24/2017 4:40:25 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000042	0.000037	0.00020	J	mg/L	1	10/11/2017 3:13:50 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Aniline	ND	3.1	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 6:55:56 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Bis(2-ethylhexyl)phthalate	9.7	4.8	10	JB	µg/L	1	10/9/2017 6:55:56 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Carbazole	5.5	4.6	10	J	µg/L	1	10/9/2017 6:55:56 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 6:55:56 PM	34143

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 6:55:56 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 6:55:56 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 6:55:56 PM	34143
2,4-Dimethylphenol	3.0	2.8	10	J	µg/L	1	10/9/2017 6:55:56 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 6:55:56 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 6:55:56 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Fluorene	4.3	4.0	10	J	µg/L	1	10/9/2017 6:55:56 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 6:55:56 PM	34143
1-Methylnaphthalene	100	3.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2-Methylnaphthalene	160	3.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 6:55:56 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Naphthalene	210	2.9	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 6:55:56 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 6:55:56 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 6:55:56 PM	34143
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Phenol	9.1	3.1	10	J	µg/L	1	10/9/2017 6:55:56 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 6:55:56 PM	34143

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Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 6:55:56 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 6:55:56 PM	34143
Surr: 2-Fluorophenol	30.6	0	15-88		%Rec	1	10/9/2017 6:55:56 PM	34143
Surr: Phenol-d5	26.3	0	15-72.4		%Rec	1	10/9/2017 6:55:56 PM	34143
Surr: 2,4,6-Tribromophenol	56.3	0	15-117		%Rec	1	10/9/2017 6:55:56 PM	34143
Surr: Nitrobenzene-d5	45.2	0	33.5-120		%Rec	1	10/9/2017 6:55:56 PM	34143
Surr: 2-Fluorobiphenyl	45.0	0	26.5-109		%Rec	1	10/9/2017 6:55:56 PM	34143
Surr: 4-Terphenyl-d14	37.5	0	21.7-98.7		%Rec	1	10/9/2017 6:55:56 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	3200	6.2	100		µg/L	100	10/4/2017 4:33:00 PM	R46113
Toluene	14	0.64	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Ethylbenzene	800	0.93	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Methyl tert-butyl ether (MTBE)	12000	24	100		µg/L	100	10/4/2017 4:33:00 PM	R46113
1,2,4-Trimethylbenzene	530	1.1	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,3,5-Trimethylbenzene	67	0.87	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Naphthalene	440	1.1	20		µg/L	10	10/4/2017 4:57:00 PM	R46113
1-Methylnaphthalene	170	1.6	40		µg/L	10	10/4/2017 4:57:00 PM	R46113
2-Methylnaphthalene	230	1.5	40		µg/L	10	10/4/2017 4:57:00 PM	R46113
Acetone	ND	8.2	100		µg/L	10	10/4/2017 4:57:00 PM	R46113
Bromobenzene	ND	1.4	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Bromodichloromethane	ND	1.8	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Bromoform	ND	2.1	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Bromomethane	ND	2.6	30		µg/L	10	10/4/2017 4:57:00 PM	R46113
2-Butanone	ND	11	100		µg/L	10	10/4/2017 4:57:00 PM	R46113
Carbon disulfide	ND	4.0	100		µg/L	10	10/4/2017 4:57:00 PM	R46113
Carbon Tetrachloride	ND	1.1	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Chlorobenzene	ND	1.1	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Chloroethane	ND	2.3	20		µg/L	10	10/4/2017 4:57:00 PM	R46113
Chloroform	ND	4.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Chloromethane	ND	2.9	30		µg/L	10	10/4/2017 4:57:00 PM	R46113
2-Chlorotoluene	ND	4.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
4-Chlorotoluene	ND	4.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
cis-1,2-DCE	ND	2.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	10/4/2017 4:57:00 PM	R46113
Dibromochloromethane	ND	0.72	10		µg/L	10	10/4/2017 4:57:00 PM	R46113

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.91	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Dichlorodifluoromethane	ND	10	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,1-Dichloroethane	ND	4.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,1-Dichloroethene	ND	0.81	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2-Dichloropropane	ND	1.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,3-Dichloropropane	ND	1.7	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
2,2-Dichloropropane	ND	1.6	20		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,1-Dichloropropene	ND	0.93	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Hexachlorobutadiene	ND	8.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
2-Hexanone	ND	6.6	100		µg/L	10	10/4/2017 4:57:00 PM	R46113
Isopropylbenzene	26	0.51	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
4-Isopropyltoluene	5.2	0.96	10	J	µg/L	10	10/4/2017 4:57:00 PM	R46113
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	10/4/2017 4:57:00 PM	R46113
Methylene Chloride	ND	1.1	30		µg/L	10	10/4/2017 4:57:00 PM	R46113
n-Butylbenzene	13	1.3	30	J	µg/L	10	10/4/2017 4:57:00 PM	R46113
n-Propylbenzene	73	0.74	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
sec-Butylbenzene	6.0	1.1	10	J	µg/L	10	10/4/2017 4:57:00 PM	R46113
Styrene	ND	1.6	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
tert-Butylbenzene	ND	1.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	10/4/2017 4:57:00 PM	R46113
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
trans-1,2-DCE	ND	1.8	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Trichlorofluoromethane	ND	1.8	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	10/4/2017 4:57:00 PM	R46113
Vinyl chloride	ND	1.8	10		µg/L	10	10/4/2017 4:57:00 PM	R46113
Xylenes, Total	870	3.2	15		µg/L	10	10/4/2017 4:57:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	97.0	0	70-130		%Rec	10	10/4/2017 4:57:00 PM	R46113
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	10	10/4/2017 4:57:00 PM	R46113
Surr: Dibromofluoromethane	99.3	0	70-130		%Rec	10	10/4/2017 4:57:00 PM	R46113

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.5	0	70-130		%Rec	10	10/4/2017 4:57:00 PM	R46113

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:54:00 AM
Lab ID: 1709F73-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/3/2017 12:24:13 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 12:24:13 PM	34174
Surr: DNOP	133	0	77.5-161		%Rec	1	10/3/2017 12:24:13 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	10/2/2017 4:54:21 PM	G46024
Surr: BFB	89.6	0	52.3-138		%Rec	1	10/2/2017 4:54:21 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.29	0.22	0.50	J	mg/L	5	10/4/2017 5:18:52 PM	R46119
Chloride	280	5.0	10		mg/L	20	10/4/2017 5:31:17 PM	R46119
Bromide	1.6	0.073	0.50		mg/L	5	10/4/2017 5:18:52 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 5:18:52 PM	R46119
Sulfate	220	1.9	10		mg/L	20	10/4/2017 5:31:17 PM	R46119
Nitrate+Nitrite as N	7.6	0.13	1.0		mg/L	5	10/4/2017 9:02:14 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.060	0.00085	0.0020		mg/L	1	10/10/2017 9:13:48 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:13:48 PM	C46240
Calcium	66	0.078	1.0		mg/L	1	10/10/2017 9:13:48 PM	C46240
Chromium	0.0015	0.0013	0.0060	J	mg/L	1	10/10/2017 9:13:48 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:13:48 PM	C46240
Iron	ND	0.016	0.020		mg/L	1	10/10/2017 9:13:48 PM	C46240
Magnesium	16	0.25	1.0		mg/L	1	10/10/2017 9:13:48 PM	C46240
Manganese	0.00062	0.00039	0.0020	J	mg/L	1	10/10/2017 9:13:48 PM	C46240
Potassium	1.1	0.11	1.0		mg/L	1	10/10/2017 9:13:48 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:13:48 PM	C46240
Sodium	380	1.6	10		mg/L	10	10/10/2017 9:15:41 PM	C46240
Zinc	0.034	0.0021	0.010		mg/L	1	10/10/2017 9:13:48 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.12	0.00093	0.0020		mg/L	1	10/10/2017 1:03:07 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:03:07 PM	34315
Chromium	0.0032	0.0018	0.0060	J	mg/L	1	10/10/2017 1:03:07 PM	34315
Copper	0.0033	0.0017	0.0060	J	mg/L	1	10/10/2017 1:03:07 PM	34315
Iron	3.8	0.051	0.10	*	mg/L	5	10/10/2017 2:49:58 PM	34315
Manganese	0.086	0.0011	0.0020	*	mg/L	1	10/10/2017 1:03:07 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:03:07 PM	34315
Zinc	0.032	0.0033	0.010		mg/L	1	10/10/2017 1:03:07 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0025	0.00089	0.0050	J	mg/L	5	10/6/2017 5:23:09 PM	B46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:54:00 AM
Lab ID: 1709F73-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:44:50 PM	C46150
Selenium	ND	0.0077	0.020		mg/L	20	10/6/2017 5:29:16 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0040	0.0015	0.0050	J	mg/L	5	10/12/2017 3:20:55 PM	34315
Lead	0.0018	0.000095	0.00050		mg/L	1	10/11/2017 2:38:54 PM	34315
Selenium	0.012	0.0036	0.0050		mg/L	5	10/24/2017 4:43:25 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00012	0.000037	0.00020	J	mg/L	1	10/11/2017 3:15:47 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Aniline	ND	3.1	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Benzoic acid	6.0	3.9	20	J	µg/L	1	10/9/2017 7:23:44 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Bis(2-ethylhexyl)phthalate	210	4.8	10	B	µg/L	1	10/9/2017 7:23:44 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Carbazole	ND	4.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 7:23:44 PM	34143

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:54:00 AM
Lab ID: 1709F73-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 7:23:44 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 7:23:44 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 7:23:44 PM	34143
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/9/2017 7:23:44 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 7:23:44 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 7:23:44 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Fluorene	ND	4.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 7:23:44 PM	34143
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 7:23:44 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Naphthalene	4.8	2.9	10	J	µg/L	1	10/9/2017 7:23:44 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 7:23:44 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 7:23:44 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 7:23:44 PM	34143
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Phenol	ND	3.1	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 7:23:44 PM	34143

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:54:00 AM
Lab ID: 1709F73-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 7:23:44 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 7:23:44 PM	34143
Surr: 2-Fluorophenol	51.0	0	15-88		%Rec	1	10/9/2017 7:23:44 PM	34143
Surr: Phenol-d5	40.7	0	15-72.4		%Rec	1	10/9/2017 7:23:44 PM	34143
Surr: 2,4,6-Tribromophenol	78.9	0	15-117		%Rec	1	10/9/2017 7:23:44 PM	34143
Surr: Nitrobenzene-d5	73.5	0	33.5-120		%Rec	1	10/9/2017 7:23:44 PM	34143
Surr: 2-Fluorobiphenyl	69.5	0	26.5-109		%Rec	1	10/9/2017 7:23:44 PM	34143
Surr: 4-Terphenyl-d14	55.1	0	21.7-98.7		%Rec	1	10/9/2017 7:23:44 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.30	0.062	1.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Ethylbenzene	0.14	0.093	1.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
Methyl tert-butyl ether (MTBE)	0.78	0.24	1.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2,4-Trimethylbenzene	0.14	0.11	1.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Naphthalene	0.59	0.11	2.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
1-Methylnaphthalene	0.57	0.16	4.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
2-Methylnaphthalene	0.70	0.15	4.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
Acetone	4.8	0.82	10	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 5:21:00 PM	R46113
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 5:21:00 PM	R46113
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:54:00 AM
Lab ID: 1709F73-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,1-Dichloroethene	0.56	0.081	1.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 5:21:00 PM	R46113
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 5:21:00 PM	R46113
Methylene Chloride	0.14	0.11	3.0	J	µg/L	1	10/4/2017 5:21:00 PM	R46113
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Trichloroethene (TCE)	1.9	0.11	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 5:21:00 PM	R46113
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 5:21:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	10/4/2017 5:21:00 PM	R46113
Surr: 4-Bromofluorobenzene	97.5	0	70-130		%Rec	1	10/4/2017 5:21:00 PM	R46113
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/4/2017 5:21:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 9:54:00 AM
Lab ID: 1709F73-005
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	10/4/2017 5:21:00 PM	R46113

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 10:30:00 AM
Lab ID: 1709F73-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.0	0.36	1.0		mg/L	1	10/3/2017 12:46:22 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 12:46:22 PM	34174
Surr: DNOP	131	0	77.5-161		%Rec	1	10/3/2017 12:46:22 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	24	2.5	5.0		mg/L	100	10/2/2017 5:17:42 PM	G46024
Surr: BFB	91.0	0	52.3-138		%Rec	100	10/2/2017 5:17:42 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 6:08:30 PM	R46119
Chloride	230	5.0	10		mg/L	20	10/4/2017 6:20:55 PM	R46119
Bromide	1.4	0.073	0.50		mg/L	5	10/4/2017 6:08:30 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 6:08:30 PM	R46119
Sulfate	2.0	0.48	2.5	J	mg/L	5	10/4/2017 6:08:30 PM	R46119
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/4/2017 9:14:38 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.7	0.0085	0.020	*	mg/L	10	10/10/2017 9:19:23 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:17:33 PM	C46240
Calcium	170	0.78	10		mg/L	10	10/10/2017 9:19:23 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:17:33 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:17:33 PM	C46240
Iron	5.6	0.16	0.20	*	mg/L	10	10/10/2017 9:19:23 PM	C46240
Magnesium	31	0.25	1.0		mg/L	1	10/10/2017 9:17:33 PM	C46240
Manganese	3.9	0.0039	0.020	*	mg/L	10	10/10/2017 9:19:23 PM	C46240
Potassium	22	0.11	1.0		mg/L	1	10/10/2017 9:17:33 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:17:33 PM	C46240
Sodium	170	1.6	10		mg/L	10	10/10/2017 9:19:23 PM	C46240
Zinc	0.028	0.0021	0.010		mg/L	1	10/10/2017 9:17:33 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	2.8	0.0047	0.010	*	mg/L	5	10/10/2017 2:51:54 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:12:29 PM	34315
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 1:12:29 PM	34315
Copper	0.0032	0.0017	0.0060	J	mg/L	1	10/10/2017 1:12:29 PM	34315
Iron	7.9	0.10	0.20	*	mg/L	10	10/10/2017 2:53:36 PM	34315
Manganese	4.0	0.0055	0.010	*	mg/L	5	10/10/2017 2:51:54 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:12:29 PM	34315
Zinc	0.091	0.0033	0.010		mg/L	1	10/10/2017 1:12:29 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0077	0.00089	0.0050		mg/L	5	10/6/2017 5:32:19 PM	B46196

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 10:30:00 AM
Lab ID: 1709F73-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:47:53 PM	C46150
Selenium	ND	0.0077	0.020		mg/L	20	10/6/2017 5:35:23 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.010	0.0015	0.0050	*	mg/L	5	10/12/2017 3:23:55 PM	34315
Lead	0.0010	0.000095	0.00050		mg/L	1	10/11/2017 2:41:54 PM	34315
Selenium	0.0098	0.0036	0.0050		mg/L	5	10/24/2017 4:46:25 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 3:17:44 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Aniline	ND	3.1	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Benzoic acid	12	3.9	20	J	µg/L	1	10/9/2017 7:51:29 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 7:51:29 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Carbazole	ND	4.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 7:51:29 PM	34143

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 10:30:00 AM
Lab ID: 1709F73-006 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 7:51:29 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 7:51:29 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 7:51:29 PM	34143
2,4-Dimethylphenol	15	2.8	10		µg/L	1	10/9/2017 7:51:29 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 7:51:29 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 7:51:29 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Fluorene	ND	4.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 7:51:29 PM	34143
1-Methylnaphthalene	7.1	3.3	10	J	µg/L	1	10/9/2017 7:51:29 PM	34143
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2-Methylphenol	9.3	3.3	10	J	µg/L	1	10/9/2017 7:51:29 PM	34143
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 7:51:29 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Naphthalene	17	2.9	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 7:51:29 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 7:51:29 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 7:51:29 PM	34143
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Phenol	31	3.1	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 7:51:29 PM	34143

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 10:30:00 AM
Lab ID: 1709F73-006 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 7:51:29 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 7:51:29 PM	34143
Surr: 2-Fluorophenol	32.0	0	15-88		%Rec	1	10/9/2017 7:51:29 PM	34143
Surr: Phenol-d5	27.3	0	15-72.4		%Rec	1	10/9/2017 7:51:29 PM	34143
Surr: 2,4,6-Tribromophenol	78.4	0	15-117		%Rec	1	10/9/2017 7:51:29 PM	34143
Surr: Nitrobenzene-d5	69.1	0	33.5-120		%Rec	1	10/9/2017 7:51:29 PM	34143
Surr: 2-Fluorobiphenyl	61.3	0	26.5-109		%Rec	1	10/9/2017 7:51:29 PM	34143
Surr: 4-Terphenyl-d14	48.8	0	21.7-98.7		%Rec	1	10/9/2017 7:51:29 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	6300	31	500		µg/L	500	10/4/2017 5:45:00 PM	R46113
Toluene	16	3.2	50	J	µg/L	50	10/4/2017 6:08:00 PM	R46113
Ethylbenzene	610	4.7	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Methyl tert-butyl ether (MTBE)	630	12	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2,4-Trimethylbenzene	290	5.6	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,3,5-Trimethylbenzene	89	4.4	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Naphthalene	45	5.7	100	J	µg/L	50	10/4/2017 6:08:00 PM	R46113
1-Methylnaphthalene	16	8.0	200	J	µg/L	50	10/4/2017 6:08:00 PM	R46113
2-Methylnaphthalene	18	7.6	200	J	µg/L	50	10/4/2017 6:08:00 PM	R46113
Acetone	ND	41	500		µg/L	50	10/4/2017 6:08:00 PM	R46113
Bromobenzene	ND	7.0	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Bromodichloromethane	ND	8.8	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Bromoform	ND	11	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Bromomethane	ND	13	150		µg/L	50	10/4/2017 6:08:00 PM	R46113
2-Butanone	ND	57	500		µg/L	50	10/4/2017 6:08:00 PM	R46113
Carbon disulfide	ND	20	500		µg/L	50	10/4/2017 6:08:00 PM	R46113
Carbon Tetrachloride	ND	5.5	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Chlorobenzene	ND	5.3	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Chloroethane	ND	12	100		µg/L	50	10/4/2017 6:08:00 PM	R46113
Chloroform	ND	20	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Chloromethane	ND	15	150		µg/L	50	10/4/2017 6:08:00 PM	R46113
2-Chlorotoluene	ND	20	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
4-Chlorotoluene	ND	20	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
cis-1,2-DCE	ND	10	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	10/4/2017 6:08:00 PM	R46113
Dibromochloromethane	ND	3.6	50		µg/L	50	10/4/2017 6:08:00 PM	R46113

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 10:30:00 AM
Lab ID: 1709F73-006 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	4.5	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,4-Dichlorobenzene	ND	20	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Dichlorodifluoromethane	ND	50	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,1-Dichloroethane	ND	20	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,1-Dichloroethene	ND	4.0	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2-Dichloropropane	ND	5.1	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,3-Dichloropropane	ND	8.4	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
2,2-Dichloropropane	ND	7.9	100		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,1-Dichloropropene	ND	4.6	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Hexachlorobutadiene	ND	40	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
2-Hexanone	ND	33	500		µg/L	50	10/4/2017 6:08:00 PM	R46113
Isopropylbenzene	18	2.6	50	J	µg/L	50	10/4/2017 6:08:00 PM	R46113
4-Isopropyltoluene	ND	4.8	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
4-Methyl-2-pentanone	ND	35	500		µg/L	50	10/4/2017 6:08:00 PM	R46113
Methylene Chloride	ND	5.4	150		µg/L	50	10/4/2017 6:08:00 PM	R46113
n-Butylbenzene	ND	6.5	150		µg/L	50	10/4/2017 6:08:00 PM	R46113
n-Propylbenzene	33	3.7	50	J	µg/L	50	10/4/2017 6:08:00 PM	R46113
sec-Butylbenzene	ND	5.5	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Styrene	ND	7.8	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
tert-Butylbenzene	ND	5.2	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	10/4/2017 6:08:00 PM	R46113
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
trans-1,2-DCE	ND	9.2	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Trichlorofluoromethane	ND	9.1	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
1,2,3-Trichloropropane	ND	19	100		µg/L	50	10/4/2017 6:08:00 PM	R46113
Vinyl chloride	ND	8.9	50		µg/L	50	10/4/2017 6:08:00 PM	R46113
Xylenes, Total	830	16	75		µg/L	50	10/4/2017 6:08:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	99.1	0	70-130		%Rec	50	10/4/2017 6:08:00 PM	R46113
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	50	10/4/2017 6:08:00 PM	R46113
Surr: Dibromofluoromethane	102	0	70-130		%Rec	50	10/4/2017 6:08:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 10:30:00 AM
Lab ID: 1709F73-006
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	98.5	0	70-130		%Rec	50	10/4/2017 6:08:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:05:00 AM
Lab ID: 1709F73-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.9	0.36	1.0		mg/L	1	10/3/2017 1:08:34 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 1:08:34 PM	34174
Surr: DNOP	131	0	77.5-161		%Rec	1	10/3/2017 1:08:34 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	78	2.5	5.0		mg/L	100	10/2/2017 5:41:03 PM	G46024
Surr: BFB	89.0	0	52.3-138		%Rec	100	10/2/2017 5:41:03 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	2.2	0.22	0.50		mg/L	5	10/4/2017 6:33:19 PM	R46119
Chloride	590	12	25		mg/L	50	10/10/2017 11:36:13 PM	A46252
Bromide	6.6	0.073	0.50		mg/L	5	10/4/2017 6:33:19 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 6:33:19 PM	R46119
Sulfate	73	0.48	2.5		mg/L	5	10/4/2017 6:33:19 PM	R46119
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/4/2017 9:27:02 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	8.5	0.0085	0.020	*	mg/L	10	10/10/2017 9:28:37 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:21:16 PM	C46240
Calcium	210	0.78	10		mg/L	10	10/10/2017 9:28:37 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:21:16 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:21:16 PM	C46240
Iron	16	0.33	0.40	*	mg/L	20	10/11/2017 6:42:54 PM	A46308
Magnesium	55	0.25	1.0		mg/L	1	10/10/2017 9:21:16 PM	C46240
Manganese	3.8	0.0039	0.020	*	mg/L	10	10/10/2017 9:28:37 PM	C46240
Potassium	2.6	0.11	1.0		mg/L	1	10/10/2017 9:21:16 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:21:16 PM	C46240
Sodium	330	1.6	10		mg/L	10	10/10/2017 9:28:37 PM	C46240
Zinc	0.027	0.0021	0.010		mg/L	1	10/10/2017 9:21:16 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	7.6	0.0093	0.020	*	mg/L	10	10/10/2017 2:55:18 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:14:17 PM	34315
Chromium	0.0022	0.0018	0.0060	J	mg/L	1	10/10/2017 1:14:17 PM	34315
Copper	0.11	0.0017	0.0060		mg/L	1	10/10/2017 1:14:17 PM	34315
Iron	19	0.20	0.40	*	mg/L	20	10/10/2017 2:57:02 PM	34315
Manganese	3.9	0.011	0.020	*	mg/L	10	10/10/2017 2:55:18 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:14:17 PM	34315
Zinc	0.35	0.0033	0.010		mg/L	1	10/10/2017 1:14:17 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.020	0.0018	0.010	*	mg/L	10	10/6/2017 5:38:26 PM	B46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:05:00 AM
Lab ID: 1709F73-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00097	0.00017	0.00050		mg/L	1	10/5/2017 4:50:57 PM	C46150
Selenium	ND	0.039	0.10		mg/L	100	10/6/2017 5:47:40 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.026	0.0030	0.010	*	mg/L	10	10/12/2017 3:29:56 PM	34315
Lead	0.0083	0.000095	0.00050		mg/L	1	10/11/2017 2:44:55 PM	34315
Selenium	0.033	0.0071	0.010		mg/L	10	10/24/2017 4:49:26 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 3:19:41 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Aniline	ND	3.1	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Benzoic acid	25	3.9	20		µg/L	1	10/9/2017 8:19:11 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 8:19:11 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Carbazole	ND	4.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 8:19:11 PM	34143

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:05:00 AM
Lab ID: 1709F73-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 8:19:11 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 8:19:11 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 8:19:11 PM	34143
2,4-Dimethylphenol	66	2.8	10		µg/L	1	10/9/2017 8:19:11 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 8:19:11 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 8:19:11 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Fluorene	ND	4.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 8:19:11 PM	34143
1-Methylnaphthalene	37	3.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2-Methylnaphthalene	41	3.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2-Methylphenol	75	3.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
3+4-Methylphenol	22	3.2	10		µg/L	1	10/9/2017 8:19:11 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Naphthalene	160	2.9	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 8:19:11 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 8:19:11 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 8:19:11 PM	34143
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Phenol	78	3.1	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 8:19:11 PM	34143

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:05:00 AM
Lab ID: 1709F73-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 8:19:11 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 8:19:11 PM	34143
Surr: 2-Fluorophenol	27.0	0	15-88		%Rec	1	10/9/2017 8:19:11 PM	34143
Surr: Phenol-d5	25.9	0	15-72.4		%Rec	1	10/9/2017 8:19:11 PM	34143
Surr: 2,4,6-Tribromophenol	80.9	0	15-117		%Rec	1	10/9/2017 8:19:11 PM	34143
Surr: Nitrobenzene-d5	60.5	0	33.5-120		%Rec	1	10/9/2017 8:19:11 PM	34143
Surr: 2-Fluorobiphenyl	61.7	0	26.5-109		%Rec	1	10/9/2017 8:19:11 PM	34143
Surr: 4-Terphenyl-d14	47.6	0	21.7-98.7		%Rec	1	10/9/2017 8:19:11 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	16000	62	1000		µg/L	1000	10/4/2017 6:32:00 PM	R46113
Toluene	340	6.4	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Ethylbenzene	580	9.3	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Methyl tert-butyl ether (MTBE)	170	24	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2,4-Trimethylbenzene	1300	11	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,3,5-Trimethylbenzene	410	8.7	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Naphthalene	270	11	200		µg/L	100	10/4/2017 6:56:00 PM	R46113
1-Methylnaphthalene	55	16	400	J	µg/L	100	10/4/2017 6:56:00 PM	R46113
2-Methylnaphthalene	60	15	400	J	µg/L	100	10/4/2017 6:56:00 PM	R46113
Acetone	ND	82	1000		µg/L	100	10/4/2017 6:56:00 PM	R46113
Bromobenzene	ND	14	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Bromodichloromethane	ND	18	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Bromoform	ND	21	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Bromomethane	ND	26	300		µg/L	100	10/4/2017 6:56:00 PM	R46113
2-Butanone	ND	110	1000		µg/L	100	10/4/2017 6:56:00 PM	R46113
Carbon disulfide	ND	40	1000		µg/L	100	10/4/2017 6:56:00 PM	R46113
Carbon Tetrachloride	ND	11	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Chlorobenzene	ND	11	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Chloroethane	ND	23	200		µg/L	100	10/4/2017 6:56:00 PM	R46113
Chloroform	ND	40	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Chloromethane	ND	29	300		µg/L	100	10/4/2017 6:56:00 PM	R46113
2-Chlorotoluene	ND	40	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
4-Chlorotoluene	ND	40	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
cis-1,2-DCE	ND	20	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	10/4/2017 6:56:00 PM	R46113
Dibromochloromethane	ND	7.2	100		µg/L	100	10/4/2017 6:56:00 PM	R46113

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:05:00 AM
Lab ID: 1709F73-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	9.1	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,3-Dichlorobenzene	ND	15	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,4-Dichlorobenzene	ND	40	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Dichlorodifluoromethane	ND	100	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,1-Dichloroethane	ND	40	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,1-Dichloroethene	ND	8.1	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2-Dichloropropane	ND	10	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,3-Dichloropropane	ND	17	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
2,2-Dichloropropane	ND	16	200		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,1-Dichloropropene	ND	9.3	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Hexachlorobutadiene	ND	80	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
2-Hexanone	ND	66	1000		µg/L	100	10/4/2017 6:56:00 PM	R46113
Isopropylbenzene	ND	5.1	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
4-Isopropyltoluene	ND	9.6	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	10/4/2017 6:56:00 PM	R46113
Methylene Chloride	ND	11	300		µg/L	100	10/4/2017 6:56:00 PM	R46113
n-Butylbenzene	ND	13	300		µg/L	100	10/4/2017 6:56:00 PM	R46113
n-Propylbenzene	ND	7.4	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
sec-Butylbenzene	ND	11	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Styrene	ND	16	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
tert-Butylbenzene	ND	10	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	10/4/2017 6:56:00 PM	R46113
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
trans-1,2-DCE	ND	18	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,1,2-Trichloroethane	ND	14	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Trichloroethene (TCE)	ND	11	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Trichlorofluoromethane	ND	18	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
1,2,3-Trichloropropane	ND	39	200		µg/L	100	10/4/2017 6:56:00 PM	R46113
Vinyl chloride	ND	18	100		µg/L	100	10/4/2017 6:56:00 PM	R46113
Xylenes, Total	11000	32	150		µg/L	100	10/4/2017 6:56:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	100	10/4/2017 6:56:00 PM	R46113
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	100	10/4/2017 6:56:00 PM	R46113
Surr: Dibromofluoromethane	100	0	70-130		%Rec	100	10/4/2017 6:56:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:05:00 AM
Lab ID: 1709F73-007
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.7	0	70-130		%Rec	100	10/4/2017 6:56:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-04
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:35:00 PM
Lab ID: 1709F73-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	6.6	0.36	1.0		mg/L	1	10/3/2017 1:30:41 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 1:30:41 PM	34174
Surr: DNOP	129	0	77.5-161		%Rec	1	10/3/2017 1:30:41 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	13	0.50	1.0		mg/L	20	10/3/2017 12:59:04 PM	G46024
Surr: BFB	104	0	52.3-138		%Rec	20	10/3/2017 12:59:04 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.87	0.22	0.50		mg/L	5	10/4/2017 6:58:08 PM	R46119
Chloride	200	5.0	10		mg/L	20	10/4/2017 7:10:32 PM	R46119
Bromide	2.3	0.073	0.50		mg/L	5	10/4/2017 6:58:08 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 6:58:08 PM	R46119
Sulfate	0.70	0.48	2.5	J	mg/L	5	10/4/2017 6:58:08 PM	R46119
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/4/2017 9:39:27 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.7	0.0085	0.020	*	mg/L	10	10/10/2017 9:31:57 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:30:20 PM	C46240
Calcium	120	0.78	10		mg/L	10	10/10/2017 9:31:57 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:30:20 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:30:20 PM	C46240
Iron	7.6	0.16	0.20	*	mg/L	10	10/10/2017 9:31:57 PM	C46240
Magnesium	30	0.25	1.0		mg/L	1	10/10/2017 9:30:20 PM	C46240
Manganese	1.4	0.0039	0.020	*	mg/L	10	10/10/2017 9:31:57 PM	C46240
Potassium	0.41	0.11	1.0	J	mg/L	1	10/10/2017 9:30:20 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:30:20 PM	C46240
Sodium	360	1.6	10		mg/L	10	10/10/2017 9:31:57 PM	C46240
Zinc	0.034	0.0021	0.010		mg/L	1	10/10/2017 9:30:20 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	3.8	0.0047	0.010	*	mg/L	5	10/10/2017 2:58:44 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:15:55 PM	34315
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 1:15:55 PM	34315
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 1:15:55 PM	34315
Iron	9.4	0.10	0.20	*	mg/L	10	10/10/2017 3:00:27 PM	34315
Manganese	1.4	0.0055	0.010	*	mg/L	5	10/10/2017 2:58:44 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:15:55 PM	34315
Zinc	0.0045	0.0033	0.010	J	mg/L	1	10/10/2017 1:15:55 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.017	0.00089	0.0050	*	mg/L	5	10/6/2017 5:50:43 PM	B46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-04
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:35:00 PM
Lab ID: 1709F73-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:54:00 PM	C46150
Selenium	ND	0.019	0.050		mg/L	50	10/6/2017 5:53:47 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.019	0.0015	0.0050	*	mg/L	5	10/12/2017 3:32:57 PM	34315
Lead	0.0018	0.000095	0.00050		mg/L	1	10/11/2017 2:47:55 PM	34315
Selenium	0.011	0.0036	0.0050		mg/L	5	10/24/2017 4:58:30 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 3:21:40 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	4.8	3.6	10	J	µg/L	1	10/9/2017 8:46:54 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Aniline	ND	3.1	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 8:46:54 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 8:46:54 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Carbazole	19	4.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 8:46:54 PM	34143

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-04
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:35:00 PM
Lab ID: 1709F73-008 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 8:46:54 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 8:46:54 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 8:46:54 PM	34143
2,4-Dimethylphenol	4.9	2.8	10	J	µg/L	1	10/9/2017 8:46:54 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 8:46:54 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 8:46:54 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Fluorene	7.4	4.0	10	J	µg/L	1	10/9/2017 8:46:54 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 8:46:54 PM	34143
1-Methylnaphthalene	180	3.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2-Methylnaphthalene	220	3.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 8:46:54 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Naphthalene	300	5.7	20		µg/L	2	10/10/2017 12:33:28 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 8:46:54 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 8:46:54 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 8:46:54 PM	34143
Phenanthrene	6.3	4.3	10	J	µg/L	1	10/9/2017 8:46:54 PM	34143
Phenol	ND	3.1	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 8:46:54 PM	34143

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-04
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:35:00 PM
Lab ID: 1709F73-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 8:46:54 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 8:46:54 PM	34143
Surr: 2-Fluorophenol	50.5	0	15-88		%Rec	1	10/9/2017 8:46:54 PM	34143
Surr: Phenol-d5	39.3	0	15-72.4		%Rec	1	10/9/2017 8:46:54 PM	34143
Surr: 2,4,6-Tribromophenol	82.7	0	15-117		%Rec	1	10/9/2017 8:46:54 PM	34143
Surr: Nitrobenzene-d5	71.5	0	33.5-120		%Rec	1	10/9/2017 8:46:54 PM	34143
Surr: 2-Fluorobiphenyl	70.5	0	26.5-109		%Rec	1	10/9/2017 8:46:54 PM	34143
Surr: 4-Terphenyl-d14	59.7	0	21.7-98.7		%Rec	1	10/9/2017 8:46:54 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1100	3.1	50		µg/L	50	10/4/2017 7:19:00 PM	R46113
Toluene	19	0.32	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Ethylbenzene	820	4.7	50		µg/L	50	10/4/2017 7:19:00 PM	R46113
Methyl tert-butyl ether (MTBE)	2300	12	50		µg/L	50	10/4/2017 7:19:00 PM	R46113
1,2,4-Trimethylbenzene	570	5.6	50		µg/L	50	10/4/2017 7:19:00 PM	R46113
1,3,5-Trimethylbenzene	110	0.44	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Naphthalene	450	0.57	10		µg/L	5	10/4/2017 7:43:00 PM	R46113
1-Methylnaphthalene	260	0.80	20		µg/L	5	10/4/2017 7:43:00 PM	R46113
2-Methylnaphthalene	260	0.76	20		µg/L	5	10/4/2017 7:43:00 PM	R46113
Acetone	ND	4.1	50		µg/L	5	10/4/2017 7:43:00 PM	R46113
Bromobenzene	ND	0.70	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Bromodichloromethane	ND	0.88	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Bromoform	ND	1.1	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Bromomethane	ND	1.3	15		µg/L	5	10/4/2017 7:43:00 PM	R46113
2-Butanone	ND	5.7	50		µg/L	5	10/4/2017 7:43:00 PM	R46113
Carbon disulfide	ND	2.0	50		µg/L	5	10/4/2017 7:43:00 PM	R46113
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Chlorobenzene	ND	0.53	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Chloroethane	ND	1.2	10		µg/L	5	10/4/2017 7:43:00 PM	R46113
Chloroform	ND	2.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Chloromethane	ND	1.5	15		µg/L	5	10/4/2017 7:43:00 PM	R46113
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
cis-1,2-DCE	5.2	1.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	10/4/2017 7:43:00 PM	R46113
Dibromochloromethane	ND	0.36	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-04
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:35:00 PM
Lab ID: 1709F73-008 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.45	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,1-Dichloroethane	3.4	2.0	5.0	J	µg/L	5	10/4/2017 7:43:00 PM	R46113
1,1-Dichloroethene	5.8	0.40	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
2,2-Dichloropropane	ND	0.79	10		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
2-Hexanone	ND	3.3	50		µg/L	5	10/4/2017 7:43:00 PM	R46113
Isopropylbenzene	30	0.26	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
4-Isopropyltoluene	5.0	0.48	5.0	J	µg/L	5	10/4/2017 7:43:00 PM	R46113
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	10/4/2017 7:43:00 PM	R46113
Methylene Chloride	ND	0.54	15		µg/L	5	10/4/2017 7:43:00 PM	R46113
n-Butylbenzene	10	0.65	15	J	µg/L	5	10/4/2017 7:43:00 PM	R46113
n-Propylbenzene	77	0.37	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
sec-Butylbenzene	5.8	0.55	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Styrene	1.4	0.78	5.0	J	µg/L	5	10/4/2017 7:43:00 PM	R46113
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	10/4/2017 7:43:00 PM	R46113
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Trichloroethene (TCE)	1.3	0.56	5.0	J	µg/L	5	10/4/2017 7:43:00 PM	R46113
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	10/4/2017 7:43:00 PM	R46113
Vinyl chloride	ND	0.89	5.0		µg/L	5	10/4/2017 7:43:00 PM	R46113
Xylenes, Total	1100	16	75		µg/L	50	10/4/2017 7:19:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	98.4	0	70-130		%Rec	5	10/4/2017 7:43:00 PM	R46113
Surr: 4-Bromofluorobenzene	98.8	0	70-130		%Rec	5	10/4/2017 7:43:00 PM	R46113
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	10/4/2017 7:43:00 PM	R46113

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-04
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:35:00 PM
Lab ID: 1709F73-008
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.2	0	70-130		%Rec	5	10/4/2017 7:43:00 PM	R46113

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:50:00 PM
Lab ID: 1709F73-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.9	0.36	1.0		mg/L	1	10/3/2017 1:52:37 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 1:52:37 PM	34174
Surr: DNOP	129	0	77.5-161		%Rec	1	10/3/2017 1:52:37 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	12	0.50	1.0		mg/L	20	10/3/2017 1:22:23 PM	G46024
Surr: BFB	100	0	52.3-138		%Rec	20	10/3/2017 1:22:23 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.83	0.22	0.50		mg/L	5	10/4/2017 7:22:57 PM	R46119
Chloride	220	5.0	10		mg/L	20	10/4/2017 7:35:22 PM	R46119
Bromide	2.2	0.073	0.50		mg/L	5	10/4/2017 7:22:57 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 7:22:57 PM	R46119
Sulfate	4.2	0.48	2.5		mg/L	5	10/4/2017 7:22:57 PM	R46119
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/4/2017 9:51:52 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.2	0.0085	0.020	*	mg/L	10	10/10/2017 9:35:27 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:33:51 PM	C46240
Calcium	120	0.78	10		mg/L	10	10/10/2017 9:35:27 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:33:51 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:33:51 PM	C46240
Iron	8.0	0.16	0.20	*	mg/L	10	10/10/2017 9:35:27 PM	C46240
Magnesium	30	0.25	1.0		mg/L	1	10/10/2017 9:33:51 PM	C46240
Manganese	1.5	0.0039	0.020	*	mg/L	10	10/10/2017 9:35:27 PM	C46240
Potassium	0.63	0.11	1.0	J	mg/L	1	10/10/2017 9:33:51 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:33:51 PM	C46240
Sodium	360	1.6	10		mg/L	10	10/10/2017 9:35:27 PM	C46240
Zinc	0.037	0.0021	0.010		mg/L	1	10/10/2017 9:33:51 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	3.7	0.0047	0.010	*	mg/L	5	10/10/2017 3:02:10 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:17:31 PM	34315
Chromium	0.0019	0.0018	0.0060	J	mg/L	1	10/10/2017 1:17:31 PM	34315
Copper	0.0021	0.0017	0.0060	J	mg/L	1	10/10/2017 1:17:31 PM	34315
Iron	10	0.20	0.40	*	mg/L	20	10/10/2017 3:03:53 PM	34315
Manganese	1.5	0.0055	0.010	*	mg/L	5	10/10/2017 3:02:10 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:17:31 PM	34315
Zinc	0.0057	0.0033	0.010	J	mg/L	1	10/10/2017 1:17:31 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.031	0.0018	0.010	*	mg/L	10	10/6/2017 5:56:50 PM	B46196

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:50:00 PM
Lab ID: 1709F73-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 4:57:04 PM	C46150
Selenium	0.0077	0.0039	0.010	J	mg/L	10	10/6/2017 5:56:50 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.031	0.0015	0.0050	*	mg/L	5	10/12/2017 3:35:57 PM	34315
Lead	0.0038	0.000095	0.00050		mg/L	1	10/11/2017 2:57:01 PM	34315
Selenium	0.012	0.0036	0.0050		mg/L	5	10/24/2017 5:01:30 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 3:23:38 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Aniline	ND	3.1	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 9:14:31 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 9:14:31 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Carbazole	12	4.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 9:14:31 PM	34143

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:50:00 PM
Lab ID: 1709F73-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 9:14:31 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 9:14:31 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 9:14:31 PM	34143
2,4-Dimethylphenol	3.4	2.8	10	J	µg/L	1	10/9/2017 9:14:31 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 9:14:31 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 9:14:31 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Fluorene	5.0	4.0	10	J	µg/L	1	10/9/2017 9:14:31 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 9:14:31 PM	34143
1-Methylnaphthalene	110	3.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2-Methylnaphthalene	61	3.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 9:14:31 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Naphthalene	130	2.9	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 9:14:31 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 9:14:31 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 9:14:31 PM	34143
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Phenol	ND	3.1	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 9:14:31 PM	34143

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:50:00 PM
Lab ID: 1709F73-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 9:14:31 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 9:14:31 PM	34143
Surr: 2-Fluorophenol	24.7	0	15-88		%Rec	1	10/9/2017 9:14:31 PM	34143
Surr: Phenol-d5	24.3	0	15-72.4		%Rec	1	10/9/2017 9:14:31 PM	34143
Surr: 2,4,6-Tribromophenol	51.4	0	15-117		%Rec	1	10/9/2017 9:14:31 PM	34143
Surr: Nitrobenzene-d5	47.2	0	33.5-120		%Rec	1	10/9/2017 9:14:31 PM	34143
Surr: 2-Fluorobiphenyl	43.4	0	26.5-109		%Rec	1	10/9/2017 9:14:31 PM	34143
Surr: 4-Terphenyl-d14	48.9	0	21.7-98.7		%Rec	1	10/9/2017 9:14:31 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	900	3.1	50		µg/L	50	10/4/2017 8:07:00 PM	R46113
Toluene	17	0.32	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Ethylbenzene	770	4.7	50		µg/L	50	10/4/2017 8:07:00 PM	R46113
Methyl tert-butyl ether (MTBE)	2200	12	50		µg/L	50	10/4/2017 8:07:00 PM	R46113
1,2,4-Trimethylbenzene	510	5.6	50		µg/L	50	10/4/2017 8:07:00 PM	R46113
1,3,5-Trimethylbenzene	81	0.44	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Naphthalene	390	0.57	10		µg/L	5	10/4/2017 8:31:00 PM	R46113
1-Methylnaphthalene	240	0.80	20		µg/L	5	10/4/2017 8:31:00 PM	R46113
2-Methylnaphthalene	190	0.76	20		µg/L	5	10/4/2017 8:31:00 PM	R46113
Acetone	ND	4.1	50		µg/L	5	10/4/2017 8:31:00 PM	R46113
Bromobenzene	ND	0.70	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Bromodichloromethane	ND	0.88	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Bromoform	ND	1.1	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Bromomethane	ND	1.3	15		µg/L	5	10/4/2017 8:31:00 PM	R46113
2-Butanone	ND	5.7	50		µg/L	5	10/4/2017 8:31:00 PM	R46113
Carbon disulfide	ND	2.0	50		µg/L	5	10/4/2017 8:31:00 PM	R46113
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Chlorobenzene	ND	0.53	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Chloroethane	ND	1.2	10		µg/L	5	10/4/2017 8:31:00 PM	R46113
Chloroform	ND	2.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Chloromethane	ND	1.5	15		µg/L	5	10/4/2017 8:31:00 PM	R46113
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
cis-1,2-DCE	5.3	1.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	10/4/2017 8:31:00 PM	R46113
Dibromochloromethane	ND	0.36	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:50:00 PM
Lab ID: 1709F73-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.45	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,1-Dichloroethane	5.2	2.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,1-Dichloroethene	9.1	0.40	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
2,2-Dichloropropane	ND	0.79	10		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
2-Hexanone	ND	3.3	50		µg/L	5	10/4/2017 8:31:00 PM	R46113
Isopropylbenzene	28	0.26	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
4-Isopropyltoluene	4.8	0.48	5.0	J	µg/L	5	10/4/2017 8:31:00 PM	R46113
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	10/4/2017 8:31:00 PM	R46113
Methylene Chloride	ND	0.54	15		µg/L	5	10/4/2017 8:31:00 PM	R46113
n-Butylbenzene	9.4	0.65	15	J	µg/L	5	10/4/2017 8:31:00 PM	R46113
n-Propylbenzene	71	0.37	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
sec-Butylbenzene	5.4	0.55	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Styrene	1.3	0.78	5.0	J	µg/L	5	10/4/2017 8:31:00 PM	R46113
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	10/4/2017 8:31:00 PM	R46113
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Trichloroethene (TCE)	1.3	0.56	5.0	J	µg/L	5	10/4/2017 8:31:00 PM	R46113
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	10/4/2017 8:31:00 PM	R46113
Vinyl chloride	ND	0.89	5.0		µg/L	5	10/4/2017 8:31:00 PM	R46113
Xylenes, Total	940	1.6	7.5		µg/L	5	10/4/2017 8:31:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	97.8	0	70-130		%Rec	5	10/4/2017 8:31:00 PM	R46113
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	5	10/4/2017 8:31:00 PM	R46113
Surr: Dibromofluoromethane	97.8	0	70-130		%Rec	5	10/4/2017 8:31:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 1:50:00 PM
Lab ID: 1709F73-009
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.2	0	70-130		%Rec	5	10/4/2017 8:31:00 PM	R46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 2:50:00 PM
Lab ID: 1709F73-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.8	0.36	1.0		mg/L	1	10/3/2017 2:14:38 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 2:14:38 PM	34174
Surr: DNOP	131	0	77.5-161		%Rec	1	10/3/2017 2:14:38 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	63	1.2	2.5		mg/L	50	10/2/2017 8:24:43 PM	G46024
Surr: BFB	95.6	0	52.3-138		%Rec	50	10/2/2017 8:24:43 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/4/2017 7:47:47 PM	R46119
Chloride	820	12	25		mg/L	50	10/11/2017 12:13:26 AM	A46252
Bromide	0.95	0.073	0.50		mg/L	5	10/4/2017 7:47:47 PM	R46119
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/4/2017 7:47:47 PM	R46119
Sulfate	ND	0.48	2.5		mg/L	5	10/4/2017 7:47:47 PM	R46119
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/4/2017 10:04:16 PM	R46119
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.9	0.0085	0.020	*	mg/L	10	10/10/2017 9:39:00 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:37:21 PM	C46240
Calcium	160	0.78	10		mg/L	10	10/10/2017 9:39:00 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:37:21 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:37:21 PM	C46240
Iron	6.8	0.16	0.20	*	mg/L	10	10/10/2017 9:39:00 PM	C46240
Magnesium	46	0.25	1.0		mg/L	1	10/10/2017 9:37:21 PM	C46240
Manganese	3.1	0.0039	0.020	*	mg/L	10	10/10/2017 9:39:00 PM	C46240
Potassium	1.1	0.11	1.0		mg/L	1	10/10/2017 9:37:21 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:37:21 PM	C46240
Sodium	780	1.6	10		mg/L	10	10/10/2017 9:39:00 PM	C46240
Zinc	0.030	0.0021	0.010		mg/L	1	10/10/2017 9:37:21 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	3.1	0.0047	0.010	*	mg/L	5	10/10/2017 3:12:44 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:19:07 PM	34315
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 1:19:07 PM	34315
Copper	ND	0.0017	0.0060		mg/L	1	10/10/2017 1:19:07 PM	34315
Iron	12	0.20	0.40	*	mg/L	20	10/10/2017 3:14:28 PM	34315
Manganese	3.3	0.0055	0.010	*	mg/L	5	10/10/2017 3:12:44 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:19:07 PM	34315
Zinc	0.0086	0.0033	0.010	J	mg/L	1	10/10/2017 1:19:07 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.011	0.00089	0.0050	*	mg/L	5	10/6/2017 6:02:56 PM	B46196

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 2:50:00 PM
Lab ID: 1709F73-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 5:06:18 PM	C46150
Selenium	0.0042	0.0019	0.0050	J	mg/L	5	10/6/2017 6:02:56 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.013	0.0015	0.0050	*	mg/L	5	10/12/2017 3:38:58 PM	34315
Lead	0.0034	0.000095	0.00050		mg/L	1	10/11/2017 3:00:02 PM	34315
Selenium	0.0063	0.0036	0.0050		mg/L	5	10/24/2017 5:04:31 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/11/2017 3:25:38 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Aniline	26	3.1	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 9:42:06 PM	34143
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 9:42:06 PM	34143
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Carbazole	ND	4.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 9:42:06 PM	34143

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 2:50:00 PM
Lab ID: 1709F73-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 9:42:06 PM	34143
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 9:42:06 PM	34143
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 9:42:06 PM	34143
2,4-Dimethylphenol	86	2.8	10		µg/L	1	10/9/2017 9:42:06 PM	34143
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 9:42:06 PM	34143
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 9:42:06 PM	34143
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Fluorene	ND	4.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 9:42:06 PM	34143
1-Methylnaphthalene	13	3.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2-Methylnaphthalene	13	3.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2-Methylphenol	330	6.6	20		µg/L	2	10/10/2017 1:01:10 PM	34143
3+4-Methylphenol	390	6.4	20		µg/L	2	10/10/2017 1:01:10 PM	34143
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Naphthalene	44	2.9	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 9:42:06 PM	34143
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 9:42:06 PM	34143
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 9:42:06 PM	34143
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Phenol	94	3.1	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 9:42:06 PM	34143

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 2:50:00 PM
Lab ID: 1709F73-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 9:42:06 PM	34143
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 9:42:06 PM	34143
Surr: 2-Fluorophenol	36.1	0	15-88		%Rec	1	10/9/2017 9:42:06 PM	34143
Surr: Phenol-d5	38.6	0	15-72.4		%Rec	1	10/9/2017 9:42:06 PM	34143
Surr: 2,4,6-Tribromophenol	79.8	0	15-117		%Rec	1	10/9/2017 9:42:06 PM	34143
Surr: Nitrobenzene-d5	57.6	0	33.5-120		%Rec	1	10/9/2017 9:42:06 PM	34143
Surr: 2-Fluorobiphenyl	63.0	0	26.5-109		%Rec	1	10/9/2017 9:42:06 PM	34143
Surr: 4-Terphenyl-d14	55.9	0	21.7-98.7		%Rec	1	10/9/2017 9:42:06 PM	34143
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	10000	12	200		µg/L	200	10/4/2017 8:54:00 PM	R46113
Toluene	10000	13	200		µg/L	200	10/4/2017 8:54:00 PM	R46113
Ethylbenzene	810	1.9	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Methyl tert-butyl ether (MTBE)	54	4.8	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2,4-Trimethylbenzene	340	2.3	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,3,5-Trimethylbenzene	72	1.7	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	8.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Naphthalene	75	2.3	40		µg/L	20	10/4/2017 9:18:00 PM	R46113
1-Methylnaphthalene	23	3.2	80	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
2-Methylnaphthalene	20	3.0	80	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
Acetone	42	16	200	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
Bromobenzene	ND	2.8	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Bromodichloromethane	ND	3.5	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Bromoform	ND	4.2	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Bromomethane	ND	5.1	60		µg/L	20	10/4/2017 9:18:00 PM	R46113
2-Butanone	200	23	200		µg/L	20	10/4/2017 9:18:00 PM	R46113
Carbon disulfide	ND	8.0	200		µg/L	20	10/4/2017 9:18:00 PM	R46113
Carbon Tetrachloride	ND	2.2	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Chlorobenzene	ND	2.1	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Chloroethane	17	4.7	40	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
Chloroform	ND	8.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Chloromethane	ND	5.9	60		µg/L	20	10/4/2017 9:18:00 PM	R46113
2-Chlorotoluene	ND	8.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
4-Chlorotoluene	ND	8.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
cis-1,2-DCE	ND	4.1	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
cis-1,3-Dichloropropene	ND	1.6	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	10/4/2017 9:18:00 PM	R46113
Dibromochloromethane	ND	1.4	20		µg/L	20	10/4/2017 9:18:00 PM	R46113

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 2:50:00 PM
Lab ID: 1709F73-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	1.8	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2-Dichlorobenzene	ND	1.8	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,3-Dichlorobenzene	ND	3.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Dichlorodifluoromethane	ND	20	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,1-Dichloroethane	25	8.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,1-Dichloroethene	ND	1.6	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2-Dichloropropane	ND	2.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,3-Dichloropropane	ND	3.3	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
2,2-Dichloropropane	ND	3.1	40		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,1-Dichloropropene	ND	1.9	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Hexachlorobutadiene	ND	16	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
2-Hexanone	ND	13	200		µg/L	20	10/4/2017 9:18:00 PM	R46113
Isopropylbenzene	25	1.0	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
4-Isopropyltoluene	4.0	1.9	20	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
4-Methyl-2-pentanone	47	14	200	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
Methylene Chloride	ND	2.2	60		µg/L	20	10/4/2017 9:18:00 PM	R46113
n-Butylbenzene	8.4	2.6	60	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
n-Propylbenzene	65	1.5	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
sec-Butylbenzene	8.8	2.2	20	J	µg/L	20	10/4/2017 9:18:00 PM	R46113
Styrene	ND	3.1	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
tert-Butylbenzene	ND	2.1	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	2.1	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	10/4/2017 9:18:00 PM	R46113
Tetrachloroethene (PCE)	ND	2.6	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
trans-1,2-DCE	ND	3.7	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
trans-1,3-Dichloropropene	ND	4.4	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2,4-Trichlorobenzene	ND	2.8	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,1,1-Trichloroethane	ND	1.5	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Trichloroethene (TCE)	ND	2.2	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Trichlorofluoromethane	ND	3.7	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	10/4/2017 9:18:00 PM	R46113
Vinyl chloride	22	3.6	20		µg/L	20	10/4/2017 9:18:00 PM	R46113
Xylenes, Total	2800	6.4	30		µg/L	20	10/4/2017 9:18:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	99.2	0	70-130		%Rec	20	10/4/2017 9:18:00 PM	R46113
Surr: 4-Bromofluorobenzene	98.7	0	70-130		%Rec	20	10/4/2017 9:18:00 PM	R46113
Surr: Dibromofluoromethane	102	0	70-130		%Rec	20	10/4/2017 9:18:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 2:50:00 PM
Lab ID: 1709F73-010
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	99.5	0	70-130		%Rec	20	10/4/2017 9:18:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:40:00 AM
Lab ID: 1709F73-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.7	0.36	1.0		mg/L	1	10/3/2017 2:36:37 PM	34174
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/3/2017 2:36:37 PM	34174
Surr: DNOP	132	0	77.5-161		%Rec	1	10/3/2017 2:36:37 PM	34174
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	78	2.5	5.0		mg/L	100	10/2/2017 8:48:12 PM	G46024
Surr: BFB	97.8	0	52.3-138		%Rec	100	10/2/2017 8:48:12 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.48	0.22	0.50	J	mg/L	5	10/11/2017 12:25:51 AM	A46252
Chloride	810	25	50		mg/L	100	10/11/2017 12:38:16 AM	A46252
Bromide	3.8	0.073	0.50		mg/L	5	10/5/2017 1:11:44 AM	A46128
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/5/2017 1:11:44 AM	A46128
Sulfate	0.64	0.48	2.5	J	mg/L	5	10/5/2017 1:11:44 AM	A46128
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/5/2017 1:36:33 AM	A46128
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.9	0.0085	0.020	*	mg/L	10	10/10/2017 9:42:34 PM	C46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 9:40:55 PM	C46240
Calcium	110	0.78	10		mg/L	10	10/10/2017 9:42:34 PM	C46240
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 9:40:55 PM	C46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 9:40:55 PM	C46240
Iron	8.8	0.16	0.20	*	mg/L	10	10/10/2017 9:42:34 PM	C46240
Magnesium	30	0.25	1.0		mg/L	1	10/10/2017 9:40:55 PM	C46240
Manganese	2.8	0.0039	0.020	*	mg/L	10	10/10/2017 9:42:34 PM	C46240
Potassium	2.0	0.11	1.0		mg/L	1	10/10/2017 9:40:55 PM	C46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 9:40:55 PM	C46240
Sodium	820	1.6	10		mg/L	10	10/10/2017 9:42:34 PM	C46240
Zinc	0.018	0.0021	0.010		mg/L	1	10/10/2017 9:40:55 PM	C46240
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	2.7	0.0047	0.010	*	mg/L	5	10/10/2017 3:16:22 PM	34315
Cadmium	ND	0.00058	0.0020		mg/L	1	10/10/2017 1:20:48 PM	34315
Chromium	ND	0.0018	0.0060		mg/L	1	10/10/2017 1:20:48 PM	34315
Copper	0.0021	0.0017	0.0060	J	mg/L	1	10/10/2017 1:20:48 PM	34315
Iron	8.6	0.10	0.20	*	mg/L	10	10/10/2017 3:18:07 PM	34315
Manganese	2.6	0.0055	0.010	*	mg/L	5	10/10/2017 3:16:22 PM	34315
Silver	ND	0.0012	0.0050		mg/L	1	10/10/2017 1:20:48 PM	34315
Zinc	0.0096	0.0033	0.010	J	mg/L	1	10/10/2017 1:20:48 PM	34315
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.013	0.0018	0.010	*	mg/L	10	10/6/2017 6:06:00 PM	B46196

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:40:00 AM
Lab ID: 1709F73-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00019	0.00017	0.00050	J	mg/L	1	10/5/2017 5:09:22 PM	C46150
Selenium	ND	0.019	0.050		mg/L	50	10/6/2017 6:09:03 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.016	0.0015	0.0050	*	mg/L	5	10/12/2017 3:48:02 PM	34315
Lead	0.0020	0.000095	0.00050		mg/L	1	10/11/2017 3:03:02 PM	34315
Selenium	0.019	0.0036	0.0050		mg/L	5	10/24/2017 5:07:31 PM	34472
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000058	0.000037	0.00020	J	mg/L	1	10/11/2017 3:27:37 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Acenaphthylene	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Aniline	ND	15	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Anthracene	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Azobenzene	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Benz(a)anthracene	ND	19	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Benzo(a)pyrene	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Benzo(b)fluoranthene	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Benzo(k)fluoranthene	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Benzoic acid	51	20	100	J	µg/L	1	10/6/2017 9:29:27 PM	34167
Benzyl alcohol	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Bis(2-ethylhexyl)phthalate	ND	24	50		µg/L	1	10/6/2017 9:29:27 PM	34167
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Butyl benzyl phthalate	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Carbazole	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	10/6/2017 9:29:27 PM	34167
4-Chloroaniline	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2-Chloronaphthalene	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2-Chlorophenol	ND	38	50		µg/L	1	10/6/2017 9:29:27 PM	34167
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Chrysene	ND	19	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Di-n-butyl phthalate	ND	25	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Di-n-octyl phthalate	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Dibenzofuran	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-16
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:40:00 AM
Lab ID: 1709F73-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	10	50		µg/L	1	10/6/2017 9:29:27 PM	34167
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	10/6/2017 9:29:27 PM	34167
1,4-Dichlorobenzene	ND	11	50		µg/L	1	10/6/2017 9:29:27 PM	34167
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Diethyl phthalate	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Dimethyl phthalate	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2,4-Dichlorophenol	ND	28	100		µg/L	1	10/6/2017 9:29:27 PM	34167
2,4-Dimethylphenol	50	14	50	J	µg/L	1	10/6/2017 9:29:27 PM	34167
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	10/6/2017 9:29:27 PM	34167
2,4-Dinitrophenol	ND	13	100		µg/L	1	10/6/2017 9:29:27 PM	34167
2,4-Dinitrotoluene	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2,6-Dinitrotoluene	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Fluoranthene	ND	21	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Fluorene	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Hexachlorobenzene	ND	19	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Hexachlorobutadiene	ND	6.7	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Hexachloroethane	ND	6.0	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Isophorone	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
1-Methylnaphthalene	18	17	50	J	µg/L	1	10/6/2017 9:29:27 PM	34167
2-Methylnaphthalene	26	16	50	J	µg/L	1	10/6/2017 9:29:27 PM	34167
2-Methylphenol	36	17	50	J	µg/L	1	10/6/2017 9:29:27 PM	34167
3+4-Methylphenol	ND	16	50		µg/L	1	10/6/2017 9:29:27 PM	34167
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	10/6/2017 9:29:27 PM	34167
N-Nitrosodimethylamine	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Naphthalene	100	14	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2-Nitroaniline	ND	25	50		µg/L	1	10/6/2017 9:29:27 PM	34167
3-Nitroaniline	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
4-Nitroaniline	ND	20	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Nitrobenzene	ND	18	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2-Nitrophenol	ND	26	50		µg/L	1	10/6/2017 9:29:27 PM	34167
4-Nitrophenol	ND	27	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Pentachlorophenol	ND	25	100		µg/L	1	10/6/2017 9:29:27 PM	34167
Phenanthrene	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Phenol	110	16	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Pyrene	ND	22	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Pyridine	ND	11	50		µg/L	1	10/6/2017 9:29:27 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:40:00 AM
Lab ID: 1709F73-011 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	10/6/2017 9:29:27 PM	34167
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	10/6/2017 9:29:27 PM	34167
Surr: 2-Fluorophenol	40.2	0	15-88		%Rec	1	10/6/2017 9:29:27 PM	34167
Surr: Phenol-d5	35.8	0	15-72.4		%Rec	1	10/6/2017 9:29:27 PM	34167
Surr: 2,4,6-Tribromophenol	74.1	0	15-117		%Rec	1	10/6/2017 9:29:27 PM	34167
Surr: Nitrobenzene-d5	62.9	0	33.5-120		%Rec	1	10/6/2017 9:29:27 PM	34167
Surr: 2-Fluorobiphenyl	59.4	0	26.5-109		%Rec	1	10/6/2017 9:29:27 PM	34167
Surr: 4-Terphenyl-d14	33.2	0	21.7-98.7		%Rec	1	10/6/2017 9:29:27 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	23000	62	1000		µg/L	1000	10/4/2017 9:42:00 PM	R46113
Toluene	240	6.4	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Ethylbenzene	1600	9.3	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Methyl tert-butyl ether (MTBE)	920	24	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2,4-Trimethylbenzene	750	11	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,3,5-Trimethylbenzene	200	8.7	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Naphthalene	170	11	200	J	µg/L	100	10/4/2017 11:40:00 PM	R46113
1-Methylnaphthalene	53	16	400	J	µg/L	100	10/4/2017 11:40:00 PM	R46113
2-Methylnaphthalene	57	15	400	J	µg/L	100	10/4/2017 11:40:00 PM	R46113
Acetone	ND	82	1000		µg/L	100	10/4/2017 11:40:00 PM	R46113
Bromobenzene	ND	14	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Bromodichloromethane	ND	18	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Bromoform	ND	21	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Bromomethane	ND	26	300		µg/L	100	10/4/2017 11:40:00 PM	R46113
2-Butanone	ND	110	1000		µg/L	100	10/4/2017 11:40:00 PM	R46113
Carbon disulfide	ND	40	1000		µg/L	100	10/4/2017 11:40:00 PM	R46113
Carbon Tetrachloride	ND	11	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Chlorobenzene	ND	11	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Chloroethane	ND	23	200		µg/L	100	10/4/2017 11:40:00 PM	R46113
Chloroform	ND	40	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Chloromethane	ND	29	300		µg/L	100	10/4/2017 11:40:00 PM	R46113
2-Chlorotoluene	ND	40	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
4-Chlorotoluene	ND	40	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
cis-1,2-DCE	ND	20	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	10/4/2017 11:40:00 PM	R46113
Dibromochloromethane	ND	7.2	100		µg/L	100	10/4/2017 11:40:00 PM	R46113

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Client Sample ID: MKTF-16
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:40:00 AM
Lab ID: 1709F73-011 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	9.1	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,3-Dichlorobenzene	ND	15	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,4-Dichlorobenzene	ND	40	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Dichlorodifluoromethane	ND	100	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,1-Dichloroethane	42	40	100	J	µg/L	100	10/4/2017 11:40:00 PM	R46113
1,1-Dichloroethene	ND	8.1	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2-Dichloropropane	ND	10	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,3-Dichloropropane	ND	17	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
2,2-Dichloropropane	ND	16	200		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,1-Dichloropropene	ND	9.3	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Hexachlorobutadiene	ND	80	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
2-Hexanone	ND	66	1000		µg/L	100	10/4/2017 11:40:00 PM	R46113
Isopropylbenzene	31	5.1	100	J	µg/L	100	10/4/2017 11:40:00 PM	R46113
4-Isopropyltoluene	ND	9.6	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	10/4/2017 11:40:00 PM	R46113
Methylene Chloride	ND	11	300		µg/L	100	10/4/2017 11:40:00 PM	R46113
n-Butylbenzene	ND	13	300		µg/L	100	10/4/2017 11:40:00 PM	R46113
n-Propylbenzene	88	7.4	100	J	µg/L	100	10/4/2017 11:40:00 PM	R46113
sec-Butylbenzene	ND	11	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Styrene	ND	16	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
tert-Butylbenzene	ND	10	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	10/4/2017 11:40:00 PM	R46113
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
trans-1,2-DCE	ND	18	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,1,2-Trichloroethane	ND	14	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Trichloroethene (TCE)	ND	11	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Trichlorofluoromethane	ND	18	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
1,2,3-Trichloropropane	ND	39	200		µg/L	100	10/4/2017 11:40:00 PM	R46113
Vinyl chloride	ND	18	100		µg/L	100	10/4/2017 11:40:00 PM	R46113
Xylenes, Total	3900	32	150		µg/L	100	10/4/2017 11:40:00 PM	R46113
Surr: 1,2-Dichloroethane-d4	98.6	0	70-130		%Rec	100	10/4/2017 11:40:00 PM	R46113
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	100	10/4/2017 11:40:00 PM	R46113
Surr: Dibromofluoromethane	99.3	0	70-130		%Rec	100	10/4/2017 11:40:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 3rd QTR MKTF
Collection Date: 9/26/2017 11:40:00 AM
Lab ID: 1709F73-011
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	98.5	0	70-130		%Rec	100	10/4/2017 11:40:00 PM	R46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472335** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472338** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Cadmium	0.0022	0.0020	0.002000	0	109	50	150			
Calcium	0.52	1.0	0.5000	0	103	50	150			J
Chromium	0.0053	0.0060	0.006000	0	89.0	50	150			J
Copper	0.0063	0.0060	0.006000	0	105	50	150			
Iron	0.021	0.020	0.02000	0	103	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0022	0.0020	0.002000	0	108	50	150			
Potassium	0.61	1.0	0.5000	0	123	50	150			J
Silver	0.0049	0.0050	0.005000	0	97.2	50	150			J
Sodium	0.51	1.0	0.5000	0	101	50	150			J
Zinc	0.0052	0.010	0.005000	0	104	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472341** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Calcium	50	1.0	50.00	0	100	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**LCS-C**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **C46240**			RunNo: **46240**					
Prep Date:		Analysis Date: **10/10/2017**			SeqNo: **1472341**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.50	0.020	0.5000	0	99.2	85	115			
Magnesium	51	1.0	50.00	0	103	85	115			
Manganese	0.49	0.0020	0.5000	0	98.9	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	96.1	85	115			

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A46308**			RunNo: **46308**					
Prep Date:		Analysis Date: **10/11/2017**			SeqNo: **1474985**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID	**LLLCS-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A46308**			RunNo: **46308**					
Prep Date:		Analysis Date: **10/11/2017**			SeqNo: **1474986**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.021	0.020	0.02000	0	104	50	150			

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A46308**			RunNo: **46308**					
Prep Date:		Analysis Date: **10/11/2017**			SeqNo: **1474987**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.020	0.5000	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**1709F73-011FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **34315**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473356**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.47	0.0020	0.5000	0	94.1	70	130			
Chromium	0.47	0.0060	0.5000	0	94.0	70	130			
Copper	0.50	0.0060	0.5000	0.002090	99.3	70	130			
Silver	0.098	0.0050	0.1000	0	97.8	70	130			
Zinc	0.45	0.010	0.5000	0.009620	88.1	70	130			

Sample ID	**1709F73-011FMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **34315**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473357**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.47	0.0020	0.5000	0	94.7	70	130	0.640	20	
Chromium	0.47	0.0060	0.5000	0	94.8	70	130	0.763	20	
Copper	0.50	0.0060	0.5000	0.002090	100	70	130	1.03	20	
Silver	0.099	0.0050	0.1000	0	99.2	70	130	1.38	20	
Zinc	0.46	0.010	0.5000	0.009620	89.5	70	130	1.54	20	

Sample ID	**MB-34315**	SampType: **MBLK**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID: **34315**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473604**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LLLCS-34315**	SampType: **LCSLL**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID: **34315**		RunNo: **46262**					
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473605**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	104	50	150			
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			
Chromium	0.0066	0.0060	0.006000	0	111	50	150			
Copper	0.0051	0.0060	0.006000	0	85.3	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**LLLCS-34315**	SampType: **LCSLL**		TestCode: **EPA Method 200.7: Total Metals**						
Client ID:	**BatchQC**	Batch ID: **34315**		RunNo: **46262**						
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473605**		Units: **mg/L**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.021	0.020	0.02000	0	104	50	150			
Manganese		0.0020	0.0020	0.002000	0	102	50	150			
Silver		0.0053	0.0050	0.005000	0	106	50	150			
Zinc		0.0062	0.010	0.005000	0	123	50	150			J

Sample ID	**LCS-34315**	SampType: **LCS**		TestCode: **EPA Method 200.7: Total Metals**						
Client ID:	**LCSW**	Batch ID: **34315**		RunNo: **46262**						
Prep Date:	**10/9/2017**	Analysis Date: **10/10/2017**		SeqNo: **1473606**		Units: **mg/L**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium		0.48	0.0020	0.5000	0	96.5	85	115			
Cadmium		0.49	0.0020	0.5000	0	97.6	85	115			
Chromium		0.48	0.0060	0.5000	0	96.2	85	115			
Copper		0.47	0.0060	0.5000	0	94.5	85	115			
Iron		0.48	0.020	0.5000	0	95.2	85	115			
Manganese		0.47	0.0020	0.5000	0	94.6	85	115			
Silver		0.098	0.0050	0.1000	0	98.1	85	115			
Zinc		0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468975**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	96.1	85	115			

Sample ID	**LCS**	SampType: **LCS**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **C46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468976**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	95.5	85	115			

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468978**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	97.4	50	150			J

Sample ID	**LLLCS**	SampType: **LCSLL**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **C46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468979**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	96.7	50	150			J

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **B46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468981**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID	**MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **C46150**			RunNo: **46150**					
Prep Date:		Analysis Date: **10/5/2017**			SeqNo: **1468982**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**1709F73-005ELLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-34**	Batch ID:	**B46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470666**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.002548	97.5	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470728**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	94.0	85	115			
Selenium	0.023	0.0010	0.02500	0	91.1	85	115			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470729**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.8	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470732**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00091	0.0010	0.001000	0	90.8	50	150			J
Selenium	0.00083	0.0010	0.001000	0	83.4	50	150			J

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470733**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00092	0.0010	0.001000	0	91.9	50	150			J
Selenium	0.00084	0.0010	0.001000	0	84.5	50	150			J

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470736**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470736** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34315**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34315**	RunNo:	**46279**					
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474009**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								

Sample ID	**MSLCS-34315**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34315**	RunNo:	**46279**					
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474013**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0	109	85	115			
Lead	0.012	0.00050	0.01250	0	93.9	85	115			

Sample ID	**MSLLLCS-34315**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34315**	RunNo:	**46279**					
Prep Date:	**10/9/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474017**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0012	0.0010	0.001000	0	116	50	150			
Lead	0.00036	0.00050	0.0005000	0	72.5	50	150			J

Sample ID	**MB-34472**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34472**	RunNo:	**46591**					
Prep Date:	**10/18/2017**	Analysis Date:	**10/24/2017**	SeqNo:	**1484407**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID	**MSLCS-34472**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34472**	RunNo:	**46591**					
Prep Date:	**10/18/2017**	Analysis Date:	**10/24/2017**	SeqNo:	**1484408**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.025	0.0010	0.02500	0	98.2	85	115			

Sample ID	**MSLLLCS-34472**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34472**	RunNo:	**46591**					
Prep Date:	**10/18/2017**	Analysis Date:	**10/24/2017**	SeqNo:	**1484409**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00097	0.0010	0.001000	0	96.7	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34351**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34351**	RunNo:	**46278**					
Prep Date:	**10/11/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1473839**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34351**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34351**	RunNo:	**46278**					
Prep Date:	**10/11/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1473840**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46119**	RunNo: **46119**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467232** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46119**	RunNo: **46119**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467233** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.9	90	110			
Chloride	4.8	0.50	5.000	0	96.3	90	110			
Bromide	2.4	0.10	2.500	0	97.9	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.2	90	110			
Sulfate	9.8	0.50	10.00	0	98.4	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.8	90	110			

Sample ID **1709F73-003DMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MKTF-17**	Batch ID: **R46119**	RunNo: **46119**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467235** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.9	0.50	2.500	0.7558	86.5	68.4	112			
Bromide	13	0.50	12.50	1.113	93.0	77	108			
Sulfate	69	2.5	50.00	22.45	94.0	87.1	118			

Sample ID **1709F73-003DMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MKTF-17**	Batch ID: **R46119**	RunNo: **46119**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467236** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.0	0.50	2.500	0.7558	88.6	68.4	112	1.74	20	
Bromide	13	0.50	12.50	1.113	94.8	77	108	1.71	20	
Sulfate	70	2.5	50.00	22.45	95.8	87.1	118	1.28	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A46128**	RunNo: **46128**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467462** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.12	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A46128**	RunNo: **46128**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467463** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.7	0.10	2.500	0	108	90	110			
Phosphorus, Orthophosphate (As P	5.2	0.50	5.000	0	105	90	110			
Sulfate	10	0.50	10.00	0	103	90	110			
Nitrate+Nitrite as N	3.7	0.20	3.500	0	105	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A46252**	RunNo: **46252**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472999** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A46252**	RunNo: **46252**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1473000** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.9	0.50	5.000	0	98.7	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **1709F73-003BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-17**	Batch ID: **34174**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1464334** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	8.2	1.0	5.000	1.961	125	83.3	151			
Surr: DNOP	0.69		0.5000		138	77.5	161			

Sample ID **1709F73-003BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-17**	Batch ID: **34174**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1464335** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.7	1.0	5.000	1.961	115	83.3	151	6.39	20	
Surr: DNOP	0.61		0.5000		121	77.5	161	0	0	

Sample ID **LCS-34174**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **34174**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1464341** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.4	1.0	5.000	0	128	92.3	135			
Surr: DNOP	0.68		0.5000		135	77.5	161			

Sample ID **MB-34174**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **34174**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1464342** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		124	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G46024**	RunNo: **46024**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463554** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.9	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G46024**	RunNo: **46024**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463555** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.58	0.050	0.5000	0	116	75.8	123			
Surr: BFB	22		20.00		109	52.3	138			

Sample ID **1709F73-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-17**	Batch ID: **G46024**	RunNo: **46024**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463557** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	11	0.50	5.000	4.328	127	53.2	134			
Surr: BFB	340		200.0		171	52.3	138			S

Sample ID **1709F73-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-17**	Batch ID: **G46024**	RunNo: **46024**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463558** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	10	0.50	5.000	4.328	123	53.2	134	1.91	20	
Surr: BFB	330		200.0		163	52.3	138	0	0	S

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466926** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	20	1.0	20.00	0	99.8	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.4	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466927** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**
26-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466927** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466927** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Sample ID **1709f73-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-17**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466940** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	140	5.0	100.0	48.70	95.1	70	130			
Toluene	98	5.0	100.0	0	97.8	70	130			
Chlorobenzene	100	5.0	100.0	0	100	70	130			
1,1-Dichloroethene	98	5.0	100.0	0	97.7	70	130			
Trichloroethene (TCE)	97	5.0	100.0	0	97.3	70	130			
Surr: 1,2-Dichloroethane-d4	50		50.00		100	70	130			
Surr: 4-Bromofluorobenzene	49		50.00		98.6	70	130			
Surr: Dibromofluoromethane	51		50.00		101	70	130			
Surr: Toluene-d8	49		50.00		98.0	70	130			

Sample ID **1709f73-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-17**	Batch ID: **R46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466941** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	140	5.0	100.0	48.70	91.3	70	130	2.69	20	
Toluene	96	5.0	100.0	0	95.8	70	130	2.00	20	
Chlorobenzene	98	5.0	100.0	0	98.3	70	130	1.66	20	
1,1-Dichloroethene	96	5.0	100.0	0	95.7	70	130	2.02	20	
Trichloroethene (TCE)	94	5.0	100.0	0	93.9	70	130	3.53	20	
Surr: 1,2-Dichloroethane-d4	51		50.00		102	70	130	0	0	
Surr: 4-Bromofluorobenzene	50		50.00		100	70	130	0	0	
Surr: Dibromofluoromethane	51		50.00		102	70	130	0	0	
Surr: Toluene-d8	49		50.00		98.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **lcs-34167**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470514** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	90	10	100.0	0	89.5	41.2	98.9			
4-Chloro-3-methylphenol	180	10	200.0	0	89.8	29.1	111			
2-Chlorophenol	180	10	200.0	0	88.9	23.3	108			
1,4-Dichlorobenzene	73	10	100.0	0	73.0	29.4	84.5			
2,4-Dinitrotoluene	84	10	100.0	0	83.8	36.6	88.7			
N-Nitrosodi-n-propylamine	94	10	100.0	0	94.0	46.9	106			
4-Nitrophenol	110	10	200.0	0	53.0	15	74.7			
Pentachlorophenol	170	20	200.0	0	86.8	28.1	85.4			S
Phenol	110	10	200.0	0	56.7	15	78.2			
Pyrene	90	10	100.0	0	89.8	44.4	96.8			
1,2,4-Trichlorobenzene	87	10	100.0	0	87.3	34.3	89			
Surr: 2-Fluorophenol	130		200.0		63.1	15	88			
Surr: Phenol-d5	110		200.0		55.7	15	72.4			
Surr: 2,4,6-Tribromophenol	210		200.0		105	15	117			
Surr: Nitrobenzene-d5	90		100.0		89.9	33.5	120			
Surr: 2-Fluorobiphenyl	78		100.0		77.9	26.5	109			
Surr: 4-Terphenyl-d14	73		100.0		72.7	21.7	98.7			

Sample ID **lcsd-34167**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470515** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	83	10	100.0	0	83.2	41.2	98.9	7.27	37.4	
4-Chloro-3-methylphenol	180	10	200.0	0	91.7	29.1	111	2.17	26.8	
2-Chlorophenol	170	10	200.0	0	86.8	23.3	108	2.41	30.3	
1,4-Dichlorobenzene	71	10	100.0	0	71.4	29.4	84.5	2.13	32	
2,4-Dinitrotoluene	73	10	100.0	0	72.7	36.6	88.7	14.2	36.7	
N-Nitrosodi-n-propylamine	91	10	100.0	0	91.2	46.9	106	3.05	29.9	
4-Nitrophenol	120	10	200.0	0	59.3	15	74.7	11.1	28.8	
Pentachlorophenol	160	20	200.0	0	81.6	28.1	85.4	6.17	38.2	
Phenol	130	10	200.0	0	64.1	15	78.2	12.3	39.8	
Pyrene	78	10	100.0	0	77.8	44.4	96.8	14.3	28.3	
1,2,4-Trichlorobenzene	84	10	100.0	0	84.2	34.3	89	3.64	39.8	
Surr: 2-Fluorophenol	130		200.0		66.8	15	88	0	0	
Surr: Phenol-d5	130		200.0		62.9	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	190		200.0		96.8	15	117	0	0	
Surr: Nitrobenzene-d5	84		100.0		84.0	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	74		100.0		74.3	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**lcsd-34167**	SampType:	**LCSD**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID:	**34167**	RunNo:	**46175**					
Prep Date:	**10/2/2017**	Analysis Date:	**10/6/2017**	SeqNo:	**1470515**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	57		100.0		56.6	21.7	98.7	0	0	

Sample ID	**mb-34167**	SampType:	**MBLK**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**PBW**	Batch ID:	**34167**	RunNo:	**46175**					
Prep Date:	**10/2/2017**	Analysis Date:	**10/6/2017**	SeqNo:	**1470516**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	130	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**
26-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	91		200.0		45.7	15	88			
Surr: Phenol-d5	72		200.0		35.9	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		71.4	15	117			
Surr: Nitrobenzene-d5	63		100.0		62.7	33.5	120			
Surr: 2-Fluorobiphenyl	54		100.0		53.6	26.5	109			
Surr: 4-Terphenyl-d14	50		100.0		49.7	21.7	98.7			

Sample ID **lcs-34143**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34143**	RunNo: **46212**
Prep Date: **9/29/2017**	Analysis Date: **10/9/2017**	SeqNo: **1471495** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	65.7	41.2	98.9			
4-Chloro-3-methylphenol	130	10	200.0	0	66.0	29.1	111			
2-Chlorophenol	130	10	200.0	0	63.9	23.3	108			
1,4-Dichlorobenzene	57	10	100.0	0	57.1	29.4	84.5			
2,4-Dinitrotoluene	54	10	100.0	0	54.1	36.6	88.7			
N-Nitrosodi-n-propylamine	71	10	100.0	0	70.8	46.9	106			
4-Nitrophenol	84	10	200.0	0	42.0	15	74.7			
Pentachlorophenol	79	20	200.0	0	39.7	28.1	85.4			
Phenol	93	10	200.0	0	46.7	15	78.2			
Pyrene	58	10	100.0	0	58.5	44.4	96.8			
1,2,4-Trichlorobenzene	61	10	100.0	0	60.7	34.3	89			
Surr: 2-Fluorophenol	100		200.0		50.4	15	88			
Surr: Phenol-d5	96		200.0		48.1	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		74.0	15	117			
Surr: Nitrobenzene-d5	62		100.0		62.3	33.5	120			
Surr: 2-Fluorobiphenyl	61		100.0		60.6	26.5	109			
Surr: 4-Terphenyl-d14	49		100.0		48.9	21.7	98.7			

Sample ID **lcsd-34143**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34143**	RunNo: **46212**
Prep Date: **9/29/2017**	Analysis Date: **10/9/2017**	SeqNo: **1471496** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	62	10	100.0	0	62.2	41.2	98.9	5.60	37.4	
4-Chloro-3-methylphenol	130	10	200.0	0	66.5	29.1	111	0.709	26.8	
2-Chlorophenol	110	10	200.0	0	56.0	23.3	108	13.1	30.3	
1,4-Dichlorobenzene	49	10	100.0	0	49.3	29.4	84.5	14.6	32	
2,4-Dinitrotoluene	54	10	100.0	0	53.8	36.6	88.7	0.556	36.7	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**
26-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **lcsd-34143**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34143**	RunNo: **46212**
Prep Date: **9/29/2017**	Analysis Date: **10/9/2017**	SeqNo: **1471496** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	69	10	100.0	0	68.8	46.9	106	2.81	29.9	
4-Nitrophenol	71	10	200.0	0	35.3	15	74.7	17.3	28.8	
Pentachlorophenol	120	20	200.0	0	60.4	28.1	85.4	41.4	38.2	R
Phenol	82	10	200.0	0	41.1	15	78.2	12.7	39.8	
Pyrene	57	10	100.0	0	57.4	44.4	96.8	1.97	28.3	
1,2,4-Trichlorobenzene	55	10	100.0	0	54.9	34.3	89	9.93	39.8	
Surr: 2-Fluorophenol	85		200.0		42.4	15	88	0	0	
Surr: Phenol-d5	82		200.0		41.1	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		78.1	15	117	0	0	
Surr: Nitrobenzene-d5	57		100.0		57.2	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	53		100.0		52.7	26.5	109	0	0	
Surr: 4-Terphenyl-d14	50		100.0		49.8	21.7	98.7	0	0	

Sample ID **mb-34143**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34143**	RunNo: **46212**
Prep Date: **9/29/2017**	Analysis Date: **10/9/2017**	SeqNo: **1471497** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	4.4	10								J
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.0	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	140	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **mb-34143**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34143**	RunNo: **46212**
Prep Date: **9/29/2017**	Analysis Date: **10/9/2017**	SeqNo: **1471497** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	8.5	10								J
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709F73**

26-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **mb-34143**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34143**	RunNo: **46212**
Prep Date: **9/29/2017**	Analysis Date: **10/9/2017**	SeqNo: **1471497** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	4.7	10								J
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	140		200.0		71.1	15	88			
Surr: Phenol-d5	150		200.0		74.0	15	72.4			S
Surr: 2,4,6-Tribromophenol	170		200.0		84.6	15	117			
Surr: Nitrobenzene-d5	73		100.0		72.6	33.5	120			
Surr: 2-Fluorobiphenyl	70		100.0		69.9	26.5	109			
Surr: 4-Terphenyl-d14	51		100.0		51.1	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1709F73 RcptNo: 1

Received By: Andy Freeman 9/27/2017 4:00:00 PM

Completed By: Ashley Gallegos 9/28/2017 11:54:23 AM

Reviewed By: ENM 9/29/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	~~Yes ☑~~ Re	No ☒	
9. Was preservative added to bottles?	Yes ☒ Re	~~No ☑~~	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 21 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? YES
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: Re

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks: 0.5 mL HNO_3 was added to -0006E for metals analysis. Sample was held 24 hours prior to analysis. 1010 9/29/17 Re

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

Email or Fax# 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2017 3rd QTR - MKTF

PO #20837992-CO#1

Project Manager:

C. JOHNSON (cheryl.a.johnson@andeavor.com)

Sampler: C. JOHNSON

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.3°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709F73	Analysis Request: 8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1	Air Bubbles (Y or N)
9/26/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X							
9/26/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X							
9/26/2017	849	AQUEOUS	MKTF-17	MISC	MISC	-003	X	X	X	X	X	X		
9/26/2017	920	AQUEOUS	MKTF-19	MISC	MISC	-004	X	X	X	X	X	X		
9/26/2017	954	AQUEOUS	MKTF-34	MISC	MISC	-005	X	X	X	X	X	X		
9/26/2017	1030	AQUEOUS	MKTF-21	MISC	MISC	-006	X	X	X	X	X	X		
9/26/2017	1105	AQUEOUS	MKTF-20	MISC	MISC	007	X	X	X	X	X	X		
9/26/2017	1335	AQUEOUS	MKTF-04	MISC	MISC	-008	X	X	X	X	X	X		
9/26/2017	1350	AQUEOUS	DUPLICATE	MISC	MISC	-009	X	X	X	X	X	X		
9/26/2017	1450	AQUEOUS	MKTF-11	MISC	MISC	-010	X	X	X	X	X	X		

Date	Time	Relinquished by	Received by	Date	Time
9/27/17	1600			9/27/17	1600
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS MINUS URANIUM, INCLUDES MERCURY

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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Website: www.hallenvironmental.com

October 30, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd QTR - MKTF OrderNo.: 1709G39

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/27/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 8:20:00 AM
Lab ID: 1709G39-001
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	10/4/2017 5:52:19 PM	34228
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.7	0.36	1.0		mg/L	1	10/4/2017 1:00:48 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 1:00:48 AM	34173
Surr: DNOP	129	0	77.5-161		%Rec	1	10/4/2017 1:00:48 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.57	0.025	0.050		mg/L	1	10/2/2017 9:11:40 PM	G46024
Surr: BFB	94.9	0	52.3-138		%Rec	1	10/2/2017 9:11:40 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.80	0.22	0.50		mg/L	5	10/6/2017 7:20:25 PM	R46203
Chloride	190	5.0	10		mg/L	20	10/6/2017 7:32:49 PM	R46203
Bromide	1.4	0.073	0.50		mg/L	5	10/6/2017 7:20:25 PM	R46203
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/6/2017 7:20:25 PM	R46203
Sulfate	38	0.48	2.5		mg/L	5	10/11/2017 12:12:14 AM	A46255
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/6/2017 8:10:02 PM	R46203
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.31	0.00085	0.0020		mg/L	1	10/10/2017 8:00:03 PM	B46240
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:00:03 PM	B46240
Calcium	150	0.39	5.0		mg/L	5	10/11/2017 6:44:22 PM	A46308
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:00:03 PM	B46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:00:03 PM	B46240
Iron	3.3	0.082	0.10	*	mg/L	5	10/11/2017 6:44:22 PM	A46308
Magnesium	41	0.25	1.0		mg/L	1	10/10/2017 8:00:03 PM	B46240
Manganese	3.4	0.0020	0.010	*	mg/L	5	10/11/2017 6:44:22 PM	A46308
Potassium	0.39	0.11	1.0	J	mg/L	1	10/10/2017 8:00:03 PM	B46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:00:03 PM	B46240
Sodium	150	0.82	5.0		mg/L	5	10/11/2017 6:44:22 PM	A46308
Zinc	0.0067	0.0021	0.010	J	mg/L	1	10/24/2017 3:42:55 PM	A46621
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	5.2	0.0093	0.020	*	mg/L	10	10/13/2017 2:50:22 PM	34343
Cadmium	ND	0.00058	0.0020		mg/L	1	10/13/2017 2:48:37 PM	34343
Chromium	0.014	0.0018	0.0060		mg/L	1	10/13/2017 2:48:37 PM	34343
Copper	0.013	0.0017	0.0060		mg/L	1	10/13/2017 2:48:37 PM	34343
Iron	14	0.20	0.40	*	mg/L	20	10/13/2017 2:52:07 PM	34343
Manganese	5.0	0.011	0.020	*	mg/L	10	10/13/2017 2:50:22 PM	34343
Silver	ND	0.0012	0.0050		mg/L	1	10/11/2017 10:45:49 PM	34343
Zinc	0.027	0.0033	0.010		mg/L	1	10/13/2017 2:48:37 PM	34343

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 8:20:00 AM
Lab ID: 1709G39-001
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0020	0.00089	0.0050	J	mg/L	5	10/6/2017 6:12:06 PM	B46196
Lead	0.00030	0.00017	0.00050	J	mg/L	1	10/5/2017 5:12:25 PM	C46150
Selenium	ND	0.0077	0.020		mg/L	20	10/6/2017 6:21:20 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0035	0.0015	0.0050	J	mg/L	5	10/12/2017 3:51:03 PM	34343
Lead	0.017	0.000095	0.00050	*	mg/L	1	10/11/2017 3:06:08 PM	34343
Selenium	0.0057	0.0036	0.0050		mg/L	5	10/12/2017 3:51:03 PM	34343
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000054	0.000037	0.00020	J	mg/L	1	10/11/2017 3:29:37 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Benzoic acid	7.5	3.9	20	J	µg/L	1	10/6/2017 9:57:20 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Bis(2-ethylhexyl)phthalate	5.7	4.8	10	J	µg/L	1	10/6/2017 9:57:20 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 8:20:00 AM
Lab ID: 1709G39-001
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/6/2017 9:57:20 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/6/2017 9:57:20 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 9:57:20 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/6/2017 9:57:20 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/6/2017 9:57:20 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/6/2017 9:57:20 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/6/2017 9:57:20 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/6/2017 9:57:20 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/6/2017 9:57:20 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/6/2017 9:57:20 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/6/2017 9:57:20 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/6/2017 9:57:20 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/6/2017 9:57:20 PM	34167

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Project: 2017 3rd QTR - MKTF
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Matrix: AQUEOUS
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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/6/2017 9:57:20 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/6/2017 9:57:20 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/6/2017 9:57:20 PM	34167
Surr: 2-Fluorophenol	59.8	0	15-88		%Rec	1	10/6/2017 9:57:20 PM	34167
Surr: Phenol-d5	50.1	0	15-72.4		%Rec	1	10/6/2017 9:57:20 PM	34167
Surr: 2,4,6-Tribromophenol	107	0	15-117		%Rec	1	10/6/2017 9:57:20 PM	34167
Surr: Nitrobenzene-d5	92.4	0	33.5-120		%Rec	1	10/6/2017 9:57:20 PM	34167
Surr: 2-Fluorobiphenyl	77.6	0	26.5-109		%Rec	1	10/6/2017 9:57:20 PM	34167
Surr: 4-Terphenyl-d14	46.2	0	21.7-98.7		%Rec	1	10/6/2017 9:57:20 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1.5	0.062	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Toluene	ND	0.064	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Ethylbenzene	0.15	0.093	1.0	J	µg/L	1	10/5/2017 1:15:00 AM	A46113
Methyl tert-butyl ether (MTBE)	77	0.24	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Naphthalene	ND	0.11	2.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Acetone	10	0.82	10		µg/L	1	10/5/2017 1:15:00 AM	A46113
Bromobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Bromoform	ND	0.21	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Bromomethane	ND	0.26	3.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
2-Butanone	ND	1.1	10		µg/L	1	10/5/2017 1:15:00 AM	A46113
Carbon disulfide	ND	0.40	10		µg/L	1	10/5/2017 1:15:00 AM	A46113
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Chlorobenzene	0.43	0.11	1.0	J	µg/L	1	10/5/2017 1:15:00 AM	A46113
Chloroethane	ND	0.23	2.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Chloroform	ND	0.40	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Chloromethane	ND	0.29	3.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/5/2017 1:15:00 AM	A46113

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 8:20:00 AM
Lab ID: 1709G39-001
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Dibromomethane	ND	0.091	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,4-Dichlorobenzene	2.8	0.40	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,1-Dichloroethane	0.67	0.40	1.0	J	µg/L	1	10/5/2017 1:15:00 AM	A46113
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
2-Hexanone	ND	0.66	10		µg/L	1	10/5/2017 1:15:00 AM	A46113
Isopropylbenzene	0.37	0.051	1.0	J	µg/L	1	10/5/2017 1:15:00 AM	A46113
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/5/2017 1:15:00 AM	A46113
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
n-Propylbenzene	0.13	0.074	1.0	J	µg/L	1	10/5/2017 1:15:00 AM	A46113
sec-Butylbenzene	1.2	0.11	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Styrene	ND	0.16	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
tert-Butylbenzene	0.14	0.10	1.0	J	µg/L	1	10/5/2017 1:15:00 AM	A46113
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/5/2017 1:15:00 AM	A46113
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/5/2017 1:15:00 AM	A46113
Surr: 1,2-Dichloroethane-d4	97.5	0	70-130		%Rec	1	10/5/2017 1:15:00 AM	A46113
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	10/5/2017 1:15:00 AM	A46113

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 8:20:00 AM
Lab ID: 1709G39-001
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	97.1	0	70-130		%Rec	1	10/5/2017 1:15:00 AM	A46113
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/5/2017 1:15:00 AM	A46113

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 9:15:00 AM
Lab ID: 1709G39-002
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	10/4/2017 6:07:37 PM	34228
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	24	3.6	10		mg/L	10	10/4/2017 1:23:17 AM	34173
Motor Oil Range Organics (MRO)	ND	50	50		mg/L	10	10/4/2017 1:23:17 AM	34173
Surr: DNOP	0	0	77.5-161	S	%Rec	10	10/4/2017 1:23:17 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	31	1.2	2.5		mg/L	50	10/2/2017 9:35:02 PM	G46024
Surr: BFB	101	0	52.3-138		%Rec	50	10/2/2017 9:35:02 PM	G46024
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.66	0.22	0.50		mg/L	5	10/6/2017 7:45:13 PM	R46203
Chloride	160	5.0	10		mg/L	20	10/6/2017 7:57:38 PM	R46203
Bromide	0.88	0.073	0.50		mg/L	5	10/6/2017 7:45:13 PM	R46203
Phosphorus, Orthophosphate (As P)	1.3	1.2	2.5	JH	mg/L	5	10/6/2017 7:45:13 PM	R46203
Sulfate	0.70	0.48	2.5	J	mg/L	5	10/11/2017 12:24:38 AM	A46255
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/6/2017 8:22:27 PM	R46203
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	4.7	0.017	0.040	*	mg/L	20	10/16/2017 7:46:13 PM	B46397
Cadmium	ND	0.0010	0.0020		mg/L	1	10/10/2017 8:05:07 PM	B46240
Calcium	120	0.39	5.0		mg/L	5	10/11/2017 6:53:49 PM	A46308
Chromium	ND	0.0013	0.0060		mg/L	1	10/10/2017 8:05:07 PM	B46240
Copper	ND	0.0032	0.0060		mg/L	1	10/10/2017 8:05:07 PM	B46240
Iron	13	0.33	0.40	*	mg/L	20	10/16/2017 7:46:13 PM	B46397
Magnesium	33	0.25	1.0		mg/L	1	10/10/2017 8:05:07 PM	B46240
Manganese	1.7	0.0039	0.020	*	mg/L	10	10/12/2017 7:58:26 PM	A46309
Potassium	0.80	0.11	1.0	J	mg/L	1	10/10/2017 8:05:07 PM	B46240
Silver	ND	0.0018	0.0050		mg/L	1	10/10/2017 8:05:07 PM	B46240
Sodium	190	0.82	5.0		mg/L	5	10/11/2017 6:53:49 PM	A46308
Zinc	0.043	0.0021	0.010		mg/L	1	10/24/2017 3:44:30 PM	A46621
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	5.3	0.0093	0.020	*	mg/L	10	10/13/2017 2:55:49 PM	34343
Cadmium	ND	0.00058	0.0020		mg/L	1	10/13/2017 2:54:13 PM	34343
Chromium	0.0053	0.0018	0.0060	J	mg/L	1	10/13/2017 2:54:13 PM	34343
Copper	0.012	0.0017	0.0060		mg/L	1	10/13/2017 2:54:13 PM	34343
Iron	20	0.20	0.40	*	mg/L	20	10/13/2017 2:57:31 PM	34343
Manganese	2.0	0.011	0.020	*	mg/L	10	10/13/2017 2:55:49 PM	34343
Silver	ND	0.0012	0.0050		mg/L	1	10/11/2017 10:49:18 PM	34343
Zinc	0.15	0.0033	0.010		mg/L	1	10/13/2017 2:54:13 PM	34343

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 9:15:00 AM
Lab ID: 1709G39-002
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.016	0.00089	0.0050	*	mg/L	5	10/6/2017 6:24:23 PM	B46196
Lead	0.0022	0.00017	0.00050		mg/L	1	10/5/2017 5:15:29 PM	C46150
Selenium	0.0036	0.0019	0.0050	J	mg/L	5	10/6/2017 6:24:23 PM	B46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.018	0.00030	0.0010	*	mg/L	1	10/11/2017 3:09:08 PM	34343
Lead	0.018	0.000095	0.00050	*	mg/L	1	10/11/2017 3:09:08 PM	34343
Selenium	0.0035	0.00071	0.0010		mg/L	1	10/11/2017 3:09:08 PM	34343
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000047	0.000037	0.00020	J	mg/L	1	10/11/2017 3:35:40 PM	34351
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Acenaphthylene	ND	35	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Aniline	ND	31	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Anthracene	ND	35	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Azobenzene	ND	45	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Benz(a)anthracene	ND	39	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Benzo(a)pyrene	ND	40	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Benzo(b)fluoranthene	ND	40	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Benzo(g,h,i)perylene	ND	40	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Benzo(k)fluoranthene	ND	44	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Benzoic acid	64	39	200	J	µg/L	1	10/6/2017 10:25:12 PM	34167
Benzyl alcohol	ND	46	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Bis(2-chloroethoxy)methane	ND	43	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Bis(2-chloroethyl)ether	ND	43	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Bis(2-chloroisopropyl)ether	ND	39	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Bis(2-ethylhexyl)phthalate	210	48	100	B	µg/L	1	10/6/2017 10:25:12 PM	34167
4-Bromophenyl phenyl ether	ND	46	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Butyl benzyl phthalate	ND	46	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Carbazole	ND	46	100		µg/L	1	10/6/2017 10:25:12 PM	34167
4-Chloro-3-methylphenol	ND	63	100		µg/L	1	10/6/2017 10:25:12 PM	34167
4-Chloroaniline	ND	35	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2-Chloronaphthalene	ND	37	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2-Chlorophenol	ND	75	100		µg/L	1	10/6/2017 10:25:12 PM	34167
4-Chlorophenyl phenyl ether	ND	36	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Chrysene	ND	38	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Di-n-butyl phthalate	ND	50	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Di-n-octyl phthalate	ND	47	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Dibenz(a,h)anthracene	ND	46	100		µg/L	1	10/6/2017 10:25:12 PM	34167

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Collection Date: 9/27/2017 9:15:00 AM
Lab ID: 1709G39-002 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	41	100		µg/L	1	10/6/2017 10:25:12 PM	34167
1,2-Dichlorobenzene	ND	20	100		µg/L	1	10/6/2017 10:25:12 PM	34167
1,3-Dichlorobenzene	ND	18	100		µg/L	1	10/6/2017 10:25:12 PM	34167
1,4-Dichlorobenzene	ND	21	100		µg/L	1	10/6/2017 10:25:12 PM	34167
3,3´-Dichlorobenzidine	ND	39	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Diethyl phthalate	ND	40	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Dimethyl phthalate	ND	36	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2,4-Dichlorophenol	ND	57	200		µg/L	1	10/6/2017 10:25:12 PM	34167
2,4-Dimethylphenol	ND	28	100		µg/L	1	10/6/2017 10:25:12 PM	34167
4,6-Dinitro-2-methylphenol	ND	39	200		µg/L	1	10/6/2017 10:25:12 PM	34167
2,4-Dinitrophenol	ND	26	200		µg/L	1	10/6/2017 10:25:12 PM	34167
2,4-Dinitrotoluene	ND	40	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2,6-Dinitrotoluene	ND	45	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Fluoranthene	ND	43	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Fluorene	ND	40	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Hexachlorobenzene	ND	38	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Hexachlorobutadiene	ND	13	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Hexachlorocyclopentadiene	ND	13	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Hexachloroethane	ND	12	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Indeno(1,2,3-cd)pyrene	ND	42	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Isophorone	ND	44	100		µg/L	1	10/6/2017 10:25:12 PM	34167
1-Methylnaphthalene	270	33	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2-Methylnaphthalene	440	33	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2-Methylphenol	ND	33	100		µg/L	1	10/6/2017 10:25:12 PM	34167
3+4-Methylphenol	ND	32	100		µg/L	1	10/6/2017 10:25:12 PM	34167
N-Nitrosodi-n-propylamine	ND	46	100		µg/L	1	10/6/2017 10:25:12 PM	34167
N-Nitrosodimethylamine	ND	35	100		µg/L	1	10/6/2017 10:25:12 PM	34167
N-Nitrosodiphenylamine	ND	39	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Naphthalene	360	29	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2-Nitroaniline	ND	49	100		µg/L	1	10/6/2017 10:25:12 PM	34167
3-Nitroaniline	ND	43	100		µg/L	1	10/6/2017 10:25:12 PM	34167
4-Nitroaniline	ND	40	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Nitrobenzene	ND	36	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2-Nitrophenol	ND	52	100		µg/L	1	10/6/2017 10:25:12 PM	34167
4-Nitrophenol	ND	55	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Pentachlorophenol	ND	49	200		µg/L	1	10/6/2017 10:25:12 PM	34167
Phenanthrene	ND	43	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Phenol	ND	31	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Pyrene	ND	44	100		µg/L	1	10/6/2017 10:25:12 PM	34167

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 9:15:00 AM
Lab ID: 1709G39-002
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	23	100		µg/L	1	10/6/2017 10:25:12 PM	34167
1,2,4-Trichlorobenzene	ND	21	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2,4,5-Trichlorophenol	ND	51	100		µg/L	1	10/6/2017 10:25:12 PM	34167
2,4,6-Trichlorophenol	ND	55	100		µg/L	1	10/6/2017 10:25:12 PM	34167
Surr: 2-Fluorophenol	42.2	0	15-88		%Rec	1	10/6/2017 10:25:12 PM	34167
Surr: Phenol-d5	35.5	0	15-72.4		%Rec	1	10/6/2017 10:25:12 PM	34167
Surr: 2,4,6-Tribromophenol	77.1	0	15-117		%Rec	1	10/6/2017 10:25:12 PM	34167
Surr: Nitrobenzene-d5	62.3	0	33.5-120		%Rec	1	10/6/2017 10:25:12 PM	34167
Surr: 2-Fluorobiphenyl	57.2	0	26.5-109		%Rec	1	10/6/2017 10:25:12 PM	34167
Surr: 4-Terphenyl-d14	36.8	0	21.7-98.7		%Rec	1	10/6/2017 10:25:12 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	9100	31	500		µg/L	500	10/5/2017 1:39:00 AM	A46113
Toluene	23	3.2	50	J	µg/L	50	10/5/2017 2:03:00 AM	A46113
Ethylbenzene	1600	4.7	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Methyl tert-butyl ether (MTBE)	2300	12	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2,4-Trimethylbenzene	23	5.6	50	J	µg/L	50	10/5/2017 2:03:00 AM	A46113
1,3,5-Trimethylbenzene	ND	4.4	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Naphthalene	600	5.7	100		µg/L	50	10/5/2017 2:03:00 AM	A46113
1-Methylnaphthalene	380	8.0	200		µg/L	50	10/5/2017 2:03:00 AM	A46113
2-Methylnaphthalene	450	7.6	200		µg/L	50	10/5/2017 2:03:00 AM	A46113
Acetone	ND	41	500		µg/L	50	10/5/2017 2:03:00 AM	A46113
Bromobenzene	ND	7.0	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Bromodichloromethane	ND	8.8	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Bromoform	ND	11	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Bromomethane	ND	13	150		µg/L	50	10/5/2017 2:03:00 AM	A46113
2-Butanone	ND	57	500		µg/L	50	10/5/2017 2:03:00 AM	A46113
Carbon disulfide	ND	20	500		µg/L	50	10/5/2017 2:03:00 AM	A46113
Carbon Tetrachloride	ND	5.5	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Chlorobenzene	ND	5.3	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Chloroethane	ND	12	100		µg/L	50	10/5/2017 2:03:00 AM	A46113
Chloroform	ND	20	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Chloromethane	ND	15	150		µg/L	50	10/5/2017 2:03:00 AM	A46113
2-Chlorotoluene	ND	20	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
4-Chlorotoluene	ND	20	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
cis-1,2-DCE	ND	10	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	10/5/2017 2:03:00 AM	A46113

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 9:15:00 AM
Lab ID: 1709G39-002
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	3.6	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Dibromomethane	ND	4.5	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,4-Dichlorobenzene	ND	20	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Dichlorodifluoromethane	ND	50	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,1-Dichloroethane	ND	20	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,1-Dichloroethene	ND	4.0	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2-Dichloropropane	ND	5.1	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,3-Dichloropropane	ND	8.4	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
2,2-Dichloropropane	ND	7.9	100		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,1-Dichloropropene	ND	4.6	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Hexachlorobutadiene	ND	40	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
2-Hexanone	ND	33	500		µg/L	50	10/5/2017 2:03:00 AM	A46113
Isopropylbenzene	32	2.6	50	J	µg/L	50	10/5/2017 2:03:00 AM	A46113
4-Isopropyltoluene	ND	4.8	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
4-Methyl-2-pentanone	ND	35	500		µg/L	50	10/5/2017 2:03:00 AM	A46113
Methylene Chloride	ND	5.4	150		µg/L	50	10/5/2017 2:03:00 AM	A46113
n-Butylbenzene	11	6.5	150	J	µg/L	50	10/5/2017 2:03:00 AM	A46113
n-Propylbenzene	67	3.7	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
sec-Butylbenzene	6.4	5.5	50	J	µg/L	50	10/5/2017 2:03:00 AM	A46113
Styrene	ND	7.8	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
tert-Butylbenzene	ND	5.2	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	10/5/2017 2:03:00 AM	A46113
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
trans-1,2-DCE	ND	9.2	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Trichlorofluoromethane	ND	9.1	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
1,2,3-Trichloropropane	ND	19	100		µg/L	50	10/5/2017 2:03:00 AM	A46113
Vinyl chloride	ND	8.9	50		µg/L	50	10/5/2017 2:03:00 AM	A46113
Xylenes, Total	67	16	75	J	µg/L	50	10/5/2017 2:03:00 AM	A46113
Surr: 1,2-Dichloroethane-d4	99.8	0	70-130		%Rec	50	10/5/2017 2:03:00 AM	A46113
Surr: 4-Bromofluorobenzene	99.2	0	70-130		%Rec	50	10/5/2017 2:03:00 AM	A46113

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 9:15:00 AM
Lab ID: 1709G39-002
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	102	0	70-130		%Rec	50	10/5/2017 2:03:00 AM	A46113
Surr: Toluene-d8	99.9	0	70-130		%Rec	50	10/5/2017 2:03:00 AM	A46113

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 7:00:00 AM
Lab ID: 1709G39-003
Matrix: AQUEOUS
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.35	0.062	1.0	J	µg/L	1	10/5/2017 2:26:00 AM	A46113
Toluene	0.42	0.064	1.0	J	µg/L	1	10/5/2017 2:26:00 AM	A46113
Ethylbenzene	0.094	0.093	1.0	J	µg/L	1	10/5/2017 2:26:00 AM	A46113
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Naphthalene	0.31	0.11	2.0	J	µg/L	1	10/5/2017 2:26:00 AM	A46113
1-Methylnaphthalene	0.42	0.16	4.0	J	µg/L	1	10/5/2017 2:26:00 AM	A46113
2-Methylnaphthalene	0.50	0.15	4.0	J	µg/L	1	10/5/2017 2:26:00 AM	A46113
Acetone	3.2	0.82	10	J	µg/L	1	10/5/2017 2:26:00 AM	A46113
Bromobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Bromoform	ND	0.21	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Bromomethane	ND	0.26	3.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
2-Butanone	ND	1.1	10		µg/L	1	10/5/2017 2:26:00 AM	A46113
Carbon disulfide	ND	0.40	10		µg/L	1	10/5/2017 2:26:00 AM	A46113
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Chloroethane	ND	0.23	2.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Chloroform	ND	0.40	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Chloromethane	ND	0.29	3.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Dibromomethane	ND	0.091	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/5/2017 2:26:00 AM	A46113

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR - MKTF
Collection Date: 9/27/2017 7:00:00 AM
Lab ID: 1709G39-003 **Matrix:** AQUEOUS **Received Date:** 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
2-Hexanone	ND	0.66	10		µg/L	1	10/5/2017 2:26:00 AM	A46113
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/5/2017 2:26:00 AM	A46113
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Styrene	ND	0.16	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/5/2017 2:26:00 AM	A46113
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/5/2017 2:26:00 AM	A46113
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/5/2017 2:26:00 AM	A46113
Surr: 4-Bromofluorobenzene	99.0	0	70-130		%Rec	1	10/5/2017 2:26:00 AM	A46113
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/5/2017 2:26:00 AM	A46113
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	10/5/2017 2:26:00 AM	A46113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 3rd QTR - MKTF
Collection Date:
Lab ID: 1709G39-004
Matrix: TRIP BLANK
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	10/2/2017 9:58:17 PM	G46024
Surr: BFB	93.7	0	52.3-138		%Rec	1	10/2/2017 9:58:17 PM	G46024
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.074	0.062	1.0	J	µg/L	1	10/5/2017 2:50:00 AM	A46113
Toluene	ND	0.064	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Naphthalene	ND	0.11	2.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Acetone	4.7	0.82	10	J	µg/L	1	10/5/2017 2:50:00 AM	A46113
Bromobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Bromoform	ND	0.21	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Bromomethane	ND	0.26	3.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
2-Butanone	ND	1.1	10		µg/L	1	10/5/2017 2:50:00 AM	A46113
Carbon disulfide	ND	0.40	10		µg/L	1	10/5/2017 2:50:00 AM	A46113
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Chloroethane	ND	0.23	2.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Chloroform	ND	0.40	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Chloromethane	ND	0.29	3.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Dibromomethane	ND	0.091	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 3rd QTR - MKTF
Collection Date:
Lab ID: 1709G39-004
Matrix: TRIP BLANK
Received Date: 9/27/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
2-Hexanone	ND	0.66	10		µg/L	1	10/5/2017 2:50:00 AM	A46113
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/5/2017 2:50:00 AM	A46113
Methylene Chloride	0.20	0.11	3.0	J	µg/L	1	10/5/2017 2:50:00 AM	A46113
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Styrene	ND	0.16	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/5/2017 2:50:00 AM	A46113
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/5/2017 2:50:00 AM	A46113
Surr: 1,2-Dichloroethane-d4	98.9	0	70-130		%Rec	1	10/5/2017 2:50:00 AM	A46113
Surr: 4-Bromofluorobenzene	99.8	0	70-130		%Rec	1	10/5/2017 2:50:00 AM	A46113
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/5/2017 2:50:00 AM	A46113
Surr: Toluene-d8	98.3	0	70-130		%Rec	1	10/5/2017 2:50:00 AM	A46113

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472334** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472337** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	105	50	150			
Cadmium	0.0022	0.0020	0.002000	0	112	50	150			
Chromium	0.0070	0.0060	0.006000	0	116	50	150			
Copper	0.0068	0.0060	0.006000	0	112	50	150			
Magnesium	0.53	1.0	0.5000	0	105	50	150			J
Potassium	0.57	1.0	0.5000	0	114	50	150			J
Silver	0.0050	0.0050	0.005000	0	101	50	150			

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472340** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.1	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			

Sample ID **1709G39-001GMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-35**	Batch ID: **B46240**	RunNo: **46240**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1472816** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.82	0.0020	0.5000	0.3066	103	70	130			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**1709G39-001GMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-35**	Batch ID:	**B46240**		RunNo:	**46240**				
Prep Date:		Analysis Date:	**10/10/2017**		SeqNo:	**1472816**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.53	0.0020	0.5000	0	105	70	130			
Chromium	0.52	0.0060	0.5000	0	104	70	130			
Copper	0.52	0.0060	0.5000	0	104	70	130			
Magnesium	89	1.0	50.00	40.58	97.6	70	130			
Potassium	51	1.0	50.00	0.3894	100	70	130			
Silver	0.098	0.0050	0.1000	0	98.4	70	130			

Sample ID	**1709G39-001GMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-35**	Batch ID:	**B46240**		RunNo:	**46240**				
Prep Date:		Analysis Date:	**10/10/2017**		SeqNo:	**1472818**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.82	0.0020	0.5000	0.3066	103	70	130	0.442	20	
Cadmium	0.54	0.0020	0.5000	0	107	70	130	1.75	20	
Chromium	0.53	0.0060	0.5000	0	106	70	130	1.24	20	
Copper	0.53	0.0060	0.5000	0	105	70	130	0.611	20	
Magnesium	89	1.0	50.00	40.58	96.7	70	130	0.518	20	
Potassium	51	1.0	50.00	0.3894	100	70	130	0.0989	20	
Silver	0.099	0.0050	0.1000	0	98.6	70	130	0.203	20	

Sample ID	**1709G39-002GMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-36**	Batch ID:	**B46240**		RunNo:	**46240**				
Prep Date:		Analysis Date:	**10/10/2017**		SeqNo:	**1472820**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.53	0.0020	0.5000	0	105	70	130			
Chromium	0.52	0.0060	0.5000	0	104	70	130			
Copper	0.52	0.0060	0.5000	0	103	70	130			
Magnesium	83	1.0	50.00	32.90	99.2	70	130			
Potassium	50	1.0	50.00	0.7975	97.6	70	130			
Silver	0.099	0.0050	0.1000	0	99.0	70	130			

Sample ID	**1709G39-002GMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-36**	Batch ID:	**B46240**		RunNo:	**46240**				
Prep Date:		Analysis Date:	**10/10/2017**		SeqNo:	**1472825**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	105	70	130	0.581	20	
Chromium	0.51	0.0060	0.5000	0	102	70	130	2.35	20	
Copper	0.52	0.0060	0.5000	0	104	70	130	0.958	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**1709G39-002GMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-36**	Batch ID:	**B46240**		RunNo:	**46240**				
Prep Date:		Analysis Date:	**10/10/2017**		SeqNo:	**1472825**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	82	1.0	50.00	32.90	97.5	70	130	1.08	20	
Potassium	50	1.0	50.00	0.7975	97.6	70	130	0.0403	20	
Silver	0.10	0.0050	0.1000	0	99.5	70	130	0.514	20	

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46308**		RunNo:	**46308**				
Prep Date:		Analysis Date:	**10/11/2017**		SeqNo:	**1474985**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID	**LLLCS-A**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**A46308**		RunNo:	**46308**				
Prep Date:		Analysis Date:	**10/11/2017**		SeqNo:	**1474986**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.49	1.0	0.5000	0	99.0	50	150			J
Iron	0.021	0.020	0.02000	0	104	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Sodium	0.51	1.0	0.5000	0	102	50	150			J

Sample ID	**LCS-A**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A46308**		RunNo:	**46308**				
Prep Date:		Analysis Date:	**10/11/2017**		SeqNo:	**1474987**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	95.4	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Manganese	0.48	0.0020	0.5000	0	95.7	85	115			
Sodium	51	1.0	50.00	0	102	85	115			

Sample ID	**1709G39-001GMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-35**	Batch ID:	**A46308**		RunNo:	**46308**				
Prep Date:		Analysis Date:	**10/11/2017**		SeqNo:	**1475045**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	410	5.0	250.0	149.8	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**1709G39-001GMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**MKTF-35**	Batch ID: **A46308**			RunNo: **46308**					
Prep Date:		Analysis Date: **10/11/2017**			SeqNo: **1475045**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	400	5.0	250.0	154.4	98.2	70	130			

Sample ID	**1709G39-001GMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**MKTF-35**	Batch ID: **A46308**			RunNo: **46308**					
Prep Date:		Analysis Date: **10/11/2017**			SeqNo: **1475046**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	410	5.0	250.0	149.8	106	70	130	2.14	20	
Sodium	400	5.0	250.0	154.4	98.8	70	130	0.314	20	

Sample ID	**1709G39-002GMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**MKTF-36**	Batch ID: **A46308**			RunNo: **46308**					
Prep Date:		Analysis Date: **10/11/2017**			SeqNo: **1475051**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	370	5.0	250.0	119.1	101	70	130			
Manganese	4.3	0.010	2.500	1.783	101	70	130			
Sodium	440	5.0	250.0	194.5	97.4	70	130			

Sample ID	**1709G39-002GMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**MKTF-36**	Batch ID: **A46308**			RunNo: **46308**					
Prep Date:		Analysis Date: **10/11/2017**			SeqNo: **1475052**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	380	5.0	250.0	119.1	105	70	130	2.91	20	
Manganese	4.4	0.010	2.500	1.783	104	70	130	1.79	20	
Sodium	440	5.0	250.0	194.5	98.6	70	130	0.693	20	

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A46309**			RunNo: **46309**					
Prep Date:		Analysis Date: **10/12/2017**			SeqNo: **1475103**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID	**LLLCS-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A46309**			RunNo: **46309**					
Prep Date:		Analysis Date: **10/12/2017**			SeqNo: **1475106**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**LLLCS-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A46309**			RunNo: **46309**					
Prep Date:		Analysis Date: **10/12/2017**			SeqNo: **1475106**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0021	0.0020	0.002000	0	107	50	150			

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A46309**			RunNo: **46309**					
Prep Date:		Analysis Date: **10/12/2017**			SeqNo: **1475109**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	96.4	85	115			

Sample ID	**MB-B**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **B46397**			RunNo: **46397**					
Prep Date:		Analysis Date: **10/16/2017**			SeqNo: **1478143**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Iron	ND	0.020								

Sample ID	**LLLCS-B**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B46397**			RunNo: **46397**					
Prep Date:		Analysis Date: **10/16/2017**			SeqNo: **1478145**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	92.0	50	150			J
Iron	0.022	0.020	0.02000	0	108	50	150			

Sample ID	**LCS-B**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B46397**			RunNo: **46397**					
Prep Date:		Analysis Date: **10/16/2017**			SeqNo: **1478147**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.8	85	115			
Iron	0.48	0.020	0.5000	0	96.9	85	115			

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A46621**			RunNo: **46621**					
Prep Date:		Analysis Date: **10/24/2017**			SeqNo: **1484893**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**LLLCS-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A46621**			RunNo: **46621**					
Prep Date:		Analysis Date: **10/24/2017**			SeqNo: **1484896**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0071	0.010	0.005000	0	141	50	150			J

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A46621**			RunNo: **46621**					
Prep Date:		Analysis Date: **10/24/2017**			SeqNo: **1484906**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **MB-34343**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34343**	RunNo: **46277**
Prep Date: **10/10/2017**	Analysis Date: **10/11/2017**	SeqNo: **1474514** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-34343**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34343**	RunNo: **46277**
Prep Date: **10/10/2017**	Analysis Date: **10/11/2017**	SeqNo: **1474515** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	114	50	150			
Cadmium	0.0018	0.0020	0.002000	0	90.5	50	150			J
Chromium	0.0073	0.0060	0.006000	0	121	50	150			
Copper	0.0047	0.0060	0.006000	0	79.0	50	150			J
Iron	0.022	0.020	0.02000	0	110	50	150			
Manganese	0.0022	0.0020	0.002000	0	112	50	150			
Silver	0.0046	0.0050	0.005000	0	92.0	50	150			J
Zinc	0.0064	0.010	0.005000	0	127	50	150			J

Sample ID **LCS34343**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34343**	RunNo: **46277**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474726** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Cadmium	0.52	0.0020	0.5000	0	104	85	115			
Chromium	0.51	0.0060	0.5000	0	102	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.51	0.0020	0.5000	0	103	85	115			
Silver	0.11	0.0050	0.1000	0	106	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C46150**	RunNo: **46150**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468976** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	95.5	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C46150**	RunNo: **46150**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468979** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	96.7	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C46150**	RunNo: **46150**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468982** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470729** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.8	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00092	0.0010	0.001000	0	91.9	50	150			J
Selenium	0.00084	0.0010	0.001000	0	84.5	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**MB-34343**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474010**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID	**MB-34343**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474011**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**MSLCS-34343**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474014**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	98.7	85	115			

Sample ID	**MSLCS-34343**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474015**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.8	85	115			
Selenium	0.023	0.0010	0.02500	0	93.7	85	115			

Sample ID	**MSLLLCS-34343**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474018**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	95.6	50	150			J

Sample ID	**MSLLLCS-34343**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474019**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00091	0.0010	0.001000	0	90.7	50	150			J
Selenium	0.00085	0.0010	0.001000	0	85.0	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**MB-34351**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34351**	RunNo:	**46278**					
Prep Date:	**10/11/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1473839**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34351**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34351**	RunNo:	**46278**					
Prep Date:	**10/11/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1473840**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**
30-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR - MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46203**	RunNo: **46203**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470990** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46203**	RunNo: **46203**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470992** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			
Chloride	4.7	0.50	5.000	0	93.8	90	110			
Bromide	2.4	0.10	2.500	0	95.5	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	96.2	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.2	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A46255**	RunNo: **46255**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1473135** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	0.11	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A46255**	RunNo: **46255**
Prep Date:	Analysis Date: **10/10/2017**	SeqNo: **1473136** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	10	0.50	10.00	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**MB-34228**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**34228**	RunNo:	**46127**					
Prep Date:	**10/4/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467396**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-34228**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**34228**	RunNo:	**46127**					
Prep Date:	**10/4/2017**	Analysis Date:	**10/4/2017**	SeqNo:	**1467397**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.083	0.010	0.1000	0	83.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **LCS-34173**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **34173**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1465752** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	117	92.3	135			
Surr: DNOP	0.61		0.5000		123	77.5	161			

Sample ID **MB-34173**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **34173**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1465753** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G46024**	RunNo: **46024**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463554** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.9	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G46024**	RunNo: **46024**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1463555** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.58	0.050	0.5000	0	116	75.8	123			
Surr: BFB	22		20.00		109	52.3	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466961** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.4	70	130			
Toluene	20	1.0	20.00	0	99.0	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467042** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.076	1.0								J
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.17	2.0								J
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.31	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467042** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.2	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**
30-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR - MKTF

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46113**	RunNo: **46113**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1467042** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID **lcs-34167**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470514** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	90	10	100.0	0	89.5	41.2	98.9			
4-Chloro-3-methylphenol	180	10	200.0	0	89.8	29.1	111			
2-Chlorophenol	180	10	200.0	0	88.9	23.3	108			
1,4-Dichlorobenzene	73	10	100.0	0	73.0	29.4	84.5			
2,4-Dinitrotoluene	84	10	100.0	0	83.8	36.6	88.7			
N-Nitrosodi-n-propylamine	94	10	100.0	0	94.0	46.9	106			
4-Nitrophenol	110	10	200.0	0	53.0	15	74.7			
Pentachlorophenol	170	20	200.0	0	86.8	28.1	85.4			S
Phenol	110	10	200.0	0	56.7	15	78.2			
Pyrene	90	10	100.0	0	89.8	44.4	96.8			
1,2,4-Trichlorobenzene	87	10	100.0	0	87.3	34.3	89			
Surr: 2-Fluorophenol	130		200.0		63.1	15	88			
Surr: Phenol-d5	110		200.0		55.7	15	72.4			
Surr: 2,4,6-Tribromophenol	210		200.0		105	15	117			
Surr: Nitrobenzene-d5	90		100.0		89.9	33.5	120			
Surr: 2-Fluorobiphenyl	78		100.0		77.9	26.5	109			
Surr: 4-Terphenyl-d14	73		100.0		72.7	21.7	98.7			

Sample ID **lcsd-34167**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470515** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	83	10	100.0	0	83.2	41.2	98.9	7.27	37.4	
4-Chloro-3-methylphenol	180	10	200.0	0	91.7	29.1	111	2.17	26.8	
2-Chlorophenol	170	10	200.0	0	86.8	23.3	108	2.41	30.3	
1,4-Dichlorobenzene	71	10	100.0	0	71.4	29.4	84.5	2.13	32	
2,4-Dinitrotoluene	73	10	100.0	0	72.7	36.6	88.7	14.2	36.7	
N-Nitrosodi-n-propylamine	91	10	100.0	0	91.2	46.9	106	3.05	29.9	
4-Nitrophenol	120	10	200.0	0	59.3	15	74.7	11.1	28.8	
Pentachlorophenol	160	20	200.0	0	81.6	28.1	85.4	6.17	38.2	
Phenol	130	10	200.0	0	64.1	15	78.2	12.3	39.8	
Pyrene	78	10	100.0	0	77.8	44.4	96.8	14.3	28.3	
1,2,4-Trichlorobenzene	84	10	100.0	0	84.2	34.3	89	3.64	39.8	
Surr: 2-Fluorophenol	130		200.0		66.8	15	88	0	0	
Surr: Phenol-d5	130		200.0		62.9	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	190		200.0		96.8	15	117	0	0	
Surr: Nitrobenzene-d5	84		100.0		84.0	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	74		100.0		74.3	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**

30-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR - MKTF

Sample ID	**lcsd-34167**	SampType:	**LCSD**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSS02**	Batch ID:	**34167**		RunNo:	**46175**				
Prep Date:	**10/2/2017**	Analysis Date:	**10/6/2017**		SeqNo:	**1470515**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	57		100.0		56.6	21.7	98.7	0	0	

Sample ID	**mb-34167**	SampType:	**MBLK**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**PBW**	Batch ID:	**34167**		RunNo:	**46175**				
Prep Date:	**10/2/2017**	Analysis Date:	**10/6/2017**		SeqNo:	**1470516**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	130	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**
30-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR - MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709G39**
30-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR - MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**						
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**						
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516**	Units: **µg/L**					

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	91		200.0		45.7	15	88			
Surr: Phenol-d5	72		200.0		35.9	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		71.4	15	117			
Surr: Nitrobenzene-d5	63		100.0		62.7	33.5	120			
Surr: 2-Fluorobiphenyl	54		100.0		53.6	26.5	109			
Surr: 4-Terphenyl-d14	50		100.0		49.7	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709G39** RcptNo: 1

Received By: **Andy Freeman** 9/27/2017 4:00:00 PM

Completed By: **Michelle Garcia** 9/28/2017 6:19:32 PM

Reviewed By: ENM 9/29/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 6 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? no
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Not Present			

Chain-of-Custody Record

Client:	Western Refining Company
	GALLUP REFINERY
Mailing Address:	92 GIANT CROSSING ROAD, GALLUP, NM 87301
Phone #:	505-722-3833
Email or Fax#:	505-863-0930
QA/QC Package:	☐ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other ☐ EDD (Type)

Turn-Around Time:	X Standard ☐ Rush
Project Name:	2017 3rd QTR - MKTF
	PO #20837992 CO#1
Project Manager:	C. JOHNSON (cheryl.a.johnson@andeavor.com)
Sampler:	C. JOHNSON
On Ice:	X Yes ☐ No
Sample Temperature:	1.5°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE · Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709639	8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1	Air Bubbles (Y or N)
9/27/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-003	X							
9/27/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-004	X							
9/27/2017	820	AQUEOUS	MKTF-35	MISC	MISC	-001	X	X	X	X	X	X	X	
9/27/2017	915	AQUEOUS	MKTF-36	MISC	MISC	-002	X	X	X	X	X	X	X	

Date: 9/27/17	Time: 1600	Relinquished by:	Received by:	Date: 9/27/17	Time: 1600
Date:	Time:	Relinquished by:	Received by:	Date:	Time:

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS MINUS URANIUM, INCLUDES MERCURY

Used collection times on COC. mym 9/29/17

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
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November 01, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd QTR MKTF OrderNo.: 1709H12

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/29/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 7:00:00 AM
Lab ID: 1709H12-001 **Matrix:** AQUEOUS **Received Date:** 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.18	0.062	1.0	J	µg/L	1	10/4/2017 8:19:54 PM	A46109
Toluene	0.44	0.064	1.0	J	µg/L	1	10/4/2017 8:19:54 PM	A46109
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Acetone	5.7	0.82	10	J	µg/L	1	10/4/2017 8:19:54 PM	A46109
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 8:19:54 PM	A46109
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 8:19:54 PM	A46109
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 8:19:54 PM	A46109

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 7:00:00 AM
Lab ID: 1709H12-001
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 8:19:54 PM	A46109
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 8:19:54 PM	A46109
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 8:19:54 PM	A46109
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 8:19:54 PM	A46109
Surr: 1,2-Dichloroethane-d4	97.2	0	70-130		%Rec	1	10/4/2017 8:19:54 PM	A46109
Surr: 4-Bromofluorobenzene	94.8	0	70-130		%Rec	1	10/4/2017 8:19:54 PM	A46109
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	10/4/2017 8:19:54 PM	A46109
Surr: Toluene-d8	98.4	0	70-130		%Rec	1	10/4/2017 8:19:54 PM	A46109

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date:
Lab ID: 1709H12-002
Matrix: TRIP BLANK
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Toluene	0.086	0.064	1.0	J	µg/L	1	10/4/2017 8:48:31 PM	A46109
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Acetone	6.7	0.82	10	J	µg/L	1	10/4/2017 8:48:31 PM	A46109
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 8:48:31 PM	A46109
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 8:48:31 PM	A46109
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 8:48:31 PM	A46109

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date:
Lab ID: 1709H12-002
Matrix: TRIP BLANK
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 8:48:31 PM	A46109
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 8:48:31 PM	A46109
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 8:48:31 PM	A46109
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 8:48:31 PM	A46109
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	10/4/2017 8:48:31 PM	A46109
Surr: 4-Bromofluorobenzene	95.0	0	70-130		%Rec	1	10/4/2017 8:48:31 PM	A46109
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	10/4/2017 8:48:31 PM	A46109
Surr: Toluene-d8	98.9	0	70-130		%Rec	1	10/4/2017 8:48:31 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 11:05:00 AM
Lab ID: 1709H12-003
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/4/2017 1:45:28 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 1:45:28 AM	34173
Surr: DNOP	124	0	77.5-161		%Rec	1	10/4/2017 1:45:28 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.030	0.025	0.050	J	mg/L	1	10/4/2017 10:20:12 AM	G46085
Surr: BFB	110	0	52.3-138		%Rec	1	10/4/2017 10:20:12 AM	G46085
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.69	0.22	0.50		mg/L	5	9/29/2017 5:18:17 PM	R46019
Chloride	230	5.0	10		mg/L	20	9/29/2017 5:30:41 PM	R46019
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/29/2017 5:18:17 PM	R46019
Bromide	1.0	0.073	0.50		mg/L	5	9/29/2017 5:18:17 PM	R46019
Nitrogen, Nitrate (As N)	0.35	0.11	0.50	J	mg/L	5	9/29/2017 5:18:17 PM	R46019
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/29/2017 5:18:17 PM	R46019
Sulfate	260	1.9	10		mg/L	20	9/29/2017 5:30:41 PM	R46019
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.030	0.00085	0.0020		mg/L	1	10/12/2017 9:21:59 PM	B46309
Cadmium	ND	0.0010	0.0020		mg/L	1	10/12/2017 9:21:59 PM	B46309
Calcium	130	0.78	10		mg/L	10	10/12/2017 9:23:49 PM	B46309
Chromium	ND	0.0013	0.0060		mg/L	1	10/12/2017 9:21:59 PM	B46309
Copper	ND	0.0032	0.0060		mg/L	1	10/12/2017 9:21:59 PM	B46309
Iron	ND	0.016	0.020		mg/L	1	10/12/2017 9:21:59 PM	B46309
Magnesium	28	0.25	1.0		mg/L	1	10/11/2017 9:51:19 PM	A46277
Manganese	2.1	0.0039	0.020	*	mg/L	10	10/12/2017 9:23:49 PM	B46309
Potassium	0.60	0.11	1.0	J	mg/L	1	10/11/2017 9:51:19 PM	A46277
Silver	ND	0.0018	0.0050		mg/L	1	10/11/2017 9:51:19 PM	A46277
Sodium	280	1.6	10		mg/L	10	10/12/2017 9:23:49 PM	B46309
Zinc	0.044	0.0021	0.010		mg/L	1	10/12/2017 9:21:59 PM	B46309
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.21	0.00093	0.0020		mg/L	1	10/13/2017 3:15:39 PM	34343
Cadmium	ND	0.00058	0.0020		mg/L	1	10/13/2017 3:15:39 PM	34343
Chromium	0.0050	0.0018	0.0060	J	mg/L	1	10/13/2017 3:15:39 PM	34343
Copper	0.0064	0.0017	0.0060		mg/L	1	10/13/2017 3:15:39 PM	34343
Iron	3.5	0.10	0.20	*	mg/L	10	10/13/2017 3:17:14 PM	34343
Manganese	2.3	0.011	0.020	*	mg/L	10	10/13/2017 3:17:14 PM	34343
Silver	ND	0.0012	0.0050		mg/L	1	10/13/2017 3:15:39 PM	34343
Zinc	0.010	0.0033	0.010		mg/L	1	10/13/2017 3:15:39 PM	34343
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Lab ID: 1709H12-003
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0017	0.00089	0.0050	J	mg/L	5	10/6/2017 7:04:13 PM	C46196
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 6:19:49 PM	D46150
Selenium	0.0041	0.0019	0.0050	J	mg/L	5	10/6/2017 7:04:13 PM	C46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0025	0.00030	0.0010		mg/L	1	10/11/2017 3:12:09 PM	34343
Lead	0.0039	0.000095	0.00050		mg/L	1	10/11/2017 3:12:09 PM	34343
Selenium	0.0047	0.00071	0.0010		mg/L	1	10/11/2017 3:12:09 PM	34343
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/12/2017 3:52:33 PM	34375
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 3:40:55 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 3:40:55 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Carbazole	ND	4.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167

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Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 11:05:00 AM
Lab ID: 1709H12-003 **Matrix:** AQUEOUS **Received Date:** 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 3:40:55 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 3:40:55 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 3:40:55 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Dimethyl phthalate	6.2	3.6	10	J	µg/L	1	10/9/2017 3:40:55 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 3:40:55 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/9/2017 3:40:55 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 3:40:55 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 3:40:55 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Fluorene	ND	4.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 3:40:55 PM	34167
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 3:40:55 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Naphthalene	ND	2.9	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 3:40:55 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 3:40:55 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 3:40:55 PM	34167
Phenanthrene	ND	4.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Phenol	ND	3.1	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 3:40:55 PM	34167

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 3:40:55 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 3:40:55 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 3:40:55 PM	34167
Surr: 2-Fluorophenol	42.6	0	15-88		%Rec	1	10/9/2017 3:40:55 PM	34167
Surr: Phenol-d5	31.9	0	15-72.4		%Rec	1	10/9/2017 3:40:55 PM	34167
Surr: 2,4,6-Tribromophenol	69.4	0	15-117		%Rec	1	10/9/2017 3:40:55 PM	34167
Surr: Nitrobenzene-d5	61.6	0	33.5-120		%Rec	1	10/9/2017 3:40:55 PM	34167
Surr: 2-Fluorobiphenyl	52.7	0	26.5-109		%Rec	1	10/9/2017 3:40:55 PM	34167
Surr: 4-Terphenyl-d14	31.9	0	21.7-98.7		%Rec	1	10/9/2017 3:40:55 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2.0	0.062	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Toluene	ND	0.064	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Methyl tert-butyl ether (MTBE)	0.49	0.24	1.0	J	µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Naphthalene	ND	0.11	2.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Acetone	5.8	0.82	10	J	µg/L	1	10/4/2017 9:17:06 PM	A46109
Bromobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Bromoform	ND	0.21	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Bromomethane	ND	0.26	3.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
2-Butanone	ND	1.1	10		µg/L	1	10/4/2017 9:17:06 PM	A46109
Carbon disulfide	ND	0.40	10		µg/L	1	10/4/2017 9:17:06 PM	A46109
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Chloroethane	ND	0.23	2.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Chloroform	ND	0.40	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Chloromethane	ND	0.29	3.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/4/2017 9:17:06 PM	A46109

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 11:05:00 AM
Lab ID: 1709H12-003 **Matrix:** AQUEOUS **Received Date:** 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Dibromomethane	ND	0.091	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
2-Hexanone	ND	0.66	10		µg/L	1	10/4/2017 9:17:06 PM	A46109
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/4/2017 9:17:06 PM	A46109
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Styrene	ND	0.16	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/4/2017 9:17:06 PM	A46109
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/4/2017 9:17:06 PM	A46109
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	1	10/4/2017 9:17:06 PM	A46109
Surr: 4-Bromofluorobenzene	95.9	0	70-130		%Rec	1	10/4/2017 9:17:06 PM	A46109

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 9/28/2017 11:05:00 AM
Lab ID: 1709H12-003
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	10/4/2017 9:17:06 PM	A46109
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	10/4/2017 9:17:06 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 11:45:00 AM
Lab ID: 1709H12-004
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	28	0.36	1.0		mg/L	1	10/4/2017 2:07:51 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 2:07:51 AM	34173
Surr: DNOP	127	0	77.5-161		%Rec	1	10/4/2017 2:07:51 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.37	0.025	0.050		mg/L	1	10/4/2017 11:31:09 AM	G46085
Surr: BFB	345	0	52.3-138	S	%Rec	1	10/4/2017 11:31:09 AM	G46085
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/29/2017 5:43:06 PM	R46019
Chloride	3400	120	250		mg/L	500	10/12/2017 4:36:36 PM	R46325
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/29/2017 5:43:06 PM	R46019
Bromide	2.9	0.073	0.50		mg/L	5	9/29/2017 5:43:06 PM	R46019
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/29/2017 5:43:06 PM	R46019
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/29/2017 5:43:06 PM	R46019
Sulfate	0.49	0.48	2.5	J	mg/L	5	9/29/2017 5:43:06 PM	R46019
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	34	0.043	0.10	*	mg/L	50	10/12/2017 9:29:16 PM	B46309
Cadmium	ND	0.0010	0.0020		mg/L	1	10/12/2017 9:25:40 PM	B46309
Calcium	450	0.78	10		mg/L	10	10/12/2017 9:27:26 PM	B46309
Chromium	ND	0.0013	0.0060		mg/L	1	10/12/2017 9:25:40 PM	B46309
Copper	ND	0.0032	0.0060		mg/L	1	10/12/2017 9:25:40 PM	B46309
Iron	31	0.82	1.0	*	mg/L	50	10/12/2017 9:29:16 PM	B46309
Magnesium	180	2.5	10		mg/L	10	10/11/2017 9:56:49 PM	A46277
Manganese	5.2	0.0039	0.020	*	mg/L	10	10/12/2017 9:27:26 PM	B46309
Potassium	11	0.11	1.0		mg/L	1	10/12/2017 9:25:40 PM	B46309
Silver	ND	0.0018	0.0050		mg/L	1	10/12/2017 9:25:40 PM	B46309
Sodium	1800	8.2	50		mg/L	50	10/12/2017 9:29:16 PM	B46309
Zinc	0.034	0.021	0.10	J	mg/L	10	10/12/2017 9:27:26 PM	B46309
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	35	0.047	0.10	*	mg/L	50	10/13/2017 3:22:41 PM	34343
Cadmium	ND	0.00058	0.0020		mg/L	1	10/13/2017 3:19:07 PM	34343
Chromium	ND	0.0018	0.0060		mg/L	1	10/13/2017 3:19:07 PM	34343
Copper	0.0021	0.0017	0.0060	J	mg/L	1	10/13/2017 3:19:07 PM	34343
Iron	34	0.51	1.0	*	mg/L	50	10/13/2017 3:22:41 PM	34343
Manganese	5.5	0.011	0.020	*	mg/L	10	10/13/2017 3:20:53 PM	34343
Silver	ND	0.0012	0.0050		mg/L	1	10/13/2017 3:19:07 PM	34343
Zinc	0.0065	0.0033	0.010	J	mg/L	1	10/13/2017 3:19:07 PM	34343
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 11:45:00 AM
Lab ID: 1709H12-004
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0042	0.00089	0.0050	J	mg/L	5	10/6/2017 7:07:17 PM	C46196
Lead	ND	0.00084	0.0025		mg/L	5	10/6/2017 7:07:17 PM	C46196
Selenium	0.013	0.0019	0.0050		mg/L	5	10/6/2017 7:07:17 PM	C46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0046	0.0015	0.0050	J	mg/L	5	10/12/2017 4:09:06 PM	34343
Lead	0.0026	0.00048	0.0025		mg/L	5	10/12/2017 4:09:06 PM	34343
Selenium	0.016	0.0036	0.0050		mg/L	5	10/12/2017 4:09:06 PM	34343
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/12/2017 3:54:30 PM	34375
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Acenaphthylene	ND	35	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Aniline	ND	31	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Anthracene	ND	35	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Azobenzene	ND	45	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Benz(a)anthracene	ND	39	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Benzo(a)pyrene	ND	40	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Benzo(b)fluoranthene	ND	40	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Benzo(g,h,i)perylene	ND	40	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Benzo(k)fluoranthene	ND	44	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Benzoic acid	69	39	200	JD	µg/L	1	10/9/2017 4:08:49 PM	34167
Benzyl alcohol	ND	46	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Bis(2-chloroethoxy)methane	ND	43	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Bis(2-chloroethyl)ether	ND	43	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Bis(2-chloroisopropyl)ether	ND	39	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Bis(2-ethylhexyl)phthalate	ND	48	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
4-Bromophenyl phenyl ether	ND	46	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Butyl benzyl phthalate	ND	46	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Carbazole	ND	46	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
4-Chloro-3-methylphenol	ND	63	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
4-Chloroaniline	ND	35	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2-Chloronaphthalene	ND	37	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2-Chlorophenol	ND	75	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
4-Chlorophenyl phenyl ether	ND	36	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Chrysene	ND	38	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Di-n-butyl phthalate	ND	50	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Di-n-octyl phthalate	ND	47	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Dibenz(a,h)anthracene	ND	46	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167

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Lab ID: 1709H12-004
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	41	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
1,2-Dichlorobenzene	ND	20	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
1,3-Dichlorobenzene	ND	18	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
1,4-Dichlorobenzene	ND	21	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
3,3´-Dichlorobenzidine	ND	39	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Diethyl phthalate	ND	40	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Dimethyl phthalate	51	36	100	JD	µg/L	1	10/9/2017 4:08:49 PM	34167
2,4-Dichlorophenol	ND	57	200	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2,4-Dimethylphenol	ND	28	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
4,6-Dinitro-2-methylphenol	ND	39	200	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2,4-Dinitrophenol	ND	26	200	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2,4-Dinitrotoluene	ND	40	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2,6-Dinitrotoluene	ND	45	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Fluoranthene	ND	43	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Fluorene	ND	40	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Hexachlorobenzene	ND	38	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Hexachlorobutadiene	ND	13	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Hexachlorocyclopentadiene	ND	13	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Hexachloroethane	ND	12	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Indeno(1,2,3-cd)pyrene	ND	42	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Isophorone	ND	44	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
1-Methylnaphthalene	170	33	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2-Methylnaphthalene	48	33	100	JD	µg/L	1	10/9/2017 4:08:49 PM	34167
2-Methylphenol	ND	33	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
3+4-Methylphenol	ND	32	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
N-Nitrosodi-n-propylamine	ND	46	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
N-Nitrosodimethylamine	ND	35	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
N-Nitrosodiphenylamine	ND	39	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Naphthalene	51	29	100	JD	µg/L	1	10/9/2017 4:08:49 PM	34167
2-Nitroaniline	ND	49	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
3-Nitroaniline	ND	43	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
4-Nitroaniline	ND	40	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Nitrobenzene	ND	36	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2-Nitrophenol	ND	52	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
4-Nitrophenol	ND	55	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Pentachlorophenol	ND	49	200	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Phenanthrene	ND	43	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Phenol	ND	31	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Pyrene	ND	44	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167

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Lab ID: 1709H12-004
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Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	23	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
1,2,4-Trichlorobenzene	ND	21	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2,4,5-Trichlorophenol	ND	51	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
2,4,6-Trichlorophenol	ND	55	100	D	µg/L	1	10/9/2017 4:08:49 PM	34167
Surr: 2-Fluorophenol	36.4	0	15-88	D	%Rec	1	10/9/2017 4:08:49 PM	34167
Surr: Phenol-d5	38.0	0	15-72.4	D	%Rec	1	10/9/2017 4:08:49 PM	34167
Surr: 2,4,6-Tribromophenol	78.2	0	15-117	D	%Rec	1	10/9/2017 4:08:49 PM	34167
Surr: Nitrobenzene-d5	53.3	0	33.5-120	D	%Rec	1	10/9/2017 4:08:49 PM	34167
Surr: 2-Fluorobiphenyl	53.6	0	26.5-109	D	%Rec	1	10/9/2017 4:08:49 PM	34167
Surr: 4-Terphenyl-d14	40.1	0	21.7-98.7	D	%Rec	1	10/9/2017 4:08:49 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	10	0.31	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Toluene	ND	0.32	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Ethylbenzene	49	0.47	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Methyl tert-butyl ether (MTBE)	ND	1.2	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2,4-Trimethylbenzene	8.0	0.56	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,3,5-Trimethylbenzene	ND	0.44	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2-Dichloroethane (EDC)	ND	2.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2-Dibromoethane (EDB)	ND	0.65	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Naphthalene	110	0.57	10	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1-Methylnaphthalene	170	0.80	20	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
2-Methylnaphthalene	66	0.76	20	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Acetone	ND	4.1	50	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Bromobenzene	ND	0.70	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Bromodichloromethane	ND	0.88	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Bromoform	ND	1.1	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Bromomethane	ND	1.3	15	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
2-Butanone	ND	5.7	50	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Carbon disulfide	ND	2.0	50	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Carbon Tetrachloride	ND	0.55	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Chlorobenzene	ND	0.53	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Chloroethane	ND	1.2	10	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Chloroform	ND	2.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Chloromethane	ND	1.5	15	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
2-Chlorotoluene	ND	2.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
4-Chlorotoluene	ND	2.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
cis-1,2-DCE	ND	1.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
cis-1,3-Dichloropropene	ND	0.41	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2-Dibromo-3-chloropropane	ND	6.9	10	D	µg/L	5	10/4/2017 9:45:39 PM	A46109

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 11:45:00 AM
Lab ID: 1709H12-004 **Matrix:** AQUEOUS **Received Date:** 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.36	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Dibromomethane	ND	0.45	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2-Dichlorobenzene	ND	0.45	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,3-Dichlorobenzene	ND	0.76	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,4-Dichlorobenzene	ND	2.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Dichlorodifluoromethane	ND	5.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,1-Dichloroethane	2.0	2.0	5.0	JD	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,1-Dichloroethene	ND	0.40	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2-Dichloropropane	ND	0.51	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,3-Dichloropropane	ND	0.84	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
2,2-Dichloropropane	ND	0.79	10	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,1-Dichloropropene	ND	0.46	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Hexachlorobutadiene	ND	4.0	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
2-Hexanone	ND	3.3	50	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Isopropylbenzene	22	0.26	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
4-Isopropyltoluene	3.0	0.48	5.0	JD	µg/L	5	10/4/2017 9:45:39 PM	A46109
4-Methyl-2-pentanone	ND	3.5	50	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Methylene Chloride	ND	0.54	15	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
n-Butylbenzene	7.7	0.65	15	JD	µg/L	5	10/4/2017 9:45:39 PM	A46109
n-Propylbenzene	30	0.37	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
sec-Butylbenzene	13	0.55	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Styrene	ND	0.78	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
tert-Butylbenzene	ND	0.52	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,1,1,2-Tetrachloroethane	ND	0.52	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,1,2,2-Tetrachloroethane	ND	0.68	10	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Tetrachloroethene (PCE)	ND	0.65	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
trans-1,2-DCE	ND	0.92	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
trans-1,3-Dichloropropene	ND	1.1	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2,3-Trichlorobenzene	ND	0.59	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2,4-Trichlorobenzene	ND	0.71	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,1,1-Trichloroethane	ND	0.36	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,1,2-Trichloroethane	ND	0.70	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Trichloroethene (TCE)	ND	0.56	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Trichlorofluoromethane	ND	0.91	5.0	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
1,2,3-Trichloropropane	ND	1.9	10	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Vinyl chloride	1.9	0.89	5.0	JD	µg/L	5	10/4/2017 9:45:39 PM	A46109
Xylenes, Total	ND	1.6	7.5	D	µg/L	5	10/4/2017 9:45:39 PM	A46109
Surr: 1,2-Dichloroethane-d4	96.3	0	70-130	D	%Rec	5	10/4/2017 9:45:39 PM	A46109
Surr: 4-Bromofluorobenzene	96.6	0	70-130	D	%Rec	5	10/4/2017 9:45:39 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 11:45:00 AM
Lab ID: 1709H12-004
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	104	0	70-130	D	%Rec	5	10/4/2017 9:45:39 PM	A46109
Surr: Toluene-d8	102	0	70-130	D	%Rec	5	10/4/2017 9:45:39 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:30:00 PM
Lab ID: 1709H12-005
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.2	0.36	1.0		mg/L	1	10/4/2017 2:30:16 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 2:30:16 AM	34173
Surr: DNOP	125	0	77.5-161		%Rec	1	10/4/2017 2:30:16 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	13	0.50	1.0		mg/L	20	10/4/2017 11:54:45 AM	G46085
Surr: BFB	125	0	52.3-138		%Rec	20	10/4/2017 11:54:45 AM	G46085
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.35	0.22	0.50	J	mg/L	5	9/29/2017 6:07:56 PM	R46019
Chloride	180	5.0	10		mg/L	20	9/29/2017 6:20:20 PM	R46019
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/29/2017 6:07:56 PM	R46019
Bromide	1.6	0.073	0.50		mg/L	5	9/29/2017 6:07:56 PM	R46019
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/29/2017 6:07:56 PM	R46019
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/29/2017 6:07:56 PM	R46019
Sulfate	14	0.48	2.5		mg/L	5	9/29/2017 6:07:56 PM	R46019
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.54	0.00085	0.0020		mg/L	1	10/12/2017 9:31:24 PM	B46309
Cadmium	ND	0.0010	0.0020		mg/L	1	10/12/2017 9:31:24 PM	B46309
Calcium	150	0.78	10		mg/L	10	10/12/2017 9:33:00 PM	B46309
Chromium	ND	0.0013	0.0060		mg/L	1	10/12/2017 9:31:24 PM	B46309
Copper	ND	0.0032	0.0060		mg/L	1	10/12/2017 9:31:24 PM	B46309
Iron	3.0	0.16	0.20	*	mg/L	10	10/12/2017 9:33:00 PM	B46309
Magnesium	33	0.25	1.0		mg/L	1	10/11/2017 9:58:39 PM	A46277
Manganese	4.5	0.0039	0.020	*	mg/L	10	10/12/2017 9:33:00 PM	B46309
Potassium	0.39	0.11	1.0	J	mg/L	1	10/11/2017 9:58:39 PM	A46277
Silver	ND	0.0018	0.0050		mg/L	1	10/11/2017 9:58:39 PM	A46277
Sodium	270	1.6	10		mg/L	10	10/12/2017 9:33:00 PM	B46309
Zinc	0.0050	0.0021	0.010	J	mg/L	1	10/12/2017 9:31:24 PM	B46309
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.61	0.00093	0.0020		mg/L	1	10/13/2017 3:24:47 PM	34343
Cadmium	ND	0.00058	0.0020		mg/L	1	10/13/2017 3:24:47 PM	34343
Chromium	ND	0.0018	0.0060		mg/L	1	10/13/2017 3:24:47 PM	34343
Copper	0.0064	0.0017	0.0060		mg/L	1	10/13/2017 3:24:47 PM	34343
Iron	5.3	0.10	0.20	*	mg/L	10	10/13/2017 3:26:24 PM	34343
Manganese	4.8	0.011	0.020	*	mg/L	10	10/13/2017 3:26:24 PM	34343
Silver	ND	0.0012	0.0050		mg/L	1	10/13/2017 3:24:47 PM	34343
Zinc	0.0072	0.0033	0.010	J	mg/L	1	10/13/2017 3:24:47 PM	34343
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:30:00 PM
Lab ID: 1709H12-005
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.00089	0.0050	J	mg/L	5	10/6/2017 7:28:44 PM	C46196
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 6:25:56 PM	D46150
Selenium	ND	0.0077	0.020		mg/L	20	10/6/2017 7:31:47 PM	C46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0040	0.0015	0.0050	J	mg/L	5	10/12/2017 4:24:12 PM	34343
Lead	0.0043	0.000095	0.00050		mg/L	1	10/11/2017 3:18:10 PM	34343
Selenium	0.0085	0.0036	0.0050		mg/L	5	10/12/2017 4:24:12 PM	34343
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/12/2017 3:56:29 PM	34375
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	5.5	3.6	10	J	µg/L	1	10/9/2017 4:36:47 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 4:36:47 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 4:36:47 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Carbazole	15	4.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:30:00 PM
Lab ID: 1709H12-005
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 4:36:47 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 4:36:47 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 4:36:47 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Dimethyl phthalate	4.9	3.6	10	J	µg/L	1	10/9/2017 4:36:47 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 4:36:47 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/9/2017 4:36:47 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 4:36:47 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 4:36:47 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Fluorene	8.5	4.0	10	J	µg/L	1	10/9/2017 4:36:47 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 4:36:47 PM	34167
1-Methylnaphthalene	89	3.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 4:36:47 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Naphthalene	43	2.9	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 4:36:47 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 4:36:47 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 4:36:47 PM	34167
Phenanthrene	8.6	4.3	10	J	µg/L	1	10/9/2017 4:36:47 PM	34167
Phenol	12	3.1	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 4:36:47 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:30:00 PM
Lab ID: 1709H12-005
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 4:36:47 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 4:36:47 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 4:36:47 PM	34167
Surr: 2-Fluorophenol	44.5	0	15-88		%Rec	1	10/9/2017 4:36:47 PM	34167
Surr: Phenol-d5	50.2	0	15-72.4		%Rec	1	10/9/2017 4:36:47 PM	34167
Surr: 2,4,6-Tribromophenol	74.1	0	15-117		%Rec	1	10/9/2017 4:36:47 PM	34167
Surr: Nitrobenzene-d5	84.6	0	33.5-120		%Rec	1	10/9/2017 4:36:47 PM	34167
Surr: 2-Fluorobiphenyl	78.9	0	26.5-109		%Rec	1	10/9/2017 4:36:47 PM	34167
Surr: 4-Terphenyl-d14	44.6	0	21.7-98.7		%Rec	1	10/9/2017 4:36:47 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	3000	6.2	100		µg/L	100	10/4/2017 10:14:13 PM	A46109
Toluene	30	0.64	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Ethylbenzene	300	0.93	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Methyl tert-butyl ether (MTBE)	530	2.4	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2,4-Trimethylbenzene	95	1.1	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,3,5-Trimethylbenzene	ND	0.87	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Naphthalene	83	1.1	20		µg/L	10	10/4/2017 10:43:01 PM	A46109
1-Methylnaphthalene	98	1.6	40		µg/L	10	10/4/2017 10:43:01 PM	A46109
2-Methylnaphthalene	16	1.5	40	J	µg/L	10	10/4/2017 10:43:01 PM	A46109
Acetone	ND	8.2	100		µg/L	10	10/4/2017 10:43:01 PM	A46109
Bromobenzene	ND	1.4	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Bromodichloromethane	ND	1.8	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Bromoform	ND	2.1	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Bromomethane	ND	2.6	30		µg/L	10	10/4/2017 10:43:01 PM	A46109
2-Butanone	ND	11	100		µg/L	10	10/4/2017 10:43:01 PM	A46109
Carbon disulfide	ND	4.0	100		µg/L	10	10/4/2017 10:43:01 PM	A46109
Carbon Tetrachloride	ND	1.1	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Chlorobenzene	ND	1.1	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Chloroethane	ND	2.3	20		µg/L	10	10/4/2017 10:43:01 PM	A46109
Chloroform	ND	4.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Chloromethane	ND	2.9	30		µg/L	10	10/4/2017 10:43:01 PM	A46109
2-Chlorotoluene	ND	4.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
4-Chlorotoluene	ND	4.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
cis-1,2-DCE	9.6	2.0	10	J	µg/L	10	10/4/2017 10:43:01 PM	A46109
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	10/4/2017 10:43:01 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:30:00 PM
Lab ID: 1709H12-005
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.72	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Dibromomethane	ND	0.91	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Dichlorodifluoromethane	ND	10	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,1-Dichloroethane	9.8	4.0	10	J	µg/L	10	10/4/2017 10:43:01 PM	A46109
1,1-Dichloroethene	13	0.81	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2-Dichloropropane	ND	1.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,3-Dichloropropane	ND	1.7	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
2,2-Dichloropropane	ND	1.6	20		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,1-Dichloropropene	ND	0.93	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Hexachlorobutadiene	ND	8.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
2-Hexanone	ND	6.6	100		µg/L	10	10/4/2017 10:43:01 PM	A46109
Isopropylbenzene	21	0.51	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
4-Isopropyltoluene	2.5	0.96	10	J	µg/L	10	10/4/2017 10:43:01 PM	A46109
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	10/4/2017 10:43:01 PM	A46109
Methylene Chloride	ND	1.1	30		µg/L	10	10/4/2017 10:43:01 PM	A46109
n-Butylbenzene	8.4	1.3	30	J	µg/L	10	10/4/2017 10:43:01 PM	A46109
n-Propylbenzene	43	0.74	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
sec-Butylbenzene	4.0	1.1	10	J	µg/L	10	10/4/2017 10:43:01 PM	A46109
Styrene	ND	1.6	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
tert-Butylbenzene	ND	1.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	10/4/2017 10:43:01 PM	A46109
Tetrachloroethene (PCE)	1.9	1.3	10	J	µg/L	10	10/4/2017 10:43:01 PM	A46109
trans-1,2-DCE	ND	1.8	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,1,1-Trichloroethane	13	0.73	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Trichlorofluoromethane	ND	1.8	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	10/4/2017 10:43:01 PM	A46109
Vinyl chloride	ND	1.8	10		µg/L	10	10/4/2017 10:43:01 PM	A46109
Xylenes, Total	97	3.2	15		µg/L	10	10/4/2017 10:43:01 PM	A46109
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	10	10/4/2017 10:43:01 PM	A46109
Surr: 4-Bromofluorobenzene	96.2	0	70-130		%Rec	10	10/4/2017 10:43:01 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:30:00 PM
Lab ID: 1709H12-005
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	104	0	70-130		%Rec	10	10/4/2017 10:43:01 PM	A46109
Surr: Toluene-d8	101	0	70-130		%Rec	10	10/4/2017 10:43:01 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 2:09:00 PM
Lab ID: 1709H12-006
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.6	0.36	1.0		mg/L	1	10/4/2017 2:52:38 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 2:52:38 AM	34173
Surr: DNOP	127	0	77.5-161		%Rec	1	10/4/2017 2:52:38 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	74	5.0	10		mg/L	200	10/4/2017 12:18:27 PM	G46085
Surr: BFB	117	0	52.3-138		%Rec	200	10/4/2017 12:18:27 PM	G46085
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/29/2017 6:32:45 PM	R46019
Chloride	330	5.0	10		mg/L	20	9/29/2017 6:45:09 PM	R46019
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/29/2017 6:32:45 PM	R46019
Bromide	1.0	0.073	0.50		mg/L	5	9/29/2017 6:32:45 PM	R46019
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/29/2017 6:32:45 PM	R46019
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/29/2017 6:32:45 PM	R46019
Sulfate	0.55	0.48	2.5	J	mg/L	5	9/29/2017 6:32:45 PM	R46019
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.7	0.0085	0.020	*	mg/L	10	10/12/2017 9:36:31 PM	B46309
Cadmium	ND	0.0010	0.0020		mg/L	1	10/12/2017 9:34:55 PM	B46309
Calcium	130	0.78	10		mg/L	10	10/12/2017 9:36:31 PM	B46309
Chromium	ND	0.0013	0.0060		mg/L	1	10/12/2017 9:34:55 PM	B46309
Copper	ND	0.0032	0.0060		mg/L	1	10/12/2017 9:34:55 PM	B46309
Iron	7.5	0.16	0.20	*	mg/L	10	10/12/2017 9:36:31 PM	B46309
Magnesium	32	0.25	1.0		mg/L	1	10/11/2017 10:02:10 PM	A46277
Manganese	2.8	0.0039	0.020	*	mg/L	10	10/12/2017 9:36:31 PM	B46309
Potassium	0.58	0.11	1.0	J	mg/L	1	10/11/2017 10:02:10 PM	A46277
Silver	ND	0.0018	0.0050		mg/L	1	10/11/2017 10:02:10 PM	A46277
Sodium	280	1.6	10		mg/L	10	10/12/2017 9:36:31 PM	B46309
Zinc	0.010	0.0021	0.010	J	mg/L	1	10/12/2017 9:34:55 PM	B46309
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	4.1	0.0093	0.020	*	mg/L	10	10/13/2017 3:37:12 PM	34343
Cadmium	ND	0.00058	0.0020		mg/L	1	10/13/2017 3:35:36 PM	34343
Chromium	ND	0.0018	0.0060		mg/L	1	10/13/2017 3:35:36 PM	34343
Copper	0.0038	0.0017	0.0060	J	mg/L	1	10/13/2017 3:35:36 PM	34343
Iron	9.0	0.10	0.20	*	mg/L	10	10/13/2017 3:37:12 PM	34343
Manganese	3.0	0.011	0.020	*	mg/L	10	10/13/2017 3:37:12 PM	34343
Silver	ND	0.0012	0.0050		mg/L	1	10/13/2017 3:35:36 PM	34343
Zinc	ND	0.0033	0.010		mg/L	1	10/13/2017 3:35:36 PM	34343
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 2:09:00 PM
Lab ID: 1709H12-006
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0087	0.00018	0.0010		mg/L	1	10/5/2017 6:28:59 PM	D46150
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 6:28:59 PM	D46150
Selenium	0.0074	0.00039	0.0010		mg/L	1	10/5/2017 6:28:59 PM	D46150
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0070	0.00030	0.0010		mg/L	1	10/11/2017 3:21:11 PM	34343
Lead	0.0010	0.000095	0.00050		mg/L	1	10/11/2017 3:21:11 PM	34343
Selenium	0.0040	0.00071	0.0010		mg/L	1	10/11/2017 3:21:11 PM	34343
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/12/2017 3:58:27 PM	34375
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Acenaphthylene	ND	35	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Aniline	ND	31	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Anthracene	ND	35	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Azobenzene	ND	45	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Benz(a)anthracene	ND	39	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Benzo(a)pyrene	ND	40	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Benzo(b)fluoranthene	ND	40	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Benzo(g,h,i)perylene	ND	40	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Benzo(k)fluoranthene	ND	44	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Benzoic acid	65	39	200	JD	µg/L	1	10/9/2017 5:04:36 PM	34167
Benzyl alcohol	ND	46	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Bis(2-chloroethoxy)methane	ND	43	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Bis(2-chloroethyl)ether	ND	43	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Bis(2-chloroisopropyl)ether	ND	39	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Bis(2-ethylhexyl)phthalate	82	48	100	JBD	µg/L	1	10/9/2017 5:04:36 PM	34167
4-Bromophenyl phenyl ether	ND	46	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Butyl benzyl phthalate	ND	46	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Carbazole	ND	46	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
4-Chloro-3-methylphenol	ND	63	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
4-Chloroaniline	ND	35	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2-Chloronaphthalene	ND	37	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2-Chlorophenol	ND	75	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
4-Chlorophenyl phenyl ether	ND	36	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Chrysene	ND	38	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Di-n-butyl phthalate	ND	50	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Di-n-octyl phthalate	ND	47	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Dibenz(a,h)anthracene	ND	46	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 2:09:00 PM
Lab ID: 1709H12-006 **Matrix:** AQUEOUS **Received Date:** 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	41	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
1,2-Dichlorobenzene	ND	20	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
1,3-Dichlorobenzene	ND	18	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
1,4-Dichlorobenzene	ND	21	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
3,3´-Dichlorobenzidine	ND	39	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Diethyl phthalate	ND	40	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Dimethyl phthalate	61	36	100	JD	µg/L	1	10/9/2017 5:04:36 PM	34167
2,4-Dichlorophenol	ND	57	200	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2,4-Dimethylphenol	ND	28	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
4,6-Dinitro-2-methylphenol	ND	39	200	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2,4-Dinitrophenol	ND	26	200	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2,4-Dinitrotoluene	ND	40	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2,6-Dinitrotoluene	ND	45	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Fluoranthene	ND	43	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Fluorene	ND	40	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Hexachlorobenzene	ND	38	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Hexachlorobutadiene	ND	13	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Hexachlorocyclopentadiene	ND	13	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Hexachloroethane	ND	12	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Indeno(1,2,3-cd)pyrene	ND	42	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Isophorone	ND	44	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
1-Methylnaphthalene	ND	33	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2-Methylnaphthalene	42	33	100	JD	µg/L	1	10/9/2017 5:04:36 PM	34167
2-Methylphenol	ND	33	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
3+4-Methylphenol	ND	32	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
N-Nitrosodi-n-propylamine	ND	46	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
N-Nitrosodimethylamine	ND	35	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
N-Nitrosodiphenylamine	ND	39	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Naphthalene	110	29	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2-Nitroaniline	ND	49	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
3-Nitroaniline	ND	43	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
4-Nitroaniline	ND	40	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Nitrobenzene	ND	36	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2-Nitrophenol	ND	52	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
4-Nitrophenol	ND	55	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Pentachlorophenol	ND	49	200	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Phenanthrene	ND	43	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Phenol	ND	31	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Pyrene	ND	44	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 2:09:00 PM
Lab ID: 1709H12-006
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	23	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
1,2,4-Trichlorobenzene	ND	21	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2,4,5-Trichlorophenol	ND	51	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
2,4,6-Trichlorophenol	ND	55	100	D	µg/L	1	10/9/2017 5:04:36 PM	34167
Surr: 2-Fluorophenol	44.9	0	15-88	D	%Rec	1	10/9/2017 5:04:36 PM	34167
Surr: Phenol-d5	38.3	0	15-72.4	D	%Rec	1	10/9/2017 5:04:36 PM	34167
Surr: 2,4,6-Tribromophenol	75.1	0	15-117	D	%Rec	1	10/9/2017 5:04:36 PM	34167
Surr: Nitrobenzene-d5	64.0	0	33.5-120	D	%Rec	1	10/9/2017 5:04:36 PM	34167
Surr: 2-Fluorobiphenyl	57.1	0	26.5-109	D	%Rec	1	10/9/2017 5:04:36 PM	34167
Surr: 4-Terphenyl-d14	36.0	0	21.7-98.7	D	%Rec	1	10/9/2017 5:04:36 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	9500	6.2	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Toluene	8800	6.4	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Ethylbenzene	1800	9.3	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Methyl tert-butyl ether (MTBE)	ND	24	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2,4-Trimethylbenzene	920	11	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,3,5-Trimethylbenzene	210	8.7	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Naphthalene	230	11	200		µg/L	100	10/4/2017 11:40:21 PM	A46109
1-Methylnaphthalene	98	16	400	J	µg/L	100	10/4/2017 11:40:21 PM	A46109
2-Methylnaphthalene	97	15	400	J	µg/L	100	10/4/2017 11:40:21 PM	A46109
Acetone	ND	82	1000		µg/L	100	10/4/2017 11:40:21 PM	A46109
Bromobenzene	ND	14	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Bromodichloromethane	ND	18	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Bromoform	ND	21	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Bromomethane	ND	26	300		µg/L	100	10/4/2017 11:40:21 PM	A46109
2-Butanone	ND	110	1000		µg/L	100	10/4/2017 11:40:21 PM	A46109
Carbon disulfide	ND	40	1000		µg/L	100	10/4/2017 11:40:21 PM	A46109
Carbon Tetrachloride	ND	11	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Chlorobenzene	ND	11	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Chloroethane	ND	23	200		µg/L	100	10/4/2017 11:40:21 PM	A46109
Chloroform	ND	40	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Chloromethane	ND	29	300		µg/L	100	10/4/2017 11:40:21 PM	A46109
2-Chlorotoluene	ND	40	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
4-Chlorotoluene	ND	40	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
cis-1,2-DCE	53	20	100	J	µg/L	100	10/4/2017 11:40:21 PM	A46109
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	10/4/2017 11:40:21 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 2:09:00 PM
Lab ID: 1709H12-006
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	7.2	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Dibromomethane	ND	9.1	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,3-Dichlorobenzene	ND	15	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,4-Dichlorobenzene	ND	40	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Dichlorodifluoromethane	ND	100	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,1-Dichloroethane	ND	40	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,1-Dichloroethene	ND	8.1	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2-Dichloropropane	ND	10	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,3-Dichloropropane	ND	17	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
2,2-Dichloropropane	ND	16	200		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,1-Dichloropropene	ND	9.3	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Hexachlorobutadiene	ND	80	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
2-Hexanone	ND	66	1000		µg/L	100	10/4/2017 11:40:21 PM	A46109
Isopropylbenzene	53	5.1	100	J	µg/L	100	10/4/2017 11:40:21 PM	A46109
4-Isopropyltoluene	ND	9.6	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	10/4/2017 11:40:21 PM	A46109
Methylene Chloride	ND	11	300		µg/L	100	10/4/2017 11:40:21 PM	A46109
n-Butylbenzene	ND	13	300		µg/L	100	10/4/2017 11:40:21 PM	A46109
n-Propylbenzene	130	7.4	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
sec-Butylbenzene	ND	11	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Styrene	ND	16	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
tert-Butylbenzene	ND	10	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	10/4/2017 11:40:21 PM	A46109
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
trans-1,2-DCE	ND	18	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,1,2-Trichloroethane	ND	14	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Trichloroethene (TCE)	ND	11	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Trichlorofluoromethane	ND	18	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
1,2,3-Trichloropropane	ND	39	200		µg/L	100	10/4/2017 11:40:21 PM	A46109
Vinyl chloride	ND	18	100		µg/L	100	10/4/2017 11:40:21 PM	A46109
Xylenes, Total	8700	32	150		µg/L	100	10/4/2017 11:40:21 PM	A46109
Surr: 1,2-Dichloroethane-d4	98.8	0	70-130		%Rec	100	10/4/2017 11:40:21 PM	A46109
Surr: 4-Bromofluorobenzene	91.5	0	70-130		%Rec	100	10/4/2017 11:40:21 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 2:09:00 PM
Lab ID: 1709H12-006
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	107	0	70-130		%Rec	100	10/4/2017 11:40:21 PM	A46109
Surr: Toluene-d8	104	0	70-130		%Rec	100	10/4/2017 11:40:21 PM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:45:00 PM
Lab ID: 1709H12-007
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.1	0.36	1.0		mg/L	1	10/4/2017 3:15:00 AM	34173
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/4/2017 3:15:00 AM	34173
Surr: DNOP	129	0	77.5-161		%Rec	1	10/4/2017 3:15:00 AM	34173
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	13	0.50	1.0		mg/L	20	10/4/2017 12:42:05 PM	G46085
Surr: BFB	123	0	52.3-138		%Rec	20	10/4/2017 12:42:05 PM	G46085
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.36	0.22	0.50	J	mg/L	5	9/29/2017 6:57:34 PM	R46019
Chloride	210	5.0	10		mg/L	20	9/29/2017 7:09:59 PM	R46019
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/29/2017 6:57:34 PM	R46019
Bromide	1.6	0.073	0.50		mg/L	5	9/29/2017 6:57:34 PM	R46019
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/29/2017 6:57:34 PM	R46019
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/29/2017 6:57:34 PM	R46019
Sulfate	15	0.48	2.5		mg/L	5	9/29/2017 6:57:34 PM	R46019
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.54	0.00085	0.0020		mg/L	1	10/12/2017 9:38:28 PM	B46309
Cadmium	ND	0.0010	0.0020		mg/L	1	10/12/2017 9:38:28 PM	B46309
Calcium	150	0.78	10		mg/L	10	10/12/2017 9:45:45 PM	B46309
Chromium	ND	0.0013	0.0060		mg/L	1	10/12/2017 9:38:28 PM	B46309
Copper	ND	0.0032	0.0060		mg/L	1	10/12/2017 9:38:28 PM	B46309
Iron	3.0	0.16	0.20	*	mg/L	10	10/12/2017 9:45:45 PM	B46309
Magnesium	33	0.25	1.0		mg/L	1	10/11/2017 10:16:41 PM	A46277
Manganese	4.4	0.0039	0.020	*	mg/L	10	10/12/2017 9:45:45 PM	B46309
Potassium	0.36	0.11	1.0	J	mg/L	1	10/11/2017 10:16:41 PM	A46277
Silver	ND	0.0018	0.0050		mg/L	1	10/11/2017 10:16:41 PM	A46277
Sodium	260	1.6	10		mg/L	10	10/12/2017 9:45:45 PM	B46309
Zinc	0.016	0.0021	0.010		mg/L	1	10/12/2017 9:38:28 PM	B46309
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.57	0.00093	0.0020		mg/L	1	10/13/2017 3:39:07 PM	34343
Cadmium	ND	0.00058	0.0020		mg/L	1	10/13/2017 3:39:07 PM	34343
Chromium	ND	0.0018	0.0060		mg/L	1	10/13/2017 3:39:07 PM	34343
Copper	0.0052	0.0017	0.0060	J	mg/L	1	10/13/2017 3:39:07 PM	34343
Iron	4.3	0.10	0.20	*	mg/L	10	10/13/2017 3:40:44 PM	34343
Manganese	4.9	0.011	0.020	*	mg/L	10	10/13/2017 3:40:44 PM	34343
Silver	ND	0.0012	0.0050		mg/L	1	10/13/2017 3:39:07 PM	34343
Zinc	0.0034	0.0033	0.010	J	mg/L	1	10/13/2017 3:39:07 PM	34343
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:45:00 PM
Lab ID: 1709H12-007
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.00089	0.0050	J	mg/L	5	10/6/2017 7:34:51 PM	C46196
Lead	ND	0.00017	0.00050		mg/L	1	10/5/2017 6:32:02 PM	D46150
Selenium	ND	0.0077	0.020		mg/L	20	10/6/2017 7:37:54 PM	C46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0027	0.0015	0.0050	J	mg/L	5	10/12/2017 4:30:13 PM	34343
Lead	0.0028	0.000095	0.00050		mg/L	1	10/11/2017 3:30:16 PM	34343
Selenium	0.0087	0.0036	0.0050		mg/L	5	10/12/2017 4:30:13 PM	34343
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/12/2017 4:00:26 PM	34375
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	5.7	3.6	10	J	µg/L	1	10/9/2017 5:32:30 PM	34167
Acenaphthylene	ND	3.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Aniline	ND	3.1	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Anthracene	ND	3.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Azobenzene	ND	4.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Benzoic acid	ND	3.9	20		µg/L	1	10/9/2017 5:32:30 PM	34167
Benzyl alcohol	ND	4.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/9/2017 5:32:30 PM	34167
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Carbazole	14	4.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
4-Chloroaniline	ND	3.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2-Chlorophenol	ND	7.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Chrysene	ND	3.8	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:45:00 PM
Lab ID: 1709H12-007
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	10/9/2017 5:32:30 PM	34167
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/9/2017 5:32:30 PM	34167
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 5:32:30 PM	34167
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Diethyl phthalate	ND	4.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Dimethyl phthalate	4.1	3.6	10	J	µg/L	1	10/9/2017 5:32:30 PM	34167
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/9/2017 5:32:30 PM	34167
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/9/2017 5:32:30 PM	34167
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/9/2017 5:32:30 PM	34167
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/9/2017 5:32:30 PM	34167
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Fluoranthene	ND	4.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Fluorene	7.9	4.0	10	J	µg/L	1	10/9/2017 5:32:30 PM	34167
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Hexachloroethane	ND	1.2	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Isophorone	ND	4.4	10		µg/L	1	10/9/2017 5:32:30 PM	34167
1-Methylnaphthalene	84	3.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2-Methylphenol	ND	3.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/9/2017 5:32:30 PM	34167
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Naphthalene	41	2.9	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2-Nitroaniline	ND	4.9	10		µg/L	1	10/9/2017 5:32:30 PM	34167
3-Nitroaniline	ND	4.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
4-Nitroaniline	ND	4.0	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Nitrobenzene	ND	3.6	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2-Nitrophenol	ND	5.2	10		µg/L	1	10/9/2017 5:32:30 PM	34167
4-Nitrophenol	ND	5.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Pentachlorophenol	ND	4.9	20		µg/L	1	10/9/2017 5:32:30 PM	34167
Phenanthrene	7.5	4.3	10	J	µg/L	1	10/9/2017 5:32:30 PM	34167
Phenol	12	3.1	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Pyrene	ND	4.4	10		µg/L	1	10/9/2017 5:32:30 PM	34167

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:45:00 PM
Lab ID: 1709H12-007
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	10/9/2017 5:32:30 PM	34167
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/9/2017 5:32:30 PM	34167
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/9/2017 5:32:30 PM	34167
Surr: 2-Fluorophenol	50.4	0	15-88		%Rec	1	10/9/2017 5:32:30 PM	34167
Surr: Phenol-d5	43.6	0	15-72.4		%Rec	1	10/9/2017 5:32:30 PM	34167
Surr: 2,4,6-Tribromophenol	87.6	0	15-117		%Rec	1	10/9/2017 5:32:30 PM	34167
Surr: Nitrobenzene-d5	78.4	0	33.5-120		%Rec	1	10/9/2017 5:32:30 PM	34167
Surr: 2-Fluorobiphenyl	73.0	0	26.5-109		%Rec	1	10/9/2017 5:32:30 PM	34167
Surr: 4-Terphenyl-d14	59.2	0	21.7-98.7		%Rec	1	10/9/2017 5:32:30 PM	34167
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	3000	6.2	100		µg/L	100	10/5/2017 2:03:49 AM	A46109
Toluene	31	0.64	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Ethylbenzene	310	0.93	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Methyl tert-butyl ether (MTBE)	510	2.4	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2,4-Trimethylbenzene	97	1.1	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,3,5-Trimethylbenzene	ND	0.87	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Naphthalene	83	1.1	20		µg/L	10	10/5/2017 2:32:25 AM	A46109
1-Methylnaphthalene	97	1.6	40		µg/L	10	10/5/2017 2:32:25 AM	A46109
2-Methylnaphthalene	16	1.5	40	J	µg/L	10	10/5/2017 2:32:25 AM	A46109
Acetone	ND	8.2	100		µg/L	10	10/5/2017 2:32:25 AM	A46109
Bromobenzene	ND	1.4	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Bromodichloromethane	ND	1.8	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Bromoform	ND	2.1	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Bromomethane	ND	2.6	30		µg/L	10	10/5/2017 2:32:25 AM	A46109
2-Butanone	ND	11	100		µg/L	10	10/5/2017 2:32:25 AM	A46109
Carbon disulfide	ND	4.0	100		µg/L	10	10/5/2017 2:32:25 AM	A46109
Carbon Tetrachloride	ND	1.1	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Chlorobenzene	ND	1.1	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Chloroethane	ND	2.3	20		µg/L	10	10/5/2017 2:32:25 AM	A46109
Chloroform	ND	4.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Chloromethane	ND	2.9	30		µg/L	10	10/5/2017 2:32:25 AM	A46109
2-Chlorotoluene	ND	4.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
4-Chlorotoluene	ND	4.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
cis-1,2-DCE	9.4	2.0	10	J	µg/L	10	10/5/2017 2:32:25 AM	A46109
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	10/5/2017 2:32:25 AM	A46109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:45:00 PM
Lab ID: 1709H12-007
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.72	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Dibromomethane	ND	0.91	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Dichlorodifluoromethane	ND	10	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,1-Dichloroethane	9.6	4.0	10	J	µg/L	10	10/5/2017 2:32:25 AM	A46109
1,1-Dichloroethene	12	0.81	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2-Dichloropropane	ND	1.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,3-Dichloropropane	ND	1.7	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
2,2-Dichloropropane	ND	1.6	20		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,1-Dichloropropene	ND	0.93	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Hexachlorobutadiene	ND	8.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
2-Hexanone	ND	6.6	100		µg/L	10	10/5/2017 2:32:25 AM	A46109
Isopropylbenzene	22	0.51	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
4-Isopropyltoluene	2.5	0.96	10	J	µg/L	10	10/5/2017 2:32:25 AM	A46109
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	10/5/2017 2:32:25 AM	A46109
Methylene Chloride	ND	1.1	30		µg/L	10	10/5/2017 2:32:25 AM	A46109
n-Butylbenzene	8.9	1.3	30	J	µg/L	10	10/5/2017 2:32:25 AM	A46109
n-Propylbenzene	44	0.74	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
sec-Butylbenzene	4.2	1.1	10	J	µg/L	10	10/5/2017 2:32:25 AM	A46109
Styrene	ND	1.6	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
tert-Butylbenzene	ND	1.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	10/5/2017 2:32:25 AM	A46109
Tetrachloroethene (PCE)	1.8	1.3	10	J	µg/L	10	10/5/2017 2:32:25 AM	A46109
trans-1,2-DCE	ND	1.8	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,1,1-Trichloroethane	13	0.73	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Trichlorofluoromethane	ND	1.8	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	10/5/2017 2:32:25 AM	A46109
Vinyl chloride	ND	1.8	10		µg/L	10	10/5/2017 2:32:25 AM	A46109
Xylenes, Total	100	3.2	15		µg/L	10	10/5/2017 2:32:25 AM	A46109
Surr: 1,2-Dichloroethane-d4	94.9	0	70-130		%Rec	10	10/5/2017 2:32:25 AM	A46109
Surr: 4-Bromofluorobenzene	97.1	0	70-130		%Rec	10	10/5/2017 2:32:25 AM	A46109

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 9/28/2017 12:45:00 PM
Lab ID: 1709H12-007
Matrix: AQUEOUS
Received Date: 9/29/2017 12:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	102	0	70-130		%Rec	10	10/5/2017 2:32:25 AM	A46109
Surr: Toluene-d8	104	0	70-130		%Rec	10	10/5/2017 2:32:25 AM	A46109

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46277**	RunNo: **46277**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474508** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46277**	RunNo: **46277**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474510** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	0.52	1.0	0.5000	0	105	50	150			J
Potassium	0.52	1.0	0.5000	0	104	50	150			J
Silver	0.0047	0.0050	0.005000	0	94.4	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46277**	RunNo: **46277**
Prep Date:	Analysis Date: **10/11/2017**	SeqNo: **1474512** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	50	1.0	50.00	0	101	85	115			
Potassium	49	1.0	50.00	0	98.8	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475104** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475107** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	103	50	150			
Cadmium	0.0023	0.0020	0.002000	0	114	50	150			
Calcium	0.60	1.0	0.5000	0	120	50	150			J
Chromium	0.0065	0.0060	0.006000	0	108	50	150			
Copper	0.0069	0.0060	0.006000	0	115	50	150			
Iron	0.022	0.020	0.02000	0	111	50	150			
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Potassium	0.50	1.0	0.5000	0	101	50	150			J
Silver	0.0053	0.0050	0.005000	0	105	50	150			
Sodium	0.51	1.0	0.5000	0	103	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475110** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Calcium	50	1.0	50.00	0	100	85	115			
Chromium	0.49	0.0060	0.5000	0	97.7	85	115			
Copper	0.51	0.0060	0.5000	0	101	85	115			
Iron	0.49	0.020	0.5000	0	97.5	85	115			
Manganese	0.49	0.0020	0.5000	0	97.6	85	115			
Potassium	50	1.0	50.00	0	101	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	50	1.0	50.00	0	101	85	115			
Zinc	0.47	0.010	0.5000	0	94.8	85	115			

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475719** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0051	0.010	0.005000	0	102	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **MB-34343**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34343**	RunNo: **46277**
Prep Date: **10/10/2017**	Analysis Date: **10/11/2017**	SeqNo: **1474514** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-34343**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34343**	RunNo: **46277**
Prep Date: **10/10/2017**	Analysis Date: **10/11/2017**	SeqNo: **1474515** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	114	50	150			
Cadmium	0.0018	0.0020	0.002000	0	90.5	50	150			J
Chromium	0.0073	0.0060	0.006000	0	121	50	150			
Copper	0.0047	0.0060	0.006000	0	79.0	50	150			J
Iron	0.022	0.020	0.02000	0	110	50	150			
Manganese	0.0022	0.0020	0.002000	0	112	50	150			
Silver	0.0046	0.0050	0.005000	0	92.0	50	150			J
Zinc	0.0064	0.010	0.005000	0	127	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D46150**	RunNo: **46150**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468977** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	91.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.8	85	115			
Selenium	0.022	0.0010	0.02500	0	89.9	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D46150**	RunNo: **46150**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468980** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00083	0.0010	0.001000	0	82.8	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.7	50	150			J
Selenium	0.00079	0.0010	0.001000	0	79.4	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D46150**	RunNo: **46150**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468983** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **1709H12-004ELLMS**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-39**	Batch ID: **C46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470702** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.004189	92.5	70	130			
Lead	0.065	0.0025	0.06250	0	103	70	130			
Selenium	0.12	0.0050	0.1250	0.01278	82.4	70	130			

Sample ID **1709H12-004ELLMS**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-39**	Batch ID: **C46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470703** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.004189	93.0	70	130	0.531	20	
Lead	0.064	0.0025	0.06250	0	103	70	130	0.256	20	
Selenium	0.12	0.0050	0.1250	0.01278	82.7	70	130	0.363	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470730** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.2	85	115			
Lead	0.012	0.00050	0.01250	0	95.8	85	115			
Selenium	0.023	0.0010	0.02500	0	90.3	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470734** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00090	0.0010	0.001000	0	90.3	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.7	50	150			J
Selenium	0.00076	0.0010	0.001000	0	76.3	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C46196**	RunNo: **46196**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470738** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34343**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474010**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID	**MB-34343**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474011**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**MSLCS-34343**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474014**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	98.7	85	115			

Sample ID	**MSLCS-34343**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474015**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.8	85	115			
Selenium	0.023	0.0010	0.02500	0	93.7	85	115			

Sample ID	**MSLLLCS-34343**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474018**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	95.6	50	150			J

Sample ID	**MSLLLCS-34343**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34343**	RunNo:	**46279**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/11/2017**	SeqNo:	**1474019**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00091	0.0010	0.001000	0	90.7	50	150			J
Selenium	0.00085	0.0010	0.001000	0	85.0	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34375**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34375**	RunNo:	**46314**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/12/2017**	SeqNo:	**1475364**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34375**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34375**	RunNo:	**46314**					
Prep Date:	**10/12/2017**	Analysis Date:	**10/12/2017**	SeqNo:	**1475365**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	95.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46019**	RunNo: **46019**
Prep Date:	Analysis Date: **9/29/2017**	SeqNo: **1462938** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46019**	RunNo: **46019**
Prep Date:	Analysis Date: **9/29/2017**	SeqNo: **1462939** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			
Chloride	4.8	0.50	5.000	0	95.1	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.3	90	110			
Bromide	2.4	0.10	2.500	0	96.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.2	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.1	90	110			
Sulfate	9.7	0.50	10.00	0	97.5	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46325**	RunNo: **46325**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475610** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46325**	RunNo: **46325**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475611** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LCS-34173**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **34173**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1465752** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	117	92.3	135			
Surr: DNOP	0.61		0.5000		123	77.5	161			

Sample ID **MB-34173**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **34173**	RunNo: **46046**
Prep Date: **10/2/2017**	Analysis Date: **10/3/2017**	SeqNo: **1465753** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G46085**	RunNo: **46085**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466781** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	23		20.00		113	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G46085**	RunNo: **46085**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466782** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	75.8	123			
Surr: BFB	24		20.00		120	52.3	138			

Sample ID **1709H12-005AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-09**	Batch ID: **G46085**	RunNo: **46085**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466788** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	1.0	10.00	12.54	93.7	53.2	134			
Surr: BFB	510		400.0		128	52.3	138			

Sample ID **1709H12-005AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-09**	Batch ID: **G46085**	RunNo: **46085**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466789** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	1.0	10.00	12.54	100	53.2	134	2.84	20	
Surr: BFB	520		400.0		131	52.3	138	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46109**	RunNo: **46109**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466823** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46109**	RunNo: **46109**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466823** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.2	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.2		10.00		91.9	70	130			

Sample ID **100ng lcsc**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A46109**	RunNo: **46109**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466824** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	70	130			
Toluene	20	1.0	20.00	0	98.3	70	130			
Chlorobenzene	19	1.0	20.00	0	95.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **100ng lcsc**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A46109**	RunNo: **46109**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466824** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	25	1.0	20.00	0	125	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	108	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.8	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **lcs-34167**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470514** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	90	10	100.0	0	89.5	41.2	98.9			
4-Chloro-3-methylphenol	180	10	200.0	0	89.8	29.1	111			
2-Chlorophenol	180	10	200.0	0	88.9	23.3	108			
1,4-Dichlorobenzene	73	10	100.0	0	73.0	29.4	84.5			
2,4-Dinitrotoluene	84	10	100.0	0	83.8	36.6	88.7			
N-Nitrosodi-n-propylamine	94	10	100.0	0	94.0	46.9	106			
4-Nitrophenol	110	10	200.0	0	53.0	15	74.7			
Pentachlorophenol	170	20	200.0	0	86.8	28.1	85.4			S
Phenol	110	10	200.0	0	56.7	15	78.2			
Pyrene	90	10	100.0	0	89.8	44.4	96.8			
1,2,4-Trichlorobenzene	87	10	100.0	0	87.3	34.3	89			
Surr: 2-Fluorophenol	130		200.0		63.1	15	88			
Surr: Phenol-d5	110		200.0		55.7	15	72.4			
Surr: 2,4,6-Tribromophenol	210		200.0		105	15	117			
Surr: Nitrobenzene-d5	90		100.0		89.9	33.5	120			
Surr: 2-Fluorobiphenyl	78		100.0		77.9	26.5	109			
Surr: 4-Terphenyl-d14	73		100.0		72.7	21.7	98.7			

Sample ID **lcsd-34167**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470515** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	83	10	100.0	0	83.2	41.2	98.9	7.27	37.4	
4-Chloro-3-methylphenol	180	10	200.0	0	91.7	29.1	111	2.17	26.8	
2-Chlorophenol	170	10	200.0	0	86.8	23.3	108	2.41	30.3	
1,4-Dichlorobenzene	71	10	100.0	0	71.4	29.4	84.5	2.13	32	
2,4-Dinitrotoluene	73	10	100.0	0	72.7	36.6	88.7	14.2	36.7	
N-Nitrosodi-n-propylamine	91	10	100.0	0	91.2	46.9	106	3.05	29.9	
4-Nitrophenol	120	10	200.0	0	59.3	15	74.7	11.1	28.8	
Pentachlorophenol	160	20	200.0	0	81.6	28.1	85.4	6.17	38.2	
Phenol	130	10	200.0	0	64.1	15	78.2	12.3	39.8	
Pyrene	78	10	100.0	0	77.8	44.4	96.8	14.3	28.3	
1,2,4-Trichlorobenzene	84	10	100.0	0	84.2	34.3	89	3.64	39.8	
Surr: 2-Fluorophenol	130		200.0		66.8	15	88	0	0	
Surr: Phenol-d5	130		200.0		62.9	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	190		200.0		96.8	15	117	0	0	
Surr: Nitrobenzene-d5	84		100.0		84.0	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	74		100.0		74.3	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID	**lcsd-34167**	SampType:	**LCSD**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSS02**	Batch ID:	**34167**		RunNo:	**46175**				
Prep Date:	**10/2/2017**	Analysis Date:	**10/6/2017**		SeqNo:	**1470515**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	57		100.0		56.6	21.7	98.7	0	0	

Sample ID	**mb-34167**	SampType:	**MBLK**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**PBW**	Batch ID:	**34167**		RunNo:	**46175**				
Prep Date:	**10/2/2017**	Analysis Date:	**10/6/2017**		SeqNo:	**1470516**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.4	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	130	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709H12**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **mb-34167**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34167**	RunNo: **46175**
Prep Date: **10/2/2017**	Analysis Date: **10/6/2017**	SeqNo: **1470516** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	91		200.0		45.7	15	88			
Surr: Phenol-d5	72		200.0		35.9	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		71.4	15	117			
Surr: Nitrobenzene-d5	63		100.0		62.7	33.5	120			
Surr: 2-Fluorobiphenyl	54		100.0		53.6	26.5	109			
Surr: 4-Terphenyl-d14	50		100.0		49.7	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709H12** RcptNo: **1**

Received By: **Isaiah Ortiz** **9/29/2017 12:50:00 PM** IO

Completed By: **Ashley Gallegos** **9/29/2017 1:05:26 PM** AG

Reviewed By: 9/29/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 15
(<2 or >12 unless noted)
Adjusted? Yes
Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks: Added 1mL HNO_3 to -006F. Added 0.5 mL HNO_3 to -005E

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

2017 3rd QTR - MKTF

PO #20837992-CO#1

Project Manager:

C. JOHNSON (cheryl.a.johnson@andeavor.com)

Sampler: C. JOHNSON

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709H12	8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1									Air Bubbles (Y or N)
9/28/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X															
9/28/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X															
9/28/2017	1105	AQUEOUS	MKTF-38	MISC	MISC	-003	X	X	X	X	X	X										
9/28/2017	1145	AQUEOUS	MKTF-39	MISC	MISC	-004	X	X	X	X	X	X										
9/28/2017	1230	AQUEOUS	MKTF-09	MISC	MISC	-005	X	X	X	X	X	X										
9/28/2017	1409	AQUEOUS	MKTF-10	MISC	MISC	-006	X	X	X	X	X	X										
9/28/2017	1245	AQUEOUS	DUPLICATE	MISC	MISC	-007	X	X	X	X	X	X										

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/29/17	0800				
Date:	Time:	Relinquished by:	Received by:	09/29/17	1250

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS MINUS URANIUM, INCLUDES MERCURY

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Courier

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 06, 2017

Cheryl Johnson

Western Refining Company
Rt. 3 Box 7
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 SEMI ANNUAL PONDS OrderNo.: 1710D08

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 10 sample(s) on 10/25/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: **1710D08**
Date: **11/6/2017**

CLIENT: Western Refining Company
Project: 2017 SEMI ANNUAL PONDS

Analytical Comments Regarding BOD:
The method blank(s) had a DO depletion >0.2mg/L.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-3
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 4:50:00 PM
Lab ID: 1710D08-001
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	300	2.0	2.0		mg/L	1	10/31/2017 12:50:00 PM	34658
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-4
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 4:40:00 PM
Lab ID: 1710D08-002 **Matrix:** AQUEOUS **Received Date:** 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	280	2.0	2.0		mg/L	1	10/31/2017 12:50:00 PM	34658
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-5
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 4:30:00 PM
Lab ID: 1710D08-003
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	>37.47	2.0	2.0		mg/L	1	10/31/2017 12:50:00 PM	34658
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	52	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-6
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 4:20:00 PM
Lab ID: 1710D08-004 **Matrix:** AQUEOUS **Received Date:** 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	100	2.0	2.0		mg/L	1	10/31/2017 12:50:00 PM	34658
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	63	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-7
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 3:52:00 PM
Lab ID: 1710D08-005 **Matrix:** AQUEOUS **Received Date:** 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	10	2.0	2.0		mg/L	1	10/30/2017 3:45:00 PM	34642
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	<10	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-8
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 4:06:00 PM
Lab ID: 1710D08-006 **Matrix:** AQUEOUS **Received Date:** 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	23	2.0	2.0		mg/L	1	10/31/2017 12:50:00 PM	34658
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	<10	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-9
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 4:11:00 PM
Lab ID: 1710D08-007
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	20	2.0	2.0		mg/L	1	10/31/2017 12:50:00 PM	34658
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	<10	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-11
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 3:47:00 PM
Lab ID: 1710D08-008
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	24	2.0	2.0		mg/L	1	10/30/2017 3:45:00 PM	34642
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	<10	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-12A
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 3:40:00 PM
Lab ID: 1710D08-009
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	270	2.0	2.0		mg/L	1	10/30/2017 3:45:00 PM	34642
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	10	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Company
Client Sample ID: EP-12B
Project: 2017 SEMI ANNUAL PONDS
Collection Date: 10/24/2017 3:30:00 PM
Lab ID: 1710D08-010
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	370	2.0	2.0		mg/L	1	10/30/2017 3:45:00 PM	34642
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	10/26/2017 3:20:00 PM	34629

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	804		10.0	1	10/29/2017 09:36	WG1036505

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	993		10.0	1	10/29/2017 09:38	WG1036505

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	817		50.0	5	10/30/2017 23:15	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	641		50.0	5	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	2710		200	20	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	2060		200	20	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	5030		400	40	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	6100		400	40	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1120		50.0	5	10/30/2017 23:17	WG1036780

Wet Chemistry by Method 410.4

	Result	Qualifier	RDL	Dilution	Analysis	Batch
Analyte	mg/l		mg/l		date / time	
COD	784		50.0	5	10/30/2017 23:17	WG1036780

Method Blank (MB)

(MB) R3261352-1 10/29/17 09:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L946408-01 Original Sample (OS) • Duplicate (DUP)

(OS) L946408-01 10/29/17 09:29 • (DUP) R3261352-4 10/29/17 09:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	70.0	75.5	1	8		20

L946516-02 Original Sample (OS) • Duplicate (DUP)

(OS) L946516-02 10/29/17 09:38 • (DUP) R3261352-7 10/29/17 09:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	993	971	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3261352-2 10/29/17 09:28 • (LCSD) R3261352-3 10/29/17 09:28

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	242	239	100	99	90-110			2	20

L946447-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946447-01 10/29/17 09:33 • (MS) R3261352-5 10/29/17 09:33 • (MSD) R3261352-6 10/29/17 09:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	209	623	622	103	103	1	80-120			0	20

Method Blank (MB)

(MB) R3261670-1 10/30/17 23:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
COD	U		3	10.0

L946579-01 Original Sample (OS) • Duplicate (DUP)

(OS) L946579-01 10/30/17 23:17 • (DUP) R3261670-4 10/30/17 23:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	367	385	2	5		20

L946579-07 Original Sample (OS) • Duplicate (DUP)

(OS) L946579-07 10/30/17 23:19 • (DUP) R3261670-7 10/30/17 23:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	136	132	2	3		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3261670-2 10/30/17 23:15 • (LCSD) R3261670-3 10/30/17 23:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
COD	242	236	236	98	98	90-110			0	20

L946579-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946579-03 10/30/17 23:17 • (MS) R3261670-5 10/30/17 23:18 • (MSD) R3261670-6 10/30/17 23:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	400	522	1400	1390	109	108	2	80-120			1	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D08**

06-Nov-17

Client: Western Refining Company

Project: 2017 SEMI ANNUAL PONDS

Sample ID	**MB-34642**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**34642**	RunNo:	**46760**					
Prep Date:	**10/25/2017**	Analysis Date:	**10/30/2017**	SeqNo:	**1490400**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	**MB--34642**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**34642**	RunNo:	**46760**					
Prep Date:	**10/25/2017**	Analysis Date:	**10/30/2017**	SeqNo:	**1490401**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	**LCS-34642**	SampType:	**LCS**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSW**	Batch ID:	**34642**	RunNo:	**46760**					
Prep Date:	**10/25/2017**	Analysis Date:	**10/30/2017**	SeqNo:	**1490402**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	170	2.0	198.0	0	83.9	60.3	136			

Sample ID	**LCSD-34642**	SampType:	**LCSD**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSS02**	Batch ID:	**34642**	RunNo:	**46760**					
Prep Date:	**10/25/2017**	Analysis Date:	**10/30/2017**	SeqNo:	**1490403**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	160	2.0	198.0	0	80.8	60.3	136	3.68	39.3	

Sample ID	**1710D08-005BDUP**	SampType:	**DUP**	TestCode:	**SM5210B: BOD**					
Client ID:	**EP-7**	Batch ID:	**34642**	RunNo:	**46760**					
Prep Date:	**10/25/2017**	Analysis Date:	**10/30/2017**	SeqNo:	**1490405**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	15	2.0						40.0	20	R

Sample ID	**MB-34658**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**34658**	RunNo:	**46776**					
Prep Date:	**10/26/2017**	Analysis Date:	**10/31/2017**	SeqNo:	**1491294**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D08**

06-Nov-17

Client: Western Refining Company

Project: 2017 SEMI ANNUAL PONDS

Sample ID **MB--34658**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **34658**	RunNo: **46776**							
Prep Date: **10/26/2017**	Analysis Date: **10/31/2017**	SeqNo: **1491295**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID **LCS-34658**	SampType: **LCS**	TestCode: **SM5210B: BOD**							
Client ID: **LCSW**	Batch ID: **34658**	RunNo: **46776**							
Prep Date: **10/26/2017**	Analysis Date: **10/31/2017**	SeqNo: **1491296**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	210	2.0	198.0	0	105	60.3	136			

Sample ID **LCSD-34658**	SampType: **LCSD**	TestCode: **SM5210B: BOD**							
Client ID: **LCSS02**	Batch ID: **34658**	RunNo: **46776**							
Prep Date: **10/26/2017**	Analysis Date: **10/31/2017**	SeqNo: **1491297**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	190	2.0	198.0	0	97.6	60.3	136	6.99	39.3	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D08**

06-Nov-17

Client: Western Refining Company

Project: 2017 SEMI ANNUAL PONDS

Sample ID	**MB-34629**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**
Client ID:	**PBW**	Batch ID:	**34629**	RunNo:	**46681**
Prep Date:	**10/25/2017**	Analysis Date:	**10/26/2017**	SeqNo:	**1487241** Units: **MPN/100mL**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1710D08 RcptNo: 1

Received By: **Andy Freeman** 10/25/2017 9:40:00 AM

Completed By: **Erin Melendrez** 10/25/2017 9:45:58 AM

Reviewed By: DDS 10/25/17 @ 1055

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 10
(<2 or >12 unless noted)
Adjusted? No
Checked by: RE

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

Gallup Refinery

Mailing Address:

92 GIANT CROSSING RD, GALLUP, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2017 SEMI-ANNUAL - PONDS

Project #: **PO # 20838020**

EP-3 THRU 12B

Project Manager:

cheryl.a.johnson@andeavor.com)

Sampler: C. JOHNSON

On Ice: X Yes ☐ No

Sample Temperature: 5.4+0.4(CF)= 5.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1710D08	Analysis Request: BOD	COD	E-COLI	Air Bubbles (Y or N)
10/24/2017	1650	Aqueous	EP-3	MISC	MISC	-001	X	X	X	
10/24/2017	1640	Aqueous	EP-4	MISC	MISC	-002	X	X	X	
10/24/2017	1630	Aqueous	EP-5	MISC	MISC	-003	X	X	X	
10/24/2017	1620	Aqueous	EP-6	MISC	MISC	-004	X	X	X	
10/24/2017	1552	Aqueous	EP-7	MISC	MISC	-005	X	X	X	
10/24/2017	1606	Aqueous	EP-8	MISC	MISC	-006	X	X	X	
10/24/2017	1611	Aqueous	EP-9	MISC	MISC	-007	X	X	X	
10/24/2017	1547	Aqueous	EP-11	MISC	MISC	-008	X	X	X	
10/24/2017	1540	Aqueous	EP-12A	MISC	MISC	-009	X	X	X	
10/24/2017	1530	Aqueous	EP-12B	MISC	MISC	-010	X	X	X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/25/17	0940			10/25/17	0940
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 04, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2016 Semi Annual Ponds OrderNo.: 1710D21

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 10/25/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2016 Semi Annual Ponds
Collection Date:
Lab ID: 1710D21-001
Matrix: TRIP BLANK
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Toluene	ND	0.064	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Naphthalene	ND	0.11	2.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Acetone	2.0	0.82	10	J	µg/L	1	10/27/2017 5:28:00 PM	R46694
Bromobenzene	ND	0.14	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Bromoform	ND	0.21	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Bromomethane	ND	0.26	3.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
2-Butanone	ND	1.1	10		µg/L	1	10/27/2017 5:28:00 PM	R46694
Carbon disulfide	ND	0.40	10		µg/L	1	10/27/2017 5:28:00 PM	R46694
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Chloroethane	ND	0.23	2.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Chloroform	ND	0.40	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Chloromethane	ND	0.29	3.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Dibromomethane	ND	0.091	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/27/2017 5:28:00 PM	R46694

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2016 Semi Annual Ponds
Collection Date:
Lab ID: 1710D21-001
Matrix: TRIP BLANK
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
2-Hexanone	ND	0.66	10		µg/L	1	10/27/2017 5:28:00 PM	R46694
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/27/2017 5:28:00 PM	R46694
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Styrene	ND	0.16	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/27/2017 5:28:00 PM	R46694
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/27/2017 5:28:00 PM	R46694
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	10/27/2017 5:28:00 PM	R46694
Surr: 4-Bromofluorobenzene	99.8	0	70-130		%Rec	1	10/27/2017 5:28:00 PM	R46694
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/27/2017 5:28:00 PM	R46694
Surr: Toluene-d8	99.5	0	70-130		%Rec	1	10/27/2017 5:28:00 PM	R46694

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 7:00:00 AM
Lab ID: 1710D21-002 **Matrix:** AQUEOUS **Received Date:** 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.19	0.062	1.0	J	µg/L	1	10/27/2017 5:52:00 PM	R46694
Toluene	0.53	0.064	1.0	J	µg/L	1	10/27/2017 5:52:00 PM	R46694
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Naphthalene	ND	0.11	2.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Acetone	4.6	0.82	10	J	µg/L	1	10/27/2017 5:52:00 PM	R46694
Bromobenzene	ND	0.14	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Bromoform	ND	0.21	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Bromomethane	ND	0.26	3.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
2-Butanone	ND	1.1	10		µg/L	1	10/27/2017 5:52:00 PM	R46694
Carbon disulfide	ND	0.40	10		µg/L	1	10/27/2017 5:52:00 PM	R46694
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Chloroethane	ND	0.23	2.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Chloroform	ND	0.40	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Chloromethane	ND	0.29	3.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Dibromomethane	ND	0.091	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/27/2017 5:52:00 PM	R46694

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 7:00:00 AM
Lab ID: 1710D21-002
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
2-Hexanone	ND	0.66	10		µg/L	1	10/27/2017 5:52:00 PM	R46694
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/27/2017 5:52:00 PM	R46694
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Styrene	ND	0.16	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/27/2017 5:52:00 PM	R46694
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/27/2017 5:52:00 PM	R46694
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/27/2017 5:52:00 PM	R46694
Surr: 4-Bromofluorobenzene	98.5	0	70-130		%Rec	1	10/27/2017 5:52:00 PM	R46694
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/27/2017 5:52:00 PM	R46694
Surr: Toluene-d8	97.4	0	70-130		%Rec	1	10/27/2017 5:52:00 PM	R46694

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 3:10:00 PM
Lab ID: 1710D21-003
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	36	0.44	1.0	*	mg/L	10	10/26/2017 1:41:44 PM	R46695
Chloride	3900	120	250		mg/L	500	11/7/2017 6:09:09 PM	R46976
Nitrogen, Nitrite (As N)	ND	0.69	10		mg/L	100	10/26/2017 1:54:08 PM	R46695
Bromide	1.2	0.15	1.0		mg/L	10	10/26/2017 1:41:44 PM	R46695
Nitrogen, Nitrate (As N)	ND	0.22	1.0		mg/L	10	10/26/2017 1:41:44 PM	R46695
Phosphorus, Orthophosphate (As P)	ND	2.5	5.0		mg/L	10	10/26/2017 1:41:44 PM	R46695
Sulfate	1100	9.6	50		mg/L	100	10/26/2017 1:54:08 PM	R46695
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.16	0.00099	0.0020		mg/L	1	11/7/2017 7:06:02 PM	A46958
Cadmium	ND	0.0010	0.0020		mg/L	1	11/6/2017 7:10:10 PM	B46923
Calcium	250	0.78	10		mg/L	10	11/6/2017 3:23:02 PM	B46923
Chromium	0.0054	0.0013	0.0060	J	mg/L	1	11/7/2017 7:06:02 PM	A46958
Copper	ND	0.0032	0.0060		mg/L	1	11/6/2017 7:10:10 PM	B46923
Iron	0.64	0.016	0.020	*	mg/L	1	11/7/2017 7:06:02 PM	A46958
Magnesium	90	0.25	1.0		mg/L	1	11/6/2017 7:10:10 PM	B46923
Manganese	0.31	0.00039	0.0020	*	mg/L	1	11/7/2017 7:06:02 PM	A46958
Potassium	400	1.1	10		mg/L	10	11/6/2017 3:23:02 PM	B46923
Silver	ND	0.0018	0.0050		mg/L	1	11/7/2017 7:06:02 PM	A46958
Sodium	2600	8.2	50		mg/L	50	11/6/2017 4:14:01 PM	B46923
Zinc	0.031	0.0021	0.010		mg/L	1	11/7/2017 7:06:02 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.17	0.0010	0.0020		mg/L	1	11/7/2017 4:06:40 PM	34838
Cadmium	ND	0.00058	0.0020		mg/L	1	11/7/2017 4:06:40 PM	34838
Chromium	0.0050	0.0018	0.0060	J	mg/L	1	11/7/2017 4:06:40 PM	34838
Copper	ND	0.0041	0.0060		mg/L	1	11/7/2017 4:06:40 PM	34838
Iron	0.89	0.010	0.020	*	mg/L	1	11/7/2017 4:06:40 PM	34838
Manganese	0.32	0.0011	0.0020	*	mg/L	1	11/7/2017 4:06:40 PM	34838
Silver	ND	0.0012	0.0050		mg/L	1	11/7/2017 4:06:40 PM	34838
Zinc	0.016	0.0033	0.010		mg/L	1	11/7/2017 4:06:40 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0093	0.0014	0.0050		mg/L	5	11/2/2017 7:22:14 PM	A46846
Lead	ND	0.00087	0.0025		mg/L	5	11/2/2017 7:22:14 PM	B46846
Selenium	0.014	0.0038	0.0050		mg/L	5	11/2/2017 7:22:14 PM	B46846
Uranium	ND	0.00048	0.0025		mg/L	5	11/2/2017 7:22:14 PM	B46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.012	0.0021	0.0050	*	mg/L	5	11/10/2017 11:43:54 PM	34838
Lead	ND	0.0011	0.0025		mg/L	5	11/10/2017 11:43:54 PM	34838

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 3:10:00 PM
Lab ID: 1710D21-003
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Selenium	0.010	0.0049	0.0050		mg/L	5	11/10/2017 11:43:54 PM	34838
Uranium	ND	0.00077	0.0025		mg/L	5	11/10/2017 11:43:54 PM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:28:43 AM	34861
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	410	2.0	2.0		mg/L	1	10/30/2017 3:45:00 PM	34642
SM 9223B FECAL INDICATOR: E. COLI MPN							Analyst: **SMS**	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	10/26/2017 6:00:00 PM	34640
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Benzoic acid	44	20	100	J	µg/L	1	11/1/2017 10:39:53 AM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Bis(2-ethylhexyl)phthalate	ND	24	50		µg/L	1	11/1/2017 10:39:53 AM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 10:39:53 AM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 10:39:53 AM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 3:10:00 PM
Lab ID: 1710D21-003
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 10:39:53 AM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 10:39:53 AM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 10:39:53 AM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 10:39:53 AM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 10:39:53 AM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 10:39:53 AM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 10:39:53 AM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 10:39:53 AM	34645
3+4-Methylphenol	31	16	50	J	µg/L	1	11/1/2017 10:39:53 AM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 10:39:53 AM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 10:39:53 AM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 10:39:53 AM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 10:39:53 AM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Pyrene	ND	22	50		µg/L	1	11/1/2017 10:39:53 AM	34645

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 3:10:00 PM
Lab ID: 1710D21-003
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	11	50		µg/L	1	11/1/2017 10:39:53 AM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 10:39:53 AM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 10:39:53 AM	34645
Surr: 2-Fluorophenol	51.9	0	15-88		%Rec	1	11/1/2017 10:39:53 AM	34645
Surr: Phenol-d5	46.8	0	15-72.4		%Rec	1	11/1/2017 10:39:53 AM	34645
Surr: 2,4,6-Tribromophenol	92.6	0	15-117		%Rec	1	11/1/2017 10:39:53 AM	34645
Surr: Nitrobenzene-d5	82.8	0	33.5-120		%Rec	1	11/1/2017 10:39:53 AM	34645
Surr: 2-Fluorobiphenyl	63.1	0	26.5-109		%Rec	1	11/1/2017 10:39:53 AM	34645
Surr: 4-Terphenyl-d14	60.9	0	21.7-98.7		%Rec	1	11/1/2017 10:39:53 AM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Acetone	82	8.2	50	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Carbon disulfide	13	4.0	50	JD	µg/L	10	10/27/2017 6:15:00 PM	R46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 6:15:00 PM	R46694

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 3:10:00 PM
Lab ID: 1710D21-003
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 6:15:00 PM	R46694
Surr: 1,2-Dichloroethane-d4	101	0	70-130	D	%Rec	10	10/27/2017 6:15:00 PM	R46694
Surr: 4-Bromofluorobenzene	98.0	0	70-130	D	%Rec	10	10/27/2017 6:15:00 PM	R46694

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-2
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 3:10:00 PM
Lab ID: 1710D21-003
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	103	0	70-130	D	%Rec	10	10/27/2017 6:15:00 PM	R46694
Surr: Toluene-d8	99.7	0	70-130	D	%Rec	10	10/27/2017 6:15:00 PM	R46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	17000	25	25		µmhos/c	5	10/26/2017 7:14:56 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.33			H	pH units	1	10/26/2017 12:01:46 PM	R46730

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 2:00:00 PM
Lab ID: 1710D21-004
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	31	0.44	1.0	*	mg/L	10	10/26/2017 2:06:33 PM	R46695
Chloride	4800	120	250		mg/L	500	11/7/2017 6:46:23 PM	R46976
Bromide	1.5	0.15	1.0		mg/L	10	10/26/2017 2:06:33 PM	R46695
Phosphorus, Orthophosphate (As P)	ND	2.5	5.0	H	mg/L	10	10/26/2017 2:06:33 PM	R46695
Sulfate	1100	9.6	50		mg/L	100	10/26/2017 2:18:57 PM	R46695
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	11/7/2017 9:15:19 PM	R46976
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.16	0.00099	0.0020		mg/L	1	11/7/2017 7:07:51 PM	A46958
Cadmium	ND	0.0010	0.0020		mg/L	1	11/6/2017 7:11:58 PM	B46923
Calcium	240	0.78	10		mg/L	10	11/6/2017 3:24:59 PM	B46923
Chromium	0.0053	0.0013	0.0060	J	mg/L	1	11/7/2017 7:07:51 PM	A46958
Copper	ND	0.0032	0.0060		mg/L	1	11/6/2017 7:11:58 PM	B46923
Iron	0.64	0.016	0.020	*	mg/L	1	11/7/2017 7:07:51 PM	A46958
Magnesium	100	2.5	10		mg/L	10	11/6/2017 3:24:59 PM	B46923
Manganese	0.31	0.00039	0.0020	*	mg/L	1	11/7/2017 7:07:51 PM	A46958
Potassium	430	1.1	10		mg/L	10	11/6/2017 3:24:59 PM	B46923
Silver	ND	0.0018	0.0050		mg/L	1	11/7/2017 7:07:51 PM	A46958
Sodium	3000	8.2	50		mg/L	50	11/6/2017 4:15:45 PM	B46923
Zinc	0.024	0.0021	0.010		mg/L	1	11/7/2017 7:07:51 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.17	0.0010	0.0020		mg/L	1	11/7/2017 4:13:54 PM	34838
Cadmium	ND	0.00058	0.0020		mg/L	1	11/7/2017 4:13:54 PM	34838
Chromium	0.0057	0.0018	0.0060	J	mg/L	1	11/7/2017 4:13:54 PM	34838
Copper	ND	0.0041	0.0060		mg/L	1	11/7/2017 4:13:54 PM	34838
Iron	0.98	0.010	0.020	*	mg/L	1	11/7/2017 4:13:54 PM	34838
Manganese	0.31	0.0011	0.0020	*	mg/L	1	11/7/2017 4:13:54 PM	34838
Silver	ND	0.0012	0.0050		mg/L	1	11/7/2017 4:13:54 PM	34838
Zinc	0.017	0.0033	0.010		mg/L	1	11/7/2017 4:13:54 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.011	0.0014	0.0050	*	mg/L	5	11/2/2017 8:01:37 PM	B46846
Lead	ND	0.00087	0.0025		mg/L	5	11/2/2017 8:01:37 PM	C46846
Selenium	0.011	0.0038	0.0050		mg/L	5	11/2/2017 8:01:37 PM	C46846
Uranium	ND	0.00048	0.0025		mg/L	5	11/2/2017 8:01:37 PM	C46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.012	0.0021	0.0050	*	mg/L	5	11/10/2017 11:57:01 PM	34838
Lead	ND	0.0011	0.0025		mg/L	5	11/10/2017 11:57:01 PM	34838
Selenium	0.010	0.0049	0.0050		mg/L	5	11/10/2017 11:57:01 PM	34838

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 2:00:00 PM
Lab ID: 1710D21-004
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Uranium	ND	0.00077	0.0025		mg/L	5	11/10/2017 11:57:01 PM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:30:41 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Benzoic acid	37	20	100	J	µg/L	1	11/1/2017 11:07:40 AM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Bis(2-ethylhexyl)phthalate	47	24	50	J	µg/L	1	11/1/2017 11:07:40 AM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 11:07:40 AM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 11:07:40 AM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 11:07:40 AM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 11:07:40 AM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 11:07:40 AM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 2:00:00 PM
Lab ID: 1710D21-004 **Matrix:** AQUEOUS **Received Date:** 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 11:07:40 AM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 11:07:40 AM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 11:07:40 AM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 11:07:40 AM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 11:07:40 AM	34645
3+4-Methylphenol	ND	16	50		µg/L	1	11/1/2017 11:07:40 AM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 11:07:40 AM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 11:07:40 AM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 11:07:40 AM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 11:07:40 AM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Pyrene	ND	22	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Pyridine	ND	11	50		µg/L	1	11/1/2017 11:07:40 AM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 11:07:40 AM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 11:07:40 AM	34645
Surr: 2-Fluorophenol	36.4	0	15-88		%Rec	1	11/1/2017 11:07:40 AM	34645
Surr: Phenol-d5	34.2	0	15-72.4		%Rec	1	11/1/2017 11:07:40 AM	34645

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 2:00:00 PM
Lab ID: 1710D21-004
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	60.9	0	15-117		%Rec	1	11/1/2017 11:07:40 AM	34645
Surr: Nitrobenzene-d5	56.4	0	33.5-120		%Rec	1	11/1/2017 11:07:40 AM	34645
Surr: 2-Fluorobiphenyl	41.6	0	26.5-109		%Rec	1	11/1/2017 11:07:40 AM	34645
Surr: 4-Terphenyl-d14	39.5	0	21.7-98.7		%Rec	1	11/1/2017 11:07:40 AM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Acetone	91	8.2	50	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Carbon disulfide	14	4.0	50	JD	µg/L	10	10/27/2017 6:39:00 PM	R46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 2:00:00 PM
Lab ID: 1710D21-004
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 6:39:00 PM	R46694
Surr: 1,2-Dichloroethane-d4	102	0	70-130	D	%Rec	10	10/27/2017 6:39:00 PM	R46694
Surr: 4-Bromofluorobenzene	98.7	0	70-130	D	%Rec	10	10/27/2017 6:39:00 PM	R46694
Surr: Dibromofluoromethane	104	0	70-130	D	%Rec	10	10/27/2017 6:39:00 PM	R46694
Surr: Toluene-d8	98.9	0	70-130	D	%Rec	10	10/27/2017 6:39:00 PM	R46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	19000	25	25		µmhos/c	5	10/26/2017 7:23:18 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-3
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 2:00:00 PM
Lab ID: 1710D21-004
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.77			H	pH units	1	10/26/2017 12:10:42 PM	R46730

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:40:00 PM
Lab ID: 1710D21-005
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	31	0.44	1.0	*	mg/L	10	10/26/2017 2:56:12 PM	R46695
Chloride	4900	120	250		mg/L	500	11/7/2017 6:58:48 PM	R46976
Bromide	1.5	0.15	1.0		mg/L	10	10/26/2017 2:56:12 PM	R46695
Phosphorus, Orthophosphate (As P)	ND	2.5	5.0	H	mg/L	10	10/26/2017 2:56:12 PM	R46695
Sulfate	1100	9.6	50		mg/L	100	10/26/2017 3:08:36 PM	R46695
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	11/7/2017 9:27:44 PM	R46976
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.16	0.00099	0.0020		mg/L	1	11/7/2017 7:09:40 PM	A46958
Cadmium	ND	0.0010	0.0020		mg/L	1	11/7/2017 7:09:40 PM	A46958
Calcium	240	0.78	10		mg/L	10	11/6/2017 3:26:56 PM	B46923
Chromium	0.0060	0.0013	0.0060		mg/L	1	11/7/2017 7:09:40 PM	A46958
Copper	ND	0.0032	0.0060		mg/L	1	11/7/2017 7:09:40 PM	A46958
Iron	0.65	0.016	0.020	*	mg/L	1	11/7/2017 7:09:40 PM	A46958
Magnesium	100	2.5	10		mg/L	10	11/6/2017 3:26:56 PM	B46923
Manganese	0.30	0.00039	0.0020	*	mg/L	1	11/7/2017 7:09:40 PM	A46958
Potassium	430	1.1	10		mg/L	10	11/6/2017 3:26:56 PM	B46923
Silver	ND	0.0018	0.0050		mg/L	1	11/7/2017 7:09:40 PM	A46958
Sodium	3000	8.2	50		mg/L	50	11/6/2017 4:17:29 PM	B46923
Zinc	0.035	0.0021	0.010		mg/L	1	11/7/2017 7:09:40 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.17	0.0010	0.0020		mg/L	1	11/7/2017 4:15:42 PM	34838
Cadmium	ND	0.00058	0.0020		mg/L	1	11/7/2017 4:15:42 PM	34838
Chromium	0.0055	0.0018	0.0060	J	mg/L	1	11/7/2017 4:15:42 PM	34838
Copper	ND	0.0041	0.0060		mg/L	1	11/7/2017 4:15:42 PM	34838
Iron	0.96	0.010	0.020	*	mg/L	1	11/7/2017 4:15:42 PM	34838
Manganese	0.30	0.0011	0.0020	*	mg/L	1	11/7/2017 4:15:42 PM	34838
Silver	ND	0.0012	0.0050		mg/L	1	11/7/2017 4:15:42 PM	34838
Zinc	0.015	0.0033	0.010		mg/L	1	11/7/2017 4:15:42 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.013	0.0014	0.0050	*	mg/L	5	11/2/2017 8:21:12 PM	B46846
Lead	ND	0.00087	0.0025		mg/L	5	11/2/2017 8:21:12 PM	C46846
Selenium	0.013	0.0038	0.0050		mg/L	5	11/2/2017 8:21:12 PM	C46846
Uranium	0.00050	0.00048	0.0025	J	mg/L	5	11/2/2017 8:21:12 PM	C46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.011	0.0021	0.0050	*	mg/L	5	11/11/2017 12:10:08 AM	34838
Lead	ND	0.0011	0.0025		mg/L	5	11/11/2017 12:10:08 AM	34838
Selenium	0.010	0.0098	0.010		mg/L	10	11/11/2017 12:16:43 AM	34838

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:40:00 PM
Lab ID: 1710D21-005
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Uranium	ND	0.00077	0.0025		mg/L	5	11/11/2017 12:10:08 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:32:39 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Benzoic acid	39	20	100	J	µg/L	1	11/1/2017 11:35:29 AM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Bis(2-ethylhexyl)phthalate	ND	24	50		µg/L	1	11/1/2017 11:35:29 AM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 11:35:29 AM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 11:35:29 AM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 11:35:29 AM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 11:35:29 AM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 11:35:29 AM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:40:00 PM
Lab ID: 1710D21-005
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 11:35:29 AM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 11:35:29 AM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 11:35:29 AM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 11:35:29 AM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 11:35:29 AM	34645
3+4-Methylphenol	26	16	50	J	µg/L	1	11/1/2017 11:35:29 AM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 11:35:29 AM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 11:35:29 AM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 11:35:29 AM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 11:35:29 AM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Pyrene	ND	22	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Pyridine	ND	11	50		µg/L	1	11/1/2017 11:35:29 AM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 11:35:29 AM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 11:35:29 AM	34645
Surr: 2-Fluorophenol	62.3	0	15-88		%Rec	1	11/1/2017 11:35:29 AM	34645
Surr: Phenol-d5	53.2	0	15-72.4		%Rec	1	11/1/2017 11:35:29 AM	34645

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:40:00 PM
Lab ID: 1710D21-005
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	98.0	0	15-117		%Rec	1	11/1/2017 11:35:29 AM	34645
Surr: Nitrobenzene-d5	85.3	0	33.5-120		%Rec	1	11/1/2017 11:35:29 AM	34645
Surr: 2-Fluorobiphenyl	64.0	0	26.5-109		%Rec	1	11/1/2017 11:35:29 AM	34645
Surr: 4-Terphenyl-d14	61.3	0	21.7-98.7		%Rec	1	11/1/2017 11:35:29 AM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Acetone	94	8.2	50	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Carbon disulfide	13	4.0	50	JD	µg/L	10	10/27/2017 7:03:00 PM	R46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:40:00 PM
Lab ID: 1710D21-005
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 7:03:00 PM	R46694
Surr: 1,2-Dichloroethane-d4	101	0	70-130	D	%Rec	10	10/27/2017 7:03:00 PM	R46694
Surr: 4-Bromofluorobenzene	99.6	0	70-130	D	%Rec	10	10/27/2017 7:03:00 PM	R46694
Surr: Dibromofluoromethane	104	0	70-130	D	%Rec	10	10/27/2017 7:03:00 PM	R46694
Surr: Toluene-d8	98.9	0	70-130	D	%Rec	10	10/27/2017 7:03:00 PM	R46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	18000	25	25		µmhos/c	5	10/26/2017 7:27:32 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-4
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:40:00 PM
Lab ID: 1710D21-005
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.87			H	pH units	1	10/26/2017 12:15:09 PM	R46730

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:20:00 PM
Lab ID: 1710D21-006
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	30	4.4	10	*	mg/L	100	10/26/2017 1:29:19 PM	R46695
Chloride	10000	250	500		mg/L	1000	11/7/2017 7:11:12 PM	R46976
Bromide	4.5	0.15	1.0		mg/L	10	10/26/2017 1:16:55 PM	R46695
Phosphorus, Orthophosphate (As P)	ND	2.5	5.0		mg/L	10	10/26/2017 1:16:55 PM	R46695
Sulfate	2200	9.6	50		mg/L	100	10/26/2017 1:29:19 PM	R46695
Nitrate+Nitrite as N	ND	1.3	10		mg/L	50	11/7/2017 9:40:08 PM	R46976
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.23	0.00099	0.0020		mg/L	1	11/7/2017 7:11:27 PM	A46958
Cadmium	ND	0.0010	0.0020		mg/L	1	11/7/2017 7:11:27 PM	A46958
Calcium	610	0.78	10		mg/L	10	11/6/2017 3:28:54 PM	B46923
Chromium	0.0079	0.0013	0.0060		mg/L	1	11/7/2017 7:11:27 PM	A46958
Copper	ND	0.0032	0.0060		mg/L	1	11/7/2017 7:11:27 PM	A46958
Iron	0.20	0.016	0.020		mg/L	1	11/7/2017 7:11:27 PM	A46958
Magnesium	220	2.5	10		mg/L	10	11/6/2017 3:28:54 PM	B46923
Manganese	0.45	0.00039	0.0020	*	mg/L	1	11/7/2017 7:11:27 PM	A46958
Potassium	370	1.1	10		mg/L	10	11/6/2017 3:28:54 PM	B46923
Silver	ND	0.0018	0.0050		mg/L	1	11/7/2017 7:11:27 PM	A46958
Sodium	5600	16	100		mg/L	100	11/6/2017 5:16:43 PM	B46923
Zinc	0.0034	0.0021	0.010	J	mg/L	1	11/7/2017 7:11:27 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.24	0.0010	0.0020		mg/L	1	11/7/2017 4:17:30 PM	34838
Cadmium	ND	0.00058	0.0020		mg/L	1	11/7/2017 4:17:30 PM	34838
Chromium	0.010	0.0018	0.0060		mg/L	1	11/7/2017 4:17:30 PM	34838
Copper	ND	0.0041	0.0060		mg/L	1	11/7/2017 4:17:30 PM	34838
Iron	0.28	0.010	0.020		mg/L	1	11/7/2017 4:17:30 PM	34838
Manganese	0.47	0.0011	0.0020	*	mg/L	1	11/7/2017 4:17:30 PM	34838
Silver	ND	0.0012	0.0050		mg/L	1	11/7/2017 4:17:30 PM	34838
Zinc	0.0080	0.0033	0.010	J	mg/L	1	11/7/2017 4:17:30 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.019	0.0014	0.0050	*	mg/L	5	11/2/2017 8:35:53 PM	B46846
Lead	ND	0.0035	0.010		mg/L	20	11/2/2017 8:40:47 PM	C46846
Selenium	0.018	0.0038	0.0050		mg/L	5	11/2/2017 8:35:53 PM	C46846
Uranium	ND	0.0019	0.010		mg/L	20	11/2/2017 8:40:47 PM	C46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.017	0.0041	0.010	*	mg/L	10	11/14/2017 8:38:39 AM	34838
Lead	ND	0.0023	0.0050		mg/L	10	11/11/2017 12:43:01 AM	34838
Selenium	0.016	0.0098	0.010		mg/L	10	11/14/2017 8:38:39 AM	34838

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:20:00 PM
Lab ID: 1710D21-006
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Uranium	0.0028	0.0015	0.0050	J	mg/L	10	11/11/2017 12:43:01 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:38:41 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Acenaphthylene	ND	35	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Aniline	ND	31	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Anthracene	ND	35	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Azobenzene	ND	45	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Benz(a)anthracene	ND	39	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Benzo(a)pyrene	ND	40	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Benzo(b)fluoranthene	ND	40	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Benzo(g,h,i)perylene	ND	40	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Benzo(k)fluoranthene	ND	44	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Benzoic acid	ND	39	200		µg/L	1	11/1/2017 12:03:25 PM	34645
Benzyl alcohol	ND	46	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Bis(2-chloroethoxy)methane	ND	43	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Bis(2-chloroethyl)ether	ND	43	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Bis(2-chloroisopropyl)ether	ND	39	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Bis(2-ethylhexyl)phthalate	4800	480	1000	D	µg/L	10	11/14/2017 12:31:39 PM	34645
4-Bromophenyl phenyl ether	ND	46	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Butyl benzyl phthalate	ND	46	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Carbazole	ND	46	100		µg/L	1	11/1/2017 12:03:25 PM	34645
4-Chloro-3-methylphenol	ND	63	100		µg/L	1	11/1/2017 12:03:25 PM	34645
4-Chloroaniline	ND	35	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2-Chloronaphthalene	ND	37	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2-Chlorophenol	ND	75	100		µg/L	1	11/1/2017 12:03:25 PM	34645
4-Chlorophenyl phenyl ether	ND	36	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Chrysene	ND	38	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Di-n-butyl phthalate	ND	50	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Di-n-octyl phthalate	ND	47	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Dibenz(a,h)anthracene	ND	46	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Dibenzofuran	ND	41	100		µg/L	1	11/1/2017 12:03:25 PM	34645
1,2-Dichlorobenzene	ND	20	100		µg/L	1	11/1/2017 12:03:25 PM	34645
1,3-Dichlorobenzene	ND	18	100		µg/L	1	11/1/2017 12:03:25 PM	34645
1,4-Dichlorobenzene	ND	21	100		µg/L	1	11/1/2017 12:03:25 PM	34645
3,3´-Dichlorobenzidine	ND	39	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Diethyl phthalate	ND	40	100		µg/L	1	11/1/2017 12:03:25 PM	34645

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:20:00 PM
Lab ID: 1710D21-006
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	36	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2,4-Dichlorophenol	ND	57	200		µg/L	1	11/1/2017 12:03:25 PM	34645
2,4-Dimethylphenol	ND	28	100		µg/L	1	11/1/2017 12:03:25 PM	34645
4,6-Dinitro-2-methylphenol	ND	39	200		µg/L	1	11/1/2017 12:03:25 PM	34645
2,4-Dinitrophenol	ND	26	200		µg/L	1	11/1/2017 12:03:25 PM	34645
2,4-Dinitrotoluene	ND	40	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2,6-Dinitrotoluene	ND	45	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Fluoranthene	ND	43	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Fluorene	ND	40	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Hexachlorobenzene	ND	38	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Hexachlorobutadiene	ND	13	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Hexachlorocyclopentadiene	ND	13	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Hexachloroethane	ND	12	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Indeno(1,2,3-cd)pyrene	ND	42	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Isophorone	ND	44	100		µg/L	1	11/1/2017 12:03:25 PM	34645
1-Methylnaphthalene	ND	33	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2-Methylnaphthalene	ND	33	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2-Methylphenol	ND	33	100		µg/L	1	11/1/2017 12:03:25 PM	34645
3+4-Methylphenol	ND	32	100		µg/L	1	11/1/2017 12:03:25 PM	34645
N-Nitrosodi-n-propylamine	ND	46	100		µg/L	1	11/1/2017 12:03:25 PM	34645
N-Nitrosodimethylamine	ND	35	100		µg/L	1	11/1/2017 12:03:25 PM	34645
N-Nitrosodiphenylamine	ND	39	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Naphthalene	ND	29	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2-Nitroaniline	ND	49	100		µg/L	1	11/1/2017 12:03:25 PM	34645
3-Nitroaniline	ND	43	100		µg/L	1	11/1/2017 12:03:25 PM	34645
4-Nitroaniline	ND	40	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Nitrobenzene	ND	36	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2-Nitrophenol	ND	52	100		µg/L	1	11/1/2017 12:03:25 PM	34645
4-Nitrophenol	ND	55	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Pentachlorophenol	ND	49	200		µg/L	1	11/1/2017 12:03:25 PM	34645
Phenanthrene	ND	43	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Phenol	ND	31	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Pyrene	ND	44	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Pyridine	ND	23	100		µg/L	1	11/1/2017 12:03:25 PM	34645
1,2,4-Trichlorobenzene	ND	21	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2,4,5-Trichlorophenol	ND	51	100		µg/L	1	11/1/2017 12:03:25 PM	34645
2,4,6-Trichlorophenol	ND	55	100		µg/L	1	11/1/2017 12:03:25 PM	34645
Surr: 2-Fluorophenol	22.7	0	15-88		%Rec	1	11/1/2017 12:03:25 PM	34645
Surr: Phenol-d5	31.7	0	15-72.4		%Rec	1	11/1/2017 12:03:25 PM	34645

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:20:00 PM
Lab ID: 1710D21-006
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	32.7	0	15-117		%Rec	1	11/1/2017 12:03:25 PM	34645
Surr: Nitrobenzene-d5	51.1	0	33.5-120		%Rec	1	11/1/2017 12:03:25 PM	34645
Surr: 2-Fluorobiphenyl	45.7	0	26.5-109		%Rec	1	11/1/2017 12:03:25 PM	34645
Surr: 4-Terphenyl-d14	49.2	0	21.7-98.7		%Rec	1	11/1/2017 12:03:25 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Acetone	ND	8.2	50	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Carbon disulfide	ND	4.0	50	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:20:00 PM
Lab ID: 1710D21-006
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 7:27:00 PM	R46694
Surr: 1,2-Dichloroethane-d4	102	0	70-130	D	%Rec	10	10/27/2017 7:27:00 PM	R46694
Surr: 4-Bromofluorobenzene	100	0	70-130	D	%Rec	10	10/27/2017 7:27:00 PM	R46694
Surr: Dibromofluoromethane	104	0	70-130	D	%Rec	10	10/27/2017 7:27:00 PM	R46694
Surr: Toluene-d8	96.7	0	70-130	D	%Rec	10	10/27/2017 7:27:00 PM	R46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	34000	50	50		µmhos/c	10	10/26/2017 7:31:40 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-5
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:20:00 PM
Lab ID: 1710D21-006
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.83			H	pH units	1	10/26/2017 12:19:35 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:05:00 PM
Lab ID: 1710D21-007
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	31	4.4	10	*	mg/L	100	10/26/2017 1:04:31 PM	R46695
Chloride	10000	250	500		mg/L	1000	11/7/2017 7:23:37 PM	R46976
Nitrogen, Nitrite (As N)	ND	0.69	10		mg/L	100	10/26/2017 1:04:31 PM	R46695
Bromide	4.7	0.15	1.0		mg/L	10	10/26/2017 12:52:06 PM	R46695
Nitrogen, Nitrate (As N)	ND	0.22	1.0		mg/L	10	10/26/2017 12:52:06 PM	R46695
Phosphorus, Orthophosphate (As P)	ND	2.5	5.0		mg/L	10	10/26/2017 12:52:06 PM	R46695
Sulfate	2300	9.6	50		mg/L	100	10/26/2017 1:04:31 PM	R46695
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.23	0.00099	0.0020		mg/L	1	11/7/2017 7:18:41 PM	A46958
Cadmium	ND	0.0010	0.0020		mg/L	1	11/6/2017 7:25:46 PM	B46923
Calcium	590	0.78	10		mg/L	10	11/6/2017 3:30:56 PM	B46923
Chromium	0.0091	0.0013	0.0060		mg/L	1	11/7/2017 7:18:41 PM	A46958
Copper	ND	0.0032	0.0060		mg/L	1	11/6/2017 7:25:46 PM	B46923
Iron	0.13	0.016	0.020		mg/L	1	11/7/2017 7:18:41 PM	A46958
Magnesium	210	2.5	10		mg/L	10	11/6/2017 3:30:56 PM	B46923
Manganese	0.47	0.00039	0.0020	*	mg/L	1	11/7/2017 7:18:41 PM	A46958
Potassium	330	1.1	10		mg/L	10	11/6/2017 3:30:56 PM	B46923
Silver	ND	0.0018	0.0050		mg/L	1	11/7/2017 7:18:41 PM	A46958
Sodium	6000	16	100		mg/L	100	11/6/2017 5:18:28 PM	B46923
Zinc	0.069	0.0021	0.010		mg/L	1	11/7/2017 7:18:41 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.25	0.0010	0.0020		mg/L	1	11/7/2017 4:19:26 PM	34838
Cadmium	ND	0.00058	0.0020		mg/L	1	11/7/2017 4:19:26 PM	34838
Chromium	0.010	0.0018	0.0060		mg/L	1	11/7/2017 4:19:26 PM	34838
Copper	ND	0.0041	0.0060		mg/L	1	11/7/2017 4:19:26 PM	34838
Iron	0.19	0.010	0.020		mg/L	1	11/7/2017 4:19:26 PM	34838
Manganese	0.49	0.0011	0.0020	*	mg/L	1	11/7/2017 4:19:26 PM	34838
Silver	ND	0.0012	0.0050		mg/L	1	11/7/2017 4:19:26 PM	34838
Zinc	0.0039	0.0033	0.010	J	mg/L	1	11/7/2017 4:19:26 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.021	0.0014	0.0050	*	mg/L	5	11/2/2017 8:45:42 PM	B46846
Lead	ND	0.0035	0.010		mg/L	20	11/2/2017 9:00:30 PM	C46846
Selenium	0.017	0.0038	0.0050		mg/L	5	11/2/2017 8:45:42 PM	C46846
Uranium	0.0024	0.0019	0.010	J	mg/L	20	11/2/2017 9:00:30 PM	C46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.018	0.0041	0.010	*	mg/L	10	11/14/2017 8:45:13 AM	34838
Lead	ND	0.0023	0.0050		mg/L	10	11/11/2017 12:56:09 AM	34838

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:05:00 PM
Lab ID: 1710D21-007
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Selenium	0.018	0.0098	0.010		mg/L	10	11/14/2017 8:45:13 AM	34838
Uranium	0.0029	0.0015	0.0050	J	mg/L	10	11/11/2017 12:56:09 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:40:41 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Benzoic acid	ND	20	100		µg/L	1	11/1/2017 12:31:24 PM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Bis(2-ethylhexyl)phthalate	1100	48	100		µg/L	2	11/9/2017 12:25:18 AM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 12:31:24 PM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 12:31:24 PM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 12:31:24 PM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 12:31:24 PM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 12:31:24 PM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645

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Lab ID: 1710D21-007
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 12:31:24 PM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 12:31:24 PM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 12:31:24 PM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 12:31:24 PM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 12:31:24 PM	34645
3+4-Methylphenol	ND	16	50		µg/L	1	11/1/2017 12:31:24 PM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 12:31:24 PM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 12:31:24 PM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 12:31:24 PM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 12:31:24 PM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Pyrene	ND	22	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Pyridine	ND	11	50		µg/L	1	11/1/2017 12:31:24 PM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 12:31:24 PM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 12:31:24 PM	34645
Surr: 2-Fluorophenol	22.9	0	15-88		%Rec	1	11/1/2017 12:31:24 PM	34645

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Lab ID: 1710D21-007
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: Phenol-d5	34.6	0	15-72.4		%Rec	1	11/1/2017 12:31:24 PM	34645
Surr: 2,4,6-Tribromophenol	33.8	0	15-117		%Rec	1	11/1/2017 12:31:24 PM	34645
Surr: Nitrobenzene-d5	61.8	0	33.5-120		%Rec	1	11/1/2017 12:31:24 PM	34645
Surr: 2-Fluorobiphenyl	57.1	0	26.5-109		%Rec	1	11/1/2017 12:31:24 PM	34645
Surr: 4-Terphenyl-d14	55.5	0	21.7-98.7		%Rec	1	11/1/2017 12:31:24 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Acetone	ND	8.2	50	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Carbon disulfide	ND	4.0	50	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 7:50:00 PM	R46694
Surr: 1,2-Dichloroethane-d4	103	0	70-130	D	%Rec	10	10/27/2017 7:50:00 PM	R46694
Surr: 4-Bromofluorobenzene	97.8	0	70-130	D	%Rec	10	10/27/2017 7:50:00 PM	R46694
Surr: Dibromofluoromethane	103	0	70-130	D	%Rec	10	10/27/2017 7:50:00 PM	R46694
Surr: Toluene-d8	100	0	70-130	D	%Rec	10	10/27/2017 7:50:00 PM	R46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	37000	50	50		µmhos/c	10	10/26/2017 7:35:56 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-6
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 1:05:00 PM
Lab ID: 1710D21-007
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.92			H	pH units	1	10/26/2017 12:23:44 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:35:00 PM
Lab ID: 1710D21-008
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	4.4	10		mg/L	100	10/26/2017 12:23:35 PM	R46677
Chloride	95000	2500	5000		mg/L	1E+0	11/7/2017 7:36:02 PM	R46976
Bromide	38	1.5	10		mg/L	100	10/26/2017 12:23:35 PM	R46677
Phosphorus, Orthophosphate (As P)	ND	25	50		mg/L	100	10/26/2017 12:23:35 PM	R46677
Sulfate	18000	960	5000		mg/L	1E+0	11/7/2017 7:36:02 PM	R46976
Nitrate+Nitrite as N	ND	13	100		mg/L	500	11/7/2017 9:52:33 PM	R46976
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.26	0.0049	0.010		mg/L	5	11/7/2017 5:56:24 PM	A46958
Cadmium	ND	0.0050	0.010		mg/L	5	11/7/2017 5:56:24 PM	A46958
Calcium	1300	3.9	50		mg/L	50	11/6/2017 4:29:54 PM	B46923
Chromium	0.026	0.0064	0.030	J	mg/L	5	11/7/2017 5:56:24 PM	A46958
Copper	ND	0.016	0.030		mg/L	5	11/7/2017 5:56:24 PM	A46958
Iron	ND	0.082	0.10		mg/L	5	11/7/2017 5:56:24 PM	A46958
Magnesium	2100	12	50		mg/L	50	11/6/2017 4:29:54 PM	B46923
Manganese	1.1	0.0020	0.010	*	mg/L	5	11/7/2017 5:56:24 PM	A46958
Potassium	2700	5.6	50		mg/L	50	11/6/2017 4:29:54 PM	B46923
Silver	ND	0.0092	0.025		mg/L	5	11/7/2017 5:56:24 PM	A46958
Sodium	52000	160	1000		mg/L	1000	11/6/2017 5:20:14 PM	B46923
Zinc	ND	0.011	0.050		mg/L	5	11/7/2017 5:56:24 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.23	0.0050	0.010		mg/L	5	11/7/2017 5:14:59 PM	34838
Cadmium	ND	0.0029	0.010		mg/L	5	11/7/2017 5:14:59 PM	34838
Chromium	0.026	0.0088	0.030	J	mg/L	5	11/7/2017 5:14:59 PM	34838
Copper	ND	0.020	0.030		mg/L	5	11/7/2017 5:14:59 PM	34838
Iron	0.15	0.051	0.10		mg/L	5	11/7/2017 5:14:59 PM	34838
Manganese	1.2	0.0055	0.010	*	mg/L	5	11/7/2017 5:14:59 PM	34838
Silver	ND	0.0061	0.025		mg/L	5	11/7/2017 5:14:59 PM	34838
Zinc	ND	0.016	0.050		mg/L	5	11/7/2017 5:14:59 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.13	0.014	0.050	*	mg/L	50	11/2/2017 9:10:19 PM	B46846
Lead	ND	0.0087	0.025		mg/L	50	11/2/2017 9:10:19 PM	C46846
Selenium	ND	0.15	0.20		mg/L	200	11/14/2017 5:02:52 PM	A47129
Uranium	0.0079	0.0048	0.025	J	mg/L	50	11/2/2017 9:10:19 PM	C46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.11	0.021	0.050	*	mg/L	50	11/14/2017 8:51:46 AM	34838
Lead	ND	0.011	0.025		mg/L	50	11/14/2017 8:51:46 AM	34838
Selenium	0.14	0.049	0.050	*	mg/L	50	11/14/2017 8:51:46 AM	34838

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:35:00 PM
Lab ID: 1710D21-008
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Uranium	0.0081	0.0077	0.025	J	mg/L	50	11/14/2017 8:51:46 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:42:41 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Benzoic acid	ND	20	100		µg/L	1	11/1/2017 12:59:25 PM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Bis(2-ethylhexyl)phthalate	ND	24	50		µg/L	1	11/1/2017 12:59:25 PM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 12:59:25 PM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 12:59:25 PM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 12:59:25 PM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 12:59:25 PM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 12:59:25 PM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:35:00 PM
Lab ID: 1710D21-008
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 12:59:25 PM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 12:59:25 PM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 12:59:25 PM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 12:59:25 PM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 12:59:25 PM	34645
3+4-Methylphenol	ND	16	50		µg/L	1	11/1/2017 12:59:25 PM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 12:59:25 PM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 12:59:25 PM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 12:59:25 PM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 12:59:25 PM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Pyrene	ND	22	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Pyridine	ND	11	50		µg/L	1	11/1/2017 12:59:25 PM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 12:59:25 PM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 12:59:25 PM	34645
Surr: 2-Fluorophenol	1.37	0	15-88	S	%Rec	1	11/1/2017 12:59:25 PM	34645
Surr: Phenol-d5	0.510	0	15-72.4	S	%Rec	1	11/1/2017 12:59:25 PM	34645

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:35:00 PM
Lab ID: 1710D21-008
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	6.92	0	15-117	S	%Rec	1	11/1/2017 12:59:25 PM	34645
Surr: Nitrobenzene-d5	70.8	0	33.5-120		%Rec	1	11/1/2017 12:59:25 PM	34645
Surr: 2-Fluorobiphenyl	59.2	0	26.5-109		%Rec	1	11/1/2017 12:59:25 PM	34645
Surr: 4-Terphenyl-d14	50.6	0	21.7-98.7		%Rec	1	11/1/2017 12:59:25 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Acetone	ND	8.2	50	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Carbon disulfide	ND	4.0	50	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:35:00 PM
Lab ID: 1710D21-008
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 8:14:00 PM	B46694
Surr: 1,2-Dichloroethane-d4	104	0	70-130	D	%Rec	10	10/27/2017 8:14:00 PM	B46694
Surr: 4-Bromofluorobenzene	98.4	0	70-130	D	%Rec	10	10/27/2017 8:14:00 PM	B46694
Surr: Dibromofluoromethane	103	0	70-130	D	%Rec	10	10/27/2017 8:14:00 PM	B46694
Surr: Toluene-d8	98.5	0	70-130	D	%Rec	10	10/27/2017 8:14:00 PM	B46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	280000	500	500		µmhos/c	100	10/26/2017 7:40:02 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-7
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:35:00 PM
Lab ID: 1710D21-008
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.85			H	pH units	1	10/26/2017 12:27:48 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:20:00 PM
Lab ID: 1710D21-009
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	4.4	10		mg/L	100	10/26/2017 11:58:45 AM	R46677
Chloride	94000	2500	5000		mg/L	1E+0	11/7/2017 7:48:27 PM	R46976
Bromide	35	1.5	10		mg/L	100	10/26/2017 11:58:45 AM	R46677
Phosphorus, Orthophosphate (As P)	ND	25	50		mg/L	100	10/26/2017 11:58:45 AM	R46677
Sulfate	16000	960	5000		mg/L	1E+0	11/7/2017 7:48:27 PM	R46976
Nitrate+Nitrite as N	ND	13	100		mg/L	500	11/7/2017 10:04:58 PM	R46976
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.26	0.0049	0.010		mg/L	5	11/7/2017 5:58:17 PM	A46958
Cadmium	ND	0.0050	0.010		mg/L	5	11/7/2017 5:58:17 PM	A46958
Calcium	1300	3.9	50		mg/L	50	11/6/2017 4:31:55 PM	B46923
Chromium	0.031	0.0064	0.030		mg/L	5	11/7/2017 5:58:17 PM	A46958
Copper	ND	0.016	0.030		mg/L	5	11/7/2017 5:58:17 PM	A46958
Iron	ND	0.082	0.10		mg/L	5	11/7/2017 5:58:17 PM	A46958
Magnesium	2200	12	50		mg/L	50	11/6/2017 4:31:55 PM	B46923
Manganese	1.1	0.0020	0.010	*	mg/L	5	11/7/2017 5:58:17 PM	A46958
Potassium	2800	5.6	50		mg/L	50	11/6/2017 4:31:55 PM	B46923
Silver	ND	0.0092	0.025		mg/L	5	11/7/2017 5:58:17 PM	A46958
Sodium	50000	160	1000		mg/L	1000	11/6/2017 5:22:01 PM	B46923
Zinc	ND	0.011	0.050		mg/L	5	11/7/2017 5:58:17 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.22	0.0050	0.010		mg/L	5	11/7/2017 5:16:49 PM	34838
Cadmium	ND	0.0029	0.010		mg/L	5	11/7/2017 5:16:49 PM	34838
Chromium	0.026	0.0088	0.030	J	mg/L	5	11/7/2017 5:16:49 PM	34838
Copper	ND	0.020	0.030		mg/L	5	11/7/2017 5:16:49 PM	34838
Iron	0.20	0.051	0.10		mg/L	5	11/7/2017 5:16:49 PM	34838
Manganese	1.1	0.0055	0.010	*	mg/L	5	11/7/2017 5:16:49 PM	34838
Silver	ND	0.0061	0.025		mg/L	5	11/7/2017 5:16:49 PM	34838
Zinc	ND	0.016	0.050		mg/L	5	11/7/2017 5:16:49 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.11	0.014	0.050	*	mg/L	50	11/2/2017 9:20:07 PM	B46846
Lead	ND	0.0087	0.025		mg/L	50	11/2/2017 9:20:07 PM	C46846
Selenium	ND	0.15	0.20		mg/L	200	11/14/2017 5:07:48 PM	A47129
Uranium	0.0077	0.0048	0.025	J	mg/L	50	11/2/2017 9:20:07 PM	C46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.12	0.021	0.050	*	mg/L	50	11/14/2017 9:18:03 AM	34838
Lead	ND	0.011	0.025		mg/L	50	11/14/2017 9:18:03 AM	34838
Selenium	0.19	0.098	0.10	*	mg/L	100	11/16/2017 11:41:39 AM	34838

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:20:00 PM
Lab ID: 1710D21-009
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Uranium	0.0079	0.0077	0.025	J	mg/L	50	11/14/2017 9:18:03 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:44:42 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Benzoic acid	ND	20	100		µg/L	1	11/1/2017 1:27:25 PM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Bis(2-ethylhexyl)phthalate	ND	24	50		µg/L	1	11/1/2017 1:27:25 PM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 1:27:25 PM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 1:27:25 PM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 1:27:25 PM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 1:27:25 PM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 1:27:25 PM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:20:00 PM
Lab ID: 1710D21-009
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 1:27:25 PM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 1:27:25 PM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 1:27:25 PM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 1:27:25 PM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 1:27:25 PM	34645
3+4-Methylphenol	ND	16	50		µg/L	1	11/1/2017 1:27:25 PM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 1:27:25 PM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 1:27:25 PM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 1:27:25 PM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 1:27:25 PM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Pyrene	ND	22	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Pyridine	ND	11	50		µg/L	1	11/1/2017 1:27:25 PM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 1:27:25 PM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 1:27:25 PM	34645
Surr: 2-Fluorophenol	1.32	0	15-88	S	%Rec	1	11/1/2017 1:27:25 PM	34645
Surr: Phenol-d5	0.720	0	15-72.4	S	%Rec	1	11/1/2017 1:27:25 PM	34645

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:20:00 PM
Lab ID: 1710D21-009
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	7.56	0	15-117	S	%Rec	1	11/1/2017 1:27:25 PM	34645
Surr: Nitrobenzene-d5	77.0	0	33.5-120		%Rec	1	11/1/2017 1:27:25 PM	34645
Surr: 2-Fluorobiphenyl	64.5	0	26.5-109		%Rec	1	11/1/2017 1:27:25 PM	34645
Surr: 4-Terphenyl-d14	58.6	0	21.7-98.7		%Rec	1	11/1/2017 1:27:25 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Acetone	ND	8.2	50	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Carbon disulfide	ND	4.0	50	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:20:00 PM
Lab ID: 1710D21-009
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 9:24:00 PM	B46694
Surr: 1,2-Dichloroethane-d4	105	0	70-130	D	%Rec	10	10/27/2017 9:24:00 PM	B46694
Surr: 4-Bromofluorobenzene	100	0	70-130	D	%Rec	10	10/27/2017 9:24:00 PM	B46694
Surr: Dibromofluoromethane	106	0	70-130	D	%Rec	10	10/27/2017 9:24:00 PM	B46694
Surr: Toluene-d8	98.1	0	70-130	D	%Rec	10	10/27/2017 9:24:00 PM	B46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	290000	500	500		µmhos/c	100	10/26/2017 7:44:35 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-8
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:20:00 PM
Lab ID: 1710D21-009
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.86			H	pH units	1	10/26/2017 12:31:47 PM	R46730

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:50:00 PM
Lab ID: 1710D21-010
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	4.4	10		mg/L	100	10/26/2017 12:39:41 PM	R46695
Chloride	200000	5000	10000		mg/L	2E+0	11/7/2017 8:00:52 PM	R46976
Bromide	84	1.5	10		mg/L	100	10/26/2017 12:39:41 PM	R46695
Phosphorus, Orthophosphate (As P)	ND	25	50		mg/L	100	10/26/2017 12:39:41 PM	R46695
Sulfate	16000	1900	10000		mg/L	2E+0	11/7/2017 8:00:52 PM	R46976
Nitrate+Nitrite as N	ND	26	200		mg/L	1000	11/9/2017 8:11:20 PM	R47036
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.26	0.0099	0.020		mg/L	10	11/6/2017 3:42:14 PM	B46923
Cadmium	ND	0.010	0.020		mg/L	10	11/6/2017 3:42:14 PM	B46923
Calcium	630	0.78	10		mg/L	10	11/6/2017 3:42:14 PM	B46923
Chromium	0.026	0.013	0.060	J	mg/L	10	11/6/2017 3:42:14 PM	B46923
Copper	ND	0.032	0.060		mg/L	10	11/6/2017 3:42:14 PM	B46923
Iron	ND	0.16	0.20		mg/L	10	11/6/2017 3:42:14 PM	B46923
Magnesium	4000	12	50		mg/L	50	11/6/2017 4:34:00 PM	B46923
Manganese	4.5	0.0039	0.020	*	mg/L	10	11/6/2017 3:42:14 PM	B46923
Potassium	4700	5.6	50		mg/L	50	11/6/2017 4:34:00 PM	B46923
Silver	ND	0.018	0.050		mg/L	10	11/6/2017 3:42:14 PM	B46923
Sodium	49000	160	1000		mg/L	1000	11/6/2017 5:23:47 PM	B46923
Zinc	0.043	0.021	0.10	J	mg/L	10	11/6/2017 3:42:14 PM	B46923
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.26	0.0050	0.010		mg/L	5	11/7/2017 5:18:41 PM	34838
Cadmium	ND	0.0029	0.010		mg/L	5	11/7/2017 5:18:41 PM	34838
Chromium	0.021	0.0088	0.030	J	mg/L	5	11/7/2017 5:18:41 PM	34838
Copper	ND	0.020	0.030		mg/L	5	11/7/2017 5:18:41 PM	34838
Iron	0.10	0.051	0.10		mg/L	5	11/7/2017 5:18:41 PM	34838
Manganese	4.9	0.0055	0.010	*	mg/L	5	11/7/2017 5:18:41 PM	34838
Silver	ND	0.0061	0.025		mg/L	5	11/7/2017 5:18:41 PM	34838
Zinc	ND	0.016	0.050		mg/L	5	11/7/2017 5:18:41 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.21	0.0058	0.020	*	mg/L	20	11/2/2017 9:29:55 PM	B46846
Lead	ND	0.017	0.050		mg/L	100	11/8/2017 12:01:46 AM	B46971
Selenium	ND	0.76	1.0		mg/L	1000	11/14/2017 5:12:43 PM	A47129
Uranium	ND	0.0096	0.050		mg/L	100	11/13/2017 7:17:52 PM	B47085
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.22	0.021	0.050	*	mg/L	50	11/14/2017 9:31:11 AM	34838
Lead	ND	0.011	0.025		mg/L	50	11/14/2017 9:31:11 AM	34838
Selenium	0.33	0.098	0.10	*	mg/L	100	11/16/2017 11:48:12 AM	34838

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:50:00 PM
Lab ID: 1710D21-010
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Uranium	0.0087	0.0077	0.025	J	mg/L	50	11/14/2017 9:31:11 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:46:43 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Benzoic acid	ND	20	100		µg/L	1	11/1/2017 1:55:22 PM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Bis(2-ethylhexyl)phthalate	ND	24	50		µg/L	1	11/1/2017 1:55:22 PM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 1:55:22 PM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 1:55:22 PM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 1:55:22 PM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 1:55:22 PM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 1:55:22 PM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:50:00 PM
Lab ID: 1710D21-010
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 1:55:22 PM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 1:55:22 PM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 1:55:22 PM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 1:55:22 PM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 1:55:22 PM	34645
3+4-Methylphenol	ND	16	50		µg/L	1	11/1/2017 1:55:22 PM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 1:55:22 PM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 1:55:22 PM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 1:55:22 PM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 1:55:22 PM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Pyrene	ND	22	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Pyridine	ND	11	50		µg/L	1	11/1/2017 1:55:22 PM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 1:55:22 PM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 1:55:22 PM	34645
Surr: 2-Fluorophenol	1.46	0	15-88	S	%Rec	1	11/1/2017 1:55:22 PM	34645
Surr: Phenol-d5	1.36	0	15-72.4	S	%Rec	1	11/1/2017 1:55:22 PM	34645

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:50:00 PM
Lab ID: 1710D21-010
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	7.07	0	15-117	S	%Rec	1	11/1/2017 1:55:22 PM	34645
Surr: Nitrobenzene-d5	69.7	0	33.5-120		%Rec	1	11/1/2017 1:55:22 PM	34645
Surr: 2-Fluorobiphenyl	64.0	0	26.5-109		%Rec	1	11/1/2017 1:55:22 PM	34645
Surr: 4-Terphenyl-d14	47.2	0	21.7-98.7		%Rec	1	11/1/2017 1:55:22 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Acetone	ND	8.2	50	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Carbon disulfide	ND	4.0	50	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:50:00 PM
Lab ID: 1710D21-010
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 11:23:00 PM	B46694
Surr: 1,2-Dichloroethane-d4	107	0	70-130	D	%Rec	10	10/27/2017 11:23:00 PM	B46694
Surr: 4-Bromofluorobenzene	97.1	0	70-130	D	%Rec	10	10/27/2017 11:23:00 PM	B46694
Surr: Dibromofluoromethane	106	0	70-130	D	%Rec	10	10/27/2017 11:23:00 PM	B46694
Surr: Toluene-d8	97.9	0	70-130	D	%Rec	10	10/27/2017 11:23:00 PM	B46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	560000	500	500		µmhos/c	100	10/26/2017 7:49:09 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-9
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:50:00 PM
Lab ID: 1710D21-010
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.11			H	pH units	1	10/26/2017 12:35:51 PM	R46730

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:05:00 PM
Lab ID: 1710D21-011
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	4.4	10		mg/L	100	10/26/2017 11:37:37 AM	R46695
Chloride	210000	5000	10000		mg/L	2E+0	11/7/2017 8:13:16 PM	R46976
Bromide	91	1.5	10		mg/L	100	10/26/2017 11:37:37 AM	R46695
Phosphorus, Orthophosphate (As P)	ND	25	50		mg/L	100	10/26/2017 11:37:37 AM	R46695
Sulfate	36000	1900	10000		mg/L	2E+0	11/7/2017 8:13:16 PM	R46976
Nitrate+Nitrite as N	ND	13	100		mg/L	500	11/7/2017 10:29:47 PM	R46976
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.21	0.0099	0.020		mg/L	10	11/6/2017 3:44:07 PM	B46923
Cadmium	ND	0.010	0.020		mg/L	10	11/6/2017 3:44:07 PM	B46923
Calcium	680	0.78	10		mg/L	10	11/6/2017 3:44:07 PM	B46923
Chromium	0.058	0.013	0.060	J	mg/L	10	11/6/2017 3:44:07 PM	B46923
Copper	ND	0.032	0.060		mg/L	10	11/6/2017 3:44:07 PM	B46923
Iron	0.38	0.16	0.20	*	mg/L	10	11/6/2017 3:44:07 PM	B46923
Magnesium	3500	12	50		mg/L	50	11/6/2017 4:36:08 PM	B46923
Manganese	2.3	0.0039	0.020	*	mg/L	10	11/6/2017 3:44:07 PM	B46923
Potassium	4700	5.6	50		mg/L	50	11/6/2017 4:36:08 PM	B46923
Silver	ND	0.018	0.050		mg/L	10	11/6/2017 3:44:07 PM	B46923
Sodium	81000	160	1000		mg/L	1000	11/6/2017 7:08:25 PM	B46923
Zinc	ND	0.021	0.10		mg/L	10	11/6/2017 3:44:07 PM	B46923
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.17	0.010	0.020		mg/L	5	11/7/2017 5:20:33 PM	34838
Cadmium	ND	0.0058	0.020		mg/L	5	11/7/2017 5:20:33 PM	34838
Chromium	0.044	0.018	0.060	J	mg/L	5	11/7/2017 5:20:33 PM	34838
Copper	ND	0.041	0.060		mg/L	5	11/7/2017 5:20:33 PM	34838
Iron	0.31	0.020	0.040	*	mg/L	1	11/7/2017 4:27:33 PM	34838
Manganese	2.2	0.011	0.020	*	mg/L	5	11/7/2017 5:20:33 PM	34838
Silver	ND	0.012	0.050		mg/L	5	11/7/2017 5:20:33 PM	34838
Zinc	ND	0.033	0.10		mg/L	5	11/7/2017 5:20:33 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.25	0.014	0.050	*	mg/L	50	11/2/2017 9:39:42 PM	B46846
Lead	ND	0.017	0.050		mg/L	100	11/8/2017 12:14:53 AM	B46971
Selenium	ND	0.76	1.0		mg/L	1000	11/14/2017 5:17:37 PM	A47129
Uranium	0.011	0.0096	0.050	J	mg/L	100	11/6/2017 6:30:23 PM	B46919
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.24	0.041	0.10	*D	mg/L	50	11/14/2017 9:44:19 AM	34838
Lead	ND	0.023	0.050	D	mg/L	50	11/14/2017 9:44:19 AM	34838
Selenium	0.35	0.20	0.20	* D	mg/L	100	11/16/2017 11:54:46 AM	34838

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:05:00 PM
Lab ID: 1710D21-011
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Uranium	ND	0.015	0.050	D	mg/L	50	11/14/2017 9:44:19 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:48:44 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Acenaphthylene	ND	35	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Aniline	ND	31	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Anthracene	ND	35	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Azobenzene	ND	45	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Benz(a)anthracene	ND	39	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Benzo(a)pyrene	ND	40	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Benzo(b)fluoranthene	ND	40	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Benzo(g,h,i)perylene	ND	40	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Benzo(k)fluoranthene	ND	44	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Benzoic acid	ND	39	200		µg/L	1	11/1/2017 2:23:33 PM	34645
Benzyl alcohol	ND	46	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Bis(2-chloroethoxy)methane	ND	43	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Bis(2-chloroethyl)ether	ND	43	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Bis(2-chloroisopropyl)ether	ND	39	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Bis(2-ethylhexyl)phthalate	ND	48	100		µg/L	1	11/1/2017 2:23:33 PM	34645
4-Bromophenyl phenyl ether	ND	46	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Butyl benzyl phthalate	ND	46	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Carbazole	ND	46	100		µg/L	1	11/1/2017 2:23:33 PM	34645
4-Chloro-3-methylphenol	ND	63	100		µg/L	1	11/1/2017 2:23:33 PM	34645
4-Chloroaniline	ND	35	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2-Chloronaphthalene	ND	37	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2-Chlorophenol	ND	75	100		µg/L	1	11/1/2017 2:23:33 PM	34645
4-Chlorophenyl phenyl ether	ND	36	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Chrysene	ND	38	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Di-n-butyl phthalate	ND	50	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Di-n-octyl phthalate	ND	47	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Dibenz(a,h)anthracene	ND	46	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Dibenzofuran	ND	41	100		µg/L	1	11/1/2017 2:23:33 PM	34645
1,2-Dichlorobenzene	ND	20	100		µg/L	1	11/1/2017 2:23:33 PM	34645
1,3-Dichlorobenzene	ND	18	100		µg/L	1	11/1/2017 2:23:33 PM	34645
1,4-Dichlorobenzene	ND	21	100		µg/L	1	11/1/2017 2:23:33 PM	34645
3,3´-Dichlorobenzidine	ND	39	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Diethyl phthalate	ND	40	100		µg/L	1	11/1/2017 2:23:33 PM	34645

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:05:00 PM
Lab ID: 1710D21-011
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	36	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2,4-Dichlorophenol	ND	57	200		µg/L	1	11/1/2017 2:23:33 PM	34645
2,4-Dimethylphenol	ND	28	100		µg/L	1	11/1/2017 2:23:33 PM	34645
4,6-Dinitro-2-methylphenol	ND	39	200		µg/L	1	11/1/2017 2:23:33 PM	34645
2,4-Dinitrophenol	ND	26	200		µg/L	1	11/1/2017 2:23:33 PM	34645
2,4-Dinitrotoluene	ND	40	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2,6-Dinitrotoluene	ND	45	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Fluoranthene	ND	43	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Fluorene	ND	40	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Hexachlorobenzene	ND	38	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Hexachlorobutadiene	ND	13	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Hexachlorocyclopentadiene	ND	13	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Hexachloroethane	ND	12	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Indeno(1,2,3-cd)pyrene	ND	42	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Isophorone	ND	44	100		µg/L	1	11/1/2017 2:23:33 PM	34645
1-Methylnaphthalene	ND	33	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2-Methylnaphthalene	ND	33	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2-Methylphenol	ND	33	100		µg/L	1	11/1/2017 2:23:33 PM	34645
3+4-Methylphenol	ND	32	100		µg/L	1	11/1/2017 2:23:33 PM	34645
N-Nitrosodi-n-propylamine	ND	46	100		µg/L	1	11/1/2017 2:23:33 PM	34645
N-Nitrosodimethylamine	ND	35	100		µg/L	1	11/1/2017 2:23:33 PM	34645
N-Nitrosodiphenylamine	ND	39	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Naphthalene	ND	29	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2-Nitroaniline	ND	49	100		µg/L	1	11/1/2017 2:23:33 PM	34645
3-Nitroaniline	ND	43	100		µg/L	1	11/1/2017 2:23:33 PM	34645
4-Nitroaniline	ND	40	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Nitrobenzene	ND	36	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2-Nitrophenol	ND	52	100		µg/L	1	11/1/2017 2:23:33 PM	34645
4-Nitrophenol	ND	55	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Pentachlorophenol	ND	49	200		µg/L	1	11/1/2017 2:23:33 PM	34645
Phenanthrene	ND	43	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Phenol	ND	31	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Pyrene	ND	44	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Pyridine	ND	23	100		µg/L	1	11/1/2017 2:23:33 PM	34645
1,2,4-Trichlorobenzene	ND	21	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2,4,5-Trichlorophenol	ND	51	100		µg/L	1	11/1/2017 2:23:33 PM	34645
2,4,6-Trichlorophenol	ND	55	100		µg/L	1	11/1/2017 2:23:33 PM	34645
Surr: 2-Fluorophenol	1.59	0	15-88	S	%Rec	1	11/1/2017 2:23:33 PM	34645
Surr: Phenol-d5	2.42	0	15-72.4	S	%Rec	1	11/1/2017 2:23:33 PM	34645

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:05:00 PM
Lab ID: 1710D21-011
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	2.15	0	15-117	S	%Rec	1	11/1/2017 2:23:33 PM	34645
Surr: Nitrobenzene-d5	44.9	0	33.5-120		%Rec	1	11/1/2017 2:23:33 PM	34645
Surr: 2-Fluorobiphenyl	37.4	0	26.5-109		%Rec	1	11/1/2017 2:23:33 PM	34645
Surr: 4-Terphenyl-d14	80.4	0	21.7-98.7		%Rec	1	11/1/2017 2:23:33 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Acetone	ND	8.2	50	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
2-Butanone	ND	11	50	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Carbon disulfide	ND	4.0	50	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:05:00 PM
Lab ID: 1710D21-011
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/27/2017 11:46:00 PM	B46694
Surr: 1,2-Dichloroethane-d4	106	0	70-130	D	%Rec	10	10/27/2017 11:46:00 PM	B46694
Surr: 4-Bromofluorobenzene	99.8	0	70-130	D	%Rec	10	10/27/2017 11:46:00 PM	B46694
Surr: Dibromofluoromethane	105	0	70-130	D	%Rec	10	10/27/2017 11:46:00 PM	B46694
Surr: Toluene-d8	99.1	0	70-130	D	%Rec	10	10/27/2017 11:46:00 PM	B46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	470000	500	500		µmhos/c	100	10/26/2017 7:53:44 PM	R46730
SM4500-H+B: PH							Analyst: **JRR**	

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-11
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 12:05:00 PM
Lab ID: 1710D21-011
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.61			H	pH units	1	10/26/2017 12:39:50 PM	R46730

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:40:00 AM
Lab ID: 1710D21-012
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	27	4.4	10	*	mg/L	100	10/26/2017 11:12:48 AM	R46695
Chloride	1500	50	100		mg/L	200	11/7/2017 8:25:41 PM	R46976
Nitrogen, Nitrite (As N)	ND	0.69	10		mg/L	100	10/26/2017 11:12:48 AM	R46695
Bromide	6.7	0.15	1.0		mg/L	10	10/26/2017 11:00:23 AM	R46695
Nitrogen, Nitrate (As N)	ND	0.22	1.0		mg/L	10	10/26/2017 11:00:23 AM	R46695
Phosphorus, Orthophosphate (As P)	ND	2.5	5.0		mg/L	10	10/26/2017 11:00:23 AM	R46695
Sulfate	520	19	100		mg/L	200	11/7/2017 8:25:41 PM	R46976
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.19	0.00099	0.0020		mg/L	1	11/7/2017 7:24:48 PM	A46958
Cadmium	ND	0.0010	0.0020		mg/L	1	11/6/2017 7:34:58 PM	B46923
Calcium	700	0.78	10		mg/L	10	11/6/2017 3:45:59 PM	B46923
Chromium	0.013	0.0013	0.0060		mg/L	1	11/7/2017 7:24:48 PM	A46958
Copper	ND	0.0032	0.0060		mg/L	1	11/6/2017 7:34:58 PM	B46923
Iron	0.22	0.016	0.020		mg/L	1	11/7/2017 7:24:48 PM	A46958
Magnesium	320	2.5	10		mg/L	10	11/6/2017 3:45:59 PM	B46923
Manganese	0.19	0.00039	0.0020	*	mg/L	1	11/7/2017 7:24:48 PM	A46958
Potassium	720	1.1	10		mg/L	10	11/6/2017 3:45:59 PM	B46923
Silver	ND	0.0018	0.0050		mg/L	1	11/7/2017 7:24:48 PM	A46958
Sodium	8400	16	100		mg/L	100	11/6/2017 5:54:25 PM	B46923
Zinc	0.013	0.0021	0.010		mg/L	1	11/7/2017 7:24:48 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.21	0.0010	0.0020		mg/L	1	11/7/2017 4:29:26 PM	34838
Cadmium	ND	0.00058	0.0020		mg/L	1	11/7/2017 4:29:26 PM	34838
Chromium	0.013	0.0018	0.0060		mg/L	1	11/7/2017 4:29:26 PM	34838
Copper	ND	0.0041	0.0060		mg/L	1	11/7/2017 4:29:26 PM	34838
Iron	0.54	0.010	0.020	*	mg/L	1	11/7/2017 4:29:26 PM	34838
Manganese	0.20	0.0011	0.0020	*	mg/L	1	11/7/2017 4:29:26 PM	34838
Silver	ND	0.0012	0.0050		mg/L	1	11/7/2017 4:29:26 PM	34838
Zinc	0.0088	0.0033	0.010	J	mg/L	1	11/7/2017 4:29:26 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.036	0.0029	0.010	*	mg/L	10	11/2/2017 9:44:36 PM	B46846
Lead	ND	0.0017	0.0050		mg/L	10	11/2/2017 9:44:36 PM	C46846
Selenium	ND	0.38	0.50		mg/L	500	11/14/2017 5:22:32 PM	A47129
Uranium	0.0023	0.00096	0.0050	J	mg/L	10	11/2/2017 9:44:36 PM	C46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.036	0.0041	0.010	*	mg/L	10	11/14/2017 9:57:26 AM	34838
Lead	ND	0.0023	0.0050		mg/L	10	11/14/2017 9:57:26 AM	34838

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:40:00 AM
Lab ID: 1710D21-012
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Selenium	ND	0.098	0.10		mg/L	100	11/16/2017 12:01:20 PM	34838
Uranium	0.0028	0.0015	0.0050	J	mg/L	10	11/14/2017 9:57:26 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:50:38 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Acenaphthylene	ND	35	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Aniline	ND	31	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Anthracene	ND	35	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Azobenzene	ND	45	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Benz(a)anthracene	ND	39	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Benzo(a)pyrene	ND	40	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Benzo(b)fluoranthene	ND	40	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Benzo(g,h,i)perylene	ND	40	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Benzo(k)fluoranthene	ND	44	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Benzoic acid	ND	39	200		µg/L	1	11/1/2017 2:51:52 PM	34645
Benzyl alcohol	ND	46	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Bis(2-chloroethoxy)methane	ND	43	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Bis(2-chloroethyl)ether	ND	43	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Bis(2-chloroisopropyl)ether	ND	39	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Bis(2-ethylhexyl)phthalate	ND	48	100		µg/L	1	11/1/2017 2:51:52 PM	34645
4-Bromophenyl phenyl ether	ND	46	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Butyl benzyl phthalate	ND	46	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Carbazole	ND	46	100		µg/L	1	11/1/2017 2:51:52 PM	34645
4-Chloro-3-methylphenol	ND	63	100		µg/L	1	11/1/2017 2:51:52 PM	34645
4-Chloroaniline	ND	35	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2-Chloronaphthalene	ND	37	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2-Chlorophenol	ND	75	100		µg/L	1	11/1/2017 2:51:52 PM	34645
4-Chlorophenyl phenyl ether	ND	36	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Chrysene	ND	38	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Di-n-butyl phthalate	ND	50	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Di-n-octyl phthalate	ND	47	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Dibenz(a,h)anthracene	ND	46	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Dibenzofuran	ND	41	100		µg/L	1	11/1/2017 2:51:52 PM	34645
1,2-Dichlorobenzene	ND	20	100		µg/L	1	11/1/2017 2:51:52 PM	34645
1,3-Dichlorobenzene	ND	18	100		µg/L	1	11/1/2017 2:51:52 PM	34645
1,4-Dichlorobenzene	ND	21	100		µg/L	1	11/1/2017 2:51:52 PM	34645
3,3´-Dichlorobenzidine	ND	39	100		µg/L	1	11/1/2017 2:51:52 PM	34645

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:40:00 AM
Lab ID: 1710D21-012
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Diethyl phthalate	ND	40	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Dimethyl phthalate	ND	36	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2,4-Dichlorophenol	ND	57	200		µg/L	1	11/1/2017 2:51:52 PM	34645
2,4-Dimethylphenol	ND	28	100		µg/L	1	11/1/2017 2:51:52 PM	34645
4,6-Dinitro-2-methylphenol	ND	39	200		µg/L	1	11/1/2017 2:51:52 PM	34645
2,4-Dinitrophenol	ND	26	200		µg/L	1	11/1/2017 2:51:52 PM	34645
2,4-Dinitrotoluene	ND	40	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2,6-Dinitrotoluene	ND	45	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Fluoranthene	ND	43	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Fluorene	ND	40	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Hexachlorobenzene	ND	38	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Hexachlorobutadiene	ND	13	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Hexachlorocyclopentadiene	ND	13	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Hexachloroethane	ND	12	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Indeno(1,2,3-cd)pyrene	ND	42	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Isophorone	ND	44	100		µg/L	1	11/1/2017 2:51:52 PM	34645
1-Methylnaphthalene	ND	33	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2-Methylnaphthalene	ND	33	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2-Methylphenol	ND	33	100		µg/L	1	11/1/2017 2:51:52 PM	34645
3+4-Methylphenol	ND	32	100		µg/L	1	11/1/2017 2:51:52 PM	34645
N-Nitrosodi-n-propylamine	ND	46	100		µg/L	1	11/1/2017 2:51:52 PM	34645
N-Nitrosodimethylamine	ND	35	100		µg/L	1	11/1/2017 2:51:52 PM	34645
N-Nitrosodiphenylamine	ND	39	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Naphthalene	ND	29	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2-Nitroaniline	ND	49	100		µg/L	1	11/1/2017 2:51:52 PM	34645
3-Nitroaniline	ND	43	100		µg/L	1	11/1/2017 2:51:52 PM	34645
4-Nitroaniline	ND	40	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Nitrobenzene	ND	36	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2-Nitrophenol	ND	52	100		µg/L	1	11/1/2017 2:51:52 PM	34645
4-Nitrophenol	ND	55	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Pentachlorophenol	ND	49	200		µg/L	1	11/1/2017 2:51:52 PM	34645
Phenanthrene	ND	43	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Phenol	ND	31	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Pyrene	ND	44	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Pyridine	ND	23	100		µg/L	1	11/1/2017 2:51:52 PM	34645
1,2,4-Trichlorobenzene	ND	21	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2,4,5-Trichlorophenol	ND	51	100		µg/L	1	11/1/2017 2:51:52 PM	34645
2,4,6-Trichlorophenol	ND	55	100		µg/L	1	11/1/2017 2:51:52 PM	34645
Surr: 2-Fluorophenol	39.6	0	15-88		%Rec	1	11/1/2017 2:51:52 PM	34645

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:40:00 AM
Lab ID: 1710D21-012
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: Phenol-d5	33.8	0	15-72.4		%Rec	1	11/1/2017 2:51:52 PM	34645
Surr: 2,4,6-Tribromophenol	48.9	0	15-117		%Rec	1	11/1/2017 2:51:52 PM	34645
Surr: Nitrobenzene-d5	56.7	0	33.5-120		%Rec	1	11/1/2017 2:51:52 PM	34645
Surr: 2-Fluorobiphenyl	32.6	0	26.5-109		%Rec	1	11/1/2017 2:51:52 PM	34645
Surr: 4-Terphenyl-d14	49.4	0	21.7-98.7		%Rec	1	11/1/2017 2:51:52 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Acetone	ND	8.2	50	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
2-Butanone	ND	11	50	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Carbon disulfide	ND	4.0	50	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:40:00 AM
Lab ID: 1710D21-012
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/28/2017 12:10:00 AM	B46694
Surr: 1,2-Dichloroethane-d4	103	0	70-130	D	%Rec	10	10/28/2017 12:10:00 AM	B46694
Surr: 4-Bromofluorobenzene	99.8	0	70-130	D	%Rec	10	10/28/2017 12:10:00 AM	B46694
Surr: Dibromofluoromethane	104	0	70-130	D	%Rec	10	10/28/2017 12:10:00 AM	B46694
Surr: Toluene-d8	97.1	0	70-130	D	%Rec	10	10/28/2017 12:10:00 AM	B46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	54000	250	250		µmhos/c	50	10/26/2017 7:58:18 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12A
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:40:00 AM
Lab ID: 1710D21-012
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.76			H	pH units	1	10/26/2017 12:51:36 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:25:00 AM
Lab ID: 1710D21-013
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	34	0.44	1.0	*	mg/L	10	10/26/2017 10:56:43 AM	R46677
Chloride	4000	120	250		mg/L	500	11/7/2017 8:38:05 PM	R46976
Nitrogen, Nitrite (As N)	ND	0.69	10		mg/L	100	10/26/2017 11:09:07 AM	R46677
Bromide	ND	0.15	1.0		mg/L	10	10/26/2017 10:56:43 AM	R46677
Nitrogen, Nitrate (As N)	ND	0.22	1.0		mg/L	10	10/26/2017 10:56:43 AM	R46677
Phosphorus, Orthophosphate (As P)	ND	2.5	5.0		mg/L	10	10/26/2017 10:56:43 AM	R46677
Sulfate	1200	9.6	50		mg/L	100	10/26/2017 11:09:07 AM	R46677
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.16	0.00099	0.0020		mg/L	1	11/7/2017 7:26:39 PM	A46958
Cadmium	ND	0.0010	0.0020		mg/L	1	11/6/2017 7:36:53 PM	B46923
Calcium	230	0.78	10		mg/L	10	11/6/2017 3:48:03 PM	B46923
Chromium	0.0044	0.0013	0.0060	J	mg/L	1	11/7/2017 7:26:39 PM	A46958
Copper	ND	0.0032	0.0060		mg/L	1	11/6/2017 7:36:53 PM	B46923
Iron	0.63	0.016	0.020	*	mg/L	1	11/7/2017 7:26:39 PM	A46958
Magnesium	77	0.25	1.0		mg/L	1	11/7/2017 7:26:39 PM	A46958
Manganese	0.30	0.00039	0.0020	*	mg/L	1	11/7/2017 7:26:39 PM	A46958
Potassium	370	1.1	10		mg/L	10	11/6/2017 3:48:03 PM	B46923
Silver	ND	0.0018	0.0050		mg/L	1	11/7/2017 7:26:39 PM	A46958
Sodium	2500	8.2	50		mg/L	50	11/6/2017 4:40:01 PM	B46923
Zinc	0.0098	0.0021	0.010	J	mg/L	1	11/7/2017 7:26:39 PM	A46958
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.17	0.0010	0.0020		mg/L	1	11/7/2017 4:31:21 PM	34838
Cadmium	ND	0.00058	0.0020		mg/L	1	11/7/2017 4:31:21 PM	34838
Chromium	0.0042	0.0018	0.0060	J	mg/L	1	11/7/2017 4:31:21 PM	34838
Copper	ND	0.0041	0.0060		mg/L	1	11/7/2017 4:31:21 PM	34838
Iron	0.85	0.010	0.020	*	mg/L	1	11/7/2017 4:31:21 PM	34838
Manganese	0.31	0.0011	0.0020	*	mg/L	1	11/7/2017 4:31:21 PM	34838
Silver	ND	0.0012	0.0050		mg/L	1	11/7/2017 4:31:21 PM	34838
Zinc	0.016	0.0033	0.010		mg/L	1	11/7/2017 4:31:21 PM	34838
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.011	0.0014	0.0050	*	mg/L	5	11/2/2017 7:32:03 PM	A46846
Lead	ND	0.00087	0.0025		mg/L	5	11/2/2017 7:32:03 PM	B46846
Selenium	0.014	0.0038	0.0050		mg/L	5	11/2/2017 7:32:03 PM	B46846
Uranium	ND	0.00048	0.0025		mg/L	5	11/2/2017 7:32:03 PM	B46846
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.012	0.0041	0.010	*	mg/L	10	11/14/2017 10:10:33 AM	34838
Lead	ND	0.0023	0.0050		mg/L	10	11/14/2017 10:10:33 AM	34838

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:25:00 AM
Lab ID: 1710D21-013
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Selenium	ND	0.098	0.10		mg/L	100	11/16/2017 12:07:54 PM	34838
Uranium	ND	0.0015	0.0050		mg/L	10	11/14/2017 10:10:33 AM	34838
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	11/8/2017 11:52:32 AM	34861
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Acenaphthylene	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Aniline	ND	15	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Anthracene	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Azobenzene	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Benz(a)anthracene	ND	19	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Benzo(a)pyrene	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Benzo(b)fluoranthene	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Benzo(k)fluoranthene	ND	22	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Benzoic acid	41	20	100	J	µg/L	1	11/1/2017 3:20:11 PM	34645
Benzyl alcohol	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Bis(2-ethylhexyl)phthalate	ND	24	50		µg/L	1	11/1/2017 3:20:11 PM	34645
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Butyl benzyl phthalate	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Carbazole	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	11/1/2017 3:20:11 PM	34645
4-Chloroaniline	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2-Chloronaphthalene	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2-Chlorophenol	ND	38	50		µg/L	1	11/1/2017 3:20:11 PM	34645
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Chrysene	ND	19	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Di-n-butyl phthalate	ND	25	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Di-n-octyl phthalate	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Dibenzofuran	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
1,2-Dichlorobenzene	ND	10	50		µg/L	1	11/1/2017 3:20:11 PM	34645
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	11/1/2017 3:20:11 PM	34645
1,4-Dichlorobenzene	ND	11	50		µg/L	1	11/1/2017 3:20:11 PM	34645
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:25:00 AM
Lab ID: 1710D21-013
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Diethyl phthalate	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Dimethyl phthalate	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2,4-Dichlorophenol	ND	28	100		µg/L	1	11/1/2017 3:20:11 PM	34645
2,4-Dimethylphenol	ND	14	50		µg/L	1	11/1/2017 3:20:11 PM	34645
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	11/1/2017 3:20:11 PM	34645
2,4-Dinitrophenol	ND	13	100		µg/L	1	11/1/2017 3:20:11 PM	34645
2,4-Dinitrotoluene	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2,6-Dinitrotoluene	ND	22	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Fluoranthene	ND	21	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Fluorene	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Hexachlorobenzene	ND	19	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Hexachlorobutadiene	ND	6.7	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Hexachloroethane	ND	6.0	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Isophorone	ND	22	50		µg/L	1	11/1/2017 3:20:11 PM	34645
1-Methylnaphthalene	ND	17	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2-Methylnaphthalene	ND	16	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2-Methylphenol	ND	17	50		µg/L	1	11/1/2017 3:20:11 PM	34645
3+4-Methylphenol	26	16	50	J	µg/L	1	11/1/2017 3:20:11 PM	34645
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	11/1/2017 3:20:11 PM	34645
N-Nitrosodimethylamine	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Naphthalene	ND	14	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2-Nitroaniline	ND	25	50		µg/L	1	11/1/2017 3:20:11 PM	34645
3-Nitroaniline	ND	22	50		µg/L	1	11/1/2017 3:20:11 PM	34645
4-Nitroaniline	ND	20	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Nitrobenzene	ND	18	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2-Nitrophenol	ND	26	50		µg/L	1	11/1/2017 3:20:11 PM	34645
4-Nitrophenol	ND	27	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Pentachlorophenol	ND	25	100		µg/L	1	11/1/2017 3:20:11 PM	34645
Phenanthrene	ND	22	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Phenol	ND	16	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Pyrene	26	22	50	J	µg/L	1	11/1/2017 3:20:11 PM	34645
Pyridine	ND	11	50		µg/L	1	11/1/2017 3:20:11 PM	34645
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	11/1/2017 3:20:11 PM	34645
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	11/1/2017 3:20:11 PM	34645
Surr: 2-Fluorophenol	52.6	0	15-88		%Rec	1	11/1/2017 3:20:11 PM	34645

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:25:00 AM
Lab ID: 1710D21-013
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: Phenol-d5	45.2	0	15-72.4		%Rec	1	11/1/2017 3:20:11 PM	34645
Surr: 2,4,6-Tribromophenol	69.5	0	15-117		%Rec	1	11/1/2017 3:20:11 PM	34645
Surr: Nitrobenzene-d5	74.1	0	33.5-120		%Rec	1	11/1/2017 3:20:11 PM	34645
Surr: 2-Fluorobiphenyl	60.4	0	26.5-109		%Rec	1	11/1/2017 3:20:11 PM	34645
Surr: 4-Terphenyl-d14	47.0	0	21.7-98.7		%Rec	1	11/1/2017 3:20:11 PM	34645
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Toluene	ND	0.64	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Ethylbenzene	ND	0.93	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Methyl tert-butyl ether (MTBE)	ND	2.4	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,3,5-Trimethylbenzene	ND	0.87	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2-Dichloroethane (EDC)	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2-Dibromoethane (EDB)	ND	1.3	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Naphthalene	ND	1.1	10	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1-Methylnaphthalene	ND	1.6	20	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
2-Methylnaphthalene	ND	1.5	20	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Acetone	130	8.2	50	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Bromobenzene	ND	1.4	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Bromodichloromethane	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Bromoform	ND	2.1	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Bromomethane	ND	2.6	15	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
2-Butanone	ND	11	50	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Carbon disulfide	12	4.0	50	JD	µg/L	10	10/28/2017 12:34:00 AM	B46694
Carbon Tetrachloride	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Chlorobenzene	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Chloroethane	ND	2.3	10	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Chloroform	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Chloromethane	ND	2.9	15	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
2-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
4-Chlorotoluene	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
cis-1,2-DCE	ND	2.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
cis-1,3-Dichloropropene	ND	0.82	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2-Dibromo-3-chloropropane	ND	14	10	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Dibromochloromethane	ND	0.72	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Dibromomethane	ND	0.91	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2-Dichlorobenzene	ND	0.90	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,3-Dichlorobenzene	ND	1.5	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,4-Dichlorobenzene	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:25:00 AM
Lab ID: 1710D21-013
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dichlorodifluoromethane	ND	10	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,1-Dichloroethane	ND	4.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,1-Dichloroethene	ND	0.81	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,3-Dichloropropane	ND	1.7	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
2,2-Dichloropropane	ND	1.6	10	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,1-Dichloropropene	ND	0.93	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Hexachlorobutadiene	ND	8.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
2-Hexanone	ND	6.6	50	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Isopropylbenzene	ND	0.51	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
4-Isopropyltoluene	ND	0.96	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
4-Methyl-2-pentanone	ND	7.1	50	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Methylene Chloride	ND	1.1	15	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
n-Butylbenzene	ND	1.3	15	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
n-Propylbenzene	ND	0.74	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
sec-Butylbenzene	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Styrene	ND	1.6	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,1,2,2-Tetrachloroethane	ND	1.4	10	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Tetrachloroethene (PCE)	ND	1.3	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
trans-1,2-DCE	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
trans-1,3-Dichloropropene	ND	2.2	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2,3-Trichlorobenzene	ND	1.2	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2,4-Trichlorobenzene	ND	1.4	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,1,1-Trichloroethane	ND	0.73	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,1,2-Trichloroethane	ND	1.4	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Trichloroethene (TCE)	ND	1.1	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Trichlorofluoromethane	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
1,2,3-Trichloropropane	ND	3.9	10	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Vinyl chloride	ND	1.8	5.0	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Xylenes, Total	ND	3.2	7.5	D	µg/L	10	10/28/2017 12:34:00 AM	B46694
Surr: 1,2-Dichloroethane-d4	103	0	70-130	D	%Rec	10	10/28/2017 12:34:00 AM	B46694
Surr: 4-Bromofluorobenzene	99.4	0	70-130	D	%Rec	10	10/28/2017 12:34:00 AM	B46694
Surr: Dibromofluoromethane	107	0	70-130	D	%Rec	10	10/28/2017 12:34:00 AM	B46694
Surr: Toluene-d8	95.9	0	70-130	D	%Rec	10	10/28/2017 12:34:00 AM	B46694
SM2510B: SPECIFIC CONDUCTANCE							Analyst: **JRR**	
Conductivity	17000	25	25		µmhos/c	5	10/26/2017 8:02:51 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EP-12B
Project: 2016 Semi Annual Ponds
Collection Date: 10/24/2017 11:25:00 AM
Lab ID: 1710D21-013
Matrix: AQUEOUS
Received Date: 10/25/2017 9:40:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
SM4500-H+B: PH							Analyst: **JRR**	
pH	7.44			H	pH units	1	10/26/2017 12:55:48 PM	R46730

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	767		10.0	1	10/29/2017 09:36	WG1036505

Method Blank (MB)

(MB) R3261352-1 10/29/17 09:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L946408-01 Original Sample (OS) • Duplicate (DUP)

(OS) L946408-01 10/29/17 09:29 • (DUP) R3261352-4 10/29/17 09:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	70.0	75.5	1	8		20

L946516-02 Original Sample (OS) • Duplicate (DUP)

(OS) L946516-02 10/29/17 09:38 • (DUP) R3261352-7 10/29/17 09:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	993	971	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3261352-2 10/29/17 09:28 • (LCSD) R3261352-3 10/29/17 09:28

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	242	239	100	99	90-110			2	20

L946447-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946447-01 10/29/17 09:33 • (MS) R3261352-5 10/29/17 09:33 • (MSD) R3261352-6 10/29/17 09:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	209	623	622	103	103	1	80-120			0	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Tc
2 Ss
3 Cn
4 Sr
5 Qc
6 Gl
7 Al
8 Sc

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46923**	RunNo: **46923**
Prep Date:	Analysis Date: **11/6/2017**	SeqNo: **1497084** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46923**	RunNo: **46923**
Prep Date:	Analysis Date: **11/6/2017**	SeqNo: **1497086** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	104	50	150			
Cadmium	0.0024	0.0020	0.002000	0	118	50	150			
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Chromium	0.0069	0.0060	0.006000	0	116	50	150			
Copper	0.0064	0.0060	0.006000	0	106	50	150			
Iron	0.023	0.020	0.02000	0	116	50	150			
Magnesium	0.55	1.0	0.5000	0	110	50	150			J
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Potassium	0.56	1.0	0.5000	0	112	50	150			J
Silver	0.0050	0.0050	0.005000	0	101	50	150			
Sodium	0.51	1.0	0.5000	0	102	50	150			J
Zinc	0.0056	0.010	0.005000	0	112	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46923**	RunNo: **46923**
Prep Date:	Analysis Date: **11/6/2017**	SeqNo: **1497088** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.8	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Calcium	50	1.0	50.00	0	99.2	85	115			
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46923**	RunNo: **46923**
Prep Date:	Analysis Date: **11/6/2017**	SeqNo: **1497088** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.50	0.0060	0.5000	0	101	85	115			
Iron	0.50	0.020	0.5000	0	99.0	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	98.9	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Zinc	0.48	0.010	0.5000	0	95.0	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46958**	RunNo: **46958**
Prep Date:	Analysis Date: **11/7/2017**	SeqNo: **1498240** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46958**	RunNo: **46958**
Prep Date:	Analysis Date: **11/7/2017**	SeqNo: **1498241** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	112	50	150			
Cadmium	0.0021	0.0020	0.002000	0	104	50	150			
Chromium	0.0062	0.0060	0.006000	0	103	50	150			
Copper	0.0057	0.0060	0.006000	0	94.5	50	150			J
Iron	0.022	0.020	0.02000	0	110	50	150			
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Manganese	0.0021	0.0020	0.002000	0	107	50	150			
Silver	0.0051	0.0050	0.005000	0	103	50	150			
Zinc	0.0060	0.010	0.005000	0	119	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46958**	RunNo: **46958**
Prep Date:	Analysis Date: **11/7/2017**	SeqNo: **1498242** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Copper	0.49	0.0060	0.5000	0	98.8	85	115			
Iron	0.50	0.020	0.5000	0	99.8	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.50	0.0020	0.5000	0	99.6	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **MB-34838**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34838**	RunNo: **46958**
Prep Date: **11/6/2017**	Analysis Date: **11/7/2017**	SeqNo: **1498246** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-34838**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34838**	RunNo: **46958**
Prep Date: **11/6/2017**	Analysis Date: **11/7/2017**	SeqNo: **1498247** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	97.0	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	90.0	50	150			J
Chromium	0.0061	0.0060	0.006000	0	102	50	150			
Copper	0.0044	0.0060	0.006000	0	72.8	50	150			J
Iron	0.022	0.020	0.02000	0	112	50	150			
Manganese	0.0021	0.0020	0.002000	0	105	50	150			
Silver	0.0046	0.0050	0.005000	0	92.4	50	150			J
Zinc	0.0059	0.010	0.005000	0	117	50	150			J

Sample ID **LCS-34838**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34838**	RunNo: **46958**
Prep Date: **11/6/2017**	Analysis Date: **11/7/2017**	SeqNo: **1498248** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.1	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			
Copper	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Manganese	0.50	0.0020	0.5000	0	99.1	85	115			
Silver	0.10	0.0050	0.1000	0	99.6	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B46846**	RunNo: **46846**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494397** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B46846**	RunNo: **46846**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494400** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	98.9	50	150			J
Selenium	0.0011	0.0010	0.001000	0	109	50	150			
Uranium	0.00049	0.00050	0.0005000	0	97.5	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B46846**	RunNo: **46846**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494402** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.1	85	115			
Selenium	0.024	0.0010	0.02500	0	97.4	85	115			
Uranium	0.012	0.00050	0.01250	0	93.2	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C46846**	RunNo: **46846**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494468** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C46846**	RunNo: **46846**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1494471** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00052	0.00050	0.0005000	0	103	50	150			
Selenium	0.0010	0.0010	0.001000	0	100	50	150			
Uranium	0.00048	0.00050	0.0005000	0	96.1	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**C46846**		RunNo:	**46846**				
Prep Date:		Analysis Date:	**11/2/2017**		SeqNo:	**1494474**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	96.4	85	115			
Selenium	0.024	0.0010	0.02500	0	94.3	85	115			
Uranium	0.012	0.00050	0.01250	0	93.4	85	115			

Sample ID	**1710D21-004DLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-3**	Batch ID:	**C46846**		RunNo:	**46846**				
Prep Date:		Analysis Date:	**11/2/2017**		SeqNo:	**1494479**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.066	0.0025	0.06250	0	105	70	130			
Selenium	0.11	0.0050	0.1250	0.01121	82.0	70	130			
Uranium	0.068	0.0025	0.06250	0	109	70	130			

Sample ID	**1710D21-004DLLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-3**	Batch ID:	**C46846**		RunNo:	**46846**				
Prep Date:		Analysis Date:	**11/2/2017**		SeqNo:	**1494482**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.067	0.0025	0.06250	0	107	70	130	1.95	20	
Selenium	0.11	0.0050	0.1250	0.01121	82.8	70	130	0.842	20	
Uranium	0.069	0.0025	0.06250	0	111	70	130	1.41	20	

Sample ID	**1710D21-005DLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-4**	Batch ID:	**C46846**		RunNo:	**46846**				
Prep Date:		Analysis Date:	**11/2/2017**		SeqNo:	**1494491**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.066	0.0025	0.06250	0	105	70	130			
Selenium	0.11	0.0050	0.1250	0.01342	81.0	70	130			
Uranium	0.068	0.0025	0.06250	0.0005001	107	70	130			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B46919**		RunNo:	**46919**				
Prep Date:		Analysis Date:	**11/6/2017**		SeqNo:	**1496696**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B46919**	RunNo:	**46919**					
Prep Date:		Analysis Date:	**11/6/2017**	SeqNo:	**1496697**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00054	0.00050	0.0005000	0	107	50	150			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B46919**	RunNo:	**46919**					
Prep Date:		Analysis Date:	**11/6/2017**	SeqNo:	**1496698**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B46971**	RunNo:	**46971**					
Prep Date:		Analysis Date:	**11/7/2017**	SeqNo:	**1498699**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B46971**	RunNo:	**46971**					
Prep Date:		Analysis Date:	**11/7/2017**	SeqNo:	**1498700**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00046	0.00050	0.0005000	0	91.1	50	150			J

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B46971**	RunNo:	**46971**					
Prep Date:		Analysis Date:	**11/7/2017**	SeqNo:	**1498701**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0	91.7	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B47085**	RunNo:	**47085**					
Prep Date:		Analysis Date:	**11/13/2017**	SeqNo:	**1502477**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47085**	RunNo: **47085**
Prep Date:	Analysis Date: **11/13/2017**	SeqNo: **1502478** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00053	0.00050	0.0005000	0	106	50	150			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47085**	RunNo: **47085**
Prep Date:	Analysis Date: **11/13/2017**	SeqNo: **1502479** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	96.4	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A47129**	RunNo: **47129**
Prep Date:	Analysis Date: **11/14/2017**	SeqNo: **1503452** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A47129**	RunNo: **47129**
Prep Date:	Analysis Date: **11/14/2017**	SeqNo: **1503453** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00099	0.0010	0.001000	0	98.9	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A47129**	RunNo: **47129**
Prep Date:	Analysis Date: **11/14/2017**	SeqNo: **1503454** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	93.7	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46846KED**	RunNo: **46846**
Prep Date:	Analysis Date: **11/2/2017**	SeqNo: **1507835** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A46846KED**	RunNo:	**46846**					
Prep Date:		Analysis Date:	**11/2/2017**	SeqNo:	**1507836**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**A46846KED**	RunNo:	**46846**					
Prep Date:		Analysis Date:	**11/2/2017**	SeqNo:	**1507837**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.7	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B46846KED**	RunNo:	**46846**					
Prep Date:		Analysis Date:	**11/2/2017**	SeqNo:	**1507845**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B46846KED**	RunNo:	**46846**					
Prep Date:		Analysis Date:	**11/2/2017**	SeqNo:	**1507846**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B46846KED**	RunNo:	**46846**					
Prep Date:		Analysis Date:	**11/2/2017**	SeqNo:	**1507847**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.1	85	115			

Sample ID	**1710D21-004DLLMS**	SampType:	**MS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**EP-3**	Batch ID:	**B46846KED**	RunNo:	**46846**					
Prep Date:		Analysis Date:	**11/2/2017**	SeqNo:	**1507851**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.01138	91.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**1710D21-004DLLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-3**	Batch ID:	**B46846KED**		RunNo:	**46846**				
Prep Date:		Analysis Date:	**11/2/2017**		SeqNo:	**1507852**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.01138	90.6	70	130	0.554	20	

Sample ID	**1710D21-005DLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**EP-4**	Batch ID:	**B46846KED**		RunNo:	**46846**				
Prep Date:		Analysis Date:	**11/2/2017**		SeqNo:	**1507855**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.01269	90.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**MB-34838**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34838**	RunNo:	**46936**					
Prep Date:	**11/6/2017**	Analysis Date:	**11/7/2017**	SeqNo:	**1497464**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-34838**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34838**	RunNo:	**46936**					
Prep Date:	**11/6/2017**	Analysis Date:	**11/7/2017**	SeqNo:	**1497465**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00045	0.00050	0.0005000	0	90.9	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.6	50	150			J

Sample ID	**MSLCS-34838**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34838**	RunNo:	**46936**					
Prep Date:	**11/6/2017**	Analysis Date:	**11/7/2017**	SeqNo:	**1497466**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	96.7	85	115			
Uranium	0.012	0.00050	0.01250	0	98.9	85	115			

Sample ID	**MB-34838**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**34838**	RunNo:	**46966**					
Prep Date:	**11/6/2017**	Analysis Date:	**11/8/2017**	SeqNo:	**1498639**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**MSLLLCS-34838**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34838**	RunNo:	**46966**					
Prep Date:	**11/6/2017**	Analysis Date:	**11/8/2017**	SeqNo:	**1498640**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00089	0.0010	0.001000	0	89.4	50	150			J
Selenium	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID	**MSLCS-34838**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34838**	RunNo:	**46966**					
Prep Date:	**11/6/2017**	Analysis Date:	**11/8/2017**	SeqNo:	**1498641**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**MSLCS-34838**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**34838**	RunNo:	**46966**					
Prep Date:	**11/6/2017**	Analysis Date:	**11/8/2017**	SeqNo:	**1498641**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.4	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**MB-34861**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34861**	RunNo:	**46962**					
Prep Date:	**11/7/2017**	Analysis Date:	**11/8/2017**	SeqNo:	**1498253**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34861**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34861**	RunNo:	**46962**					
Prep Date:	**11/7/2017**	Analysis Date:	**11/8/2017**	SeqNo:	**1498254**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.7	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46695**	RunNo: **46695**
Prep Date:	Analysis Date: **10/26/2017**	SeqNo: **1487821** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.15	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46695**	RunNo: **46695**
Prep Date:	Analysis Date: **10/26/2017**	SeqNo: **1487822** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	106	90	110			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	93.4	90	110			
Bromide	2.4	0.10	2.500	0	96.4	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.6	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	94.4	90	110			
Sulfate	9.6	0.50	10.00	0	95.5	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46677**	RunNo: **46677**
Prep Date:	Analysis Date: **10/26/2017**	SeqNo: **1487994** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46677**	RunNo: **46677**
Prep Date:	Analysis Date: **10/26/2017**	SeqNo: **1487995** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	108	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.0	90	110			
Bromide	2.4	0.10	2.500	0	97.1	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46677**	RunNo: **46677**
Prep Date:	Analysis Date: **10/26/2017**	SeqNo: **1487995** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.0	90	110			
Sulfate	9.8	0.50	10.00	0	98.0	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46976**	RunNo: **46976**
Prep Date:	Analysis Date: **11/7/2017**	SeqNo: **1498767** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46976**	RunNo: **46976**
Prep Date:	Analysis Date: **11/7/2017**	SeqNo: **1498768** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	99.3	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	104	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47036**	RunNo: **47036**
Prep Date:	Analysis Date: **11/9/2017**	SeqNo: **1500782** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47036**	RunNo: **47036**
Prep Date:	Analysis Date: **11/9/2017**	SeqNo: **1500783** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1487796** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	20	1.0	20.00	0	98.8	70	130			
Chlorobenzene	20	1.0	20.00	0	98.8	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1487797** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1487797** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1487797** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **1710d21-008ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **EP-7**	Batch ID: **B46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1488852** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	400	10	400.0	0	100	70	130			D
Toluene	380	10	400.0	0	94.4	70	130			D
Chlorobenzene	380	10	400.0	0	95.7	70	130			D
1,1-Dichloroethene	420	10	400.0	0	106	70	130			D
Trichloroethene (TCE)	390	10	400.0	0	98.3	70	130			D
Surr: 1,2-Dichloroethane-d4	110		100.0		105	70	130			D
Surr: 4-Bromofluorobenzene	100		100.0		101	70	130			D
Surr: Dibromofluoromethane	110		100.0		105	70	130			D
Surr: Toluene-d8	97		100.0		96.9	70	130			D

Sample ID **1710d21-008amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **EP-7**	Batch ID: **B46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1488853** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	450	10	400.0	0	112	70	130	11.5	20	D
Toluene	440	10	400.0	0	109	70	130	14.3	20	D
Chlorobenzene	440	10	400.0	0	110	70	130	14.3	20	D
1,1-Dichloroethene	470	10	400.0	0	117	70	130	9.91	20	D
Trichloroethene (TCE)	440	10	400.0	0	109	70	130	10.5	20	D
Surr: 1,2-Dichloroethane-d4	100		100.0		105	70	130	0	0	D
Surr: 4-Bromofluorobenzene	100		100.0		101	70	130	0	0	D
Surr: Dibromofluoromethane	100		100.0		105	70	130	0	0	D
Surr: Toluene-d8	99		100.0		98.7	70	130	0	0	D

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1488862** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID **RB2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1488863** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **RB2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1488863** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **RB2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B46694**	RunNo: **46694**
Prep Date:	Analysis Date: **10/27/2017**	SeqNo: **1488863** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **lcs-34645**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489971** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	76.0	41.2	98.9			
4-Chloro-3-methylphenol	160	10	200.0	0	78.4	29.1	111			
2-Chlorophenol	170	10	200.0	0	83.0	23.3	108			
1,4-Dichlorobenzene	68	10	100.0	0	68.1	29.4	84.5			
2,4-Dinitrotoluene	68	10	100.0	0	68.1	36.6	88.7			
N-Nitrosodi-n-propylamine	91	10	100.0	0	91.0	46.9	106			
4-Nitrophenol	100	10	200.0	0	52.5	15	74.7			
Pentachlorophenol	130	20	200.0	0	65.2	28.1	85.4			
Phenol	130	10	200.0	0	64.4	15	78.2			
Pyrene	68	10	100.0	0	68.2	44.4	96.8			
1,2,4-Trichlorobenzene	64	10	100.0	0	64.4	34.3	89			
Surr: 2-Fluorophenol	130		200.0		64.9	15	88			
Surr: Phenol-d5	120		200.0		60.8	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		73.1	15	117			
Surr: Nitrobenzene-d5	70		100.0		69.6	33.5	120			
Surr: 2-Fluorobiphenyl	72		100.0		72.1	26.5	109			
Surr: 4-Terphenyl-d14	52		100.0		51.6	21.7	98.7			

Sample ID **lcsd-34645**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489972** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	62	10	100.0	0	62.3	41.2	98.9	19.8	37.4	
4-Chloro-3-methylphenol	120	10	200.0	0	60.8	29.1	111	25.4	26.8	
2-Chlorophenol	130	10	200.0	0	62.8	23.3	108	27.7	30.3	
1,4-Dichlorobenzene	51	10	100.0	0	50.6	29.4	84.5	29.5	32	
2,4-Dinitrotoluene	48	10	100.0	0	47.8	36.6	88.7	35.1	36.7	
N-Nitrosodi-n-propylamine	72	10	100.0	0	72.4	46.9	106	22.7	29.9	
4-Nitrophenol	43	10	200.0	0	21.7	15	74.7	82.8	28.8	R
Pentachlorophenol	95	20	200.0	0	47.4	28.1	85.4	31.5	38.2	
Phenol	83	10	200.0	0	41.6	15	78.2	43.0	39.8	R
Pyrene	60	10	100.0	0	59.7	44.4	96.8	13.3	28.3	
1,2,4-Trichlorobenzene	50	10	100.0	0	50.0	34.3	89	25.2	39.8	
Surr: 2-Fluorophenol	93		200.0		46.5	15	88	0	0	
Surr: Phenol-d5	82		200.0		40.9	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		61.5	15	117	0	0	
Surr: Nitrobenzene-d5	59		100.0		59.0	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	58		100.0		58.2	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID	**lcsd-34645**	SampType: **LCSD**		TestCode: **EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID: **34645**		RunNo: **46754**					
Prep Date:	**10/26/2017**	Analysis Date: **10/30/2017**		SeqNo: **1489972**		Units: **µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	63		100.0		62.9	21.7	98.7	0	0	

Sample ID	**mb-34645**	SampType: **MBLK**		TestCode: **EPA Method 8270C: Semivolatiles**					
Client ID:	**PBW**	Batch ID: **34645**		RunNo: **46754**					
Prep Date:	**10/26/2017**	Analysis Date: **10/30/2017**		SeqNo: **1489973**		Units: **µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.6	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID **mb-34645**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489973** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **mb-34645**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34645**	RunNo: **46754**
Prep Date: **10/26/2017**	Analysis Date: **10/30/2017**	SeqNo: **1489973** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		60.5	15	88			
Surr: Phenol-d5	110		200.0		55.2	15	72.4			
Surr: 2,4,6-Tribromophenol	140		200.0		71.3	15	117			
Surr: Nitrobenzene-d5	68		100.0		67.9	33.5	120			
Surr: 2-Fluorobiphenyl	70		100.0		69.7	26.5	109			
Surr: 4-Terphenyl-d14	70		100.0		70.5	21.7	98.7			

Sample ID **lcs-34774**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34774**	RunNo: **46990**
Prep Date: **11/2/2017**	Analysis Date: **11/8/2017**	SeqNo: **1499113** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	130		200.0		66.6	15	88			
Surr: Phenol-d5	130		200.0		64.8	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		76.6	15	117			
Surr: Nitrobenzene-d5	77		100.0		76.7	33.5	120			
Surr: 2-Fluorobiphenyl	73		100.0		73.1	26.5	109			
Surr: 4-Terphenyl-d14	49		100.0		48.8	21.7	98.7			

Sample ID **mb-34774**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34774**	RunNo: **46990**
Prep Date: **11/2/2017**	Analysis Date: **11/8/2017**	SeqNo: **1499114** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		58.8	15	88			
Surr: Phenol-d5	110		200.0		52.7	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		76.4	15	117			
Surr: Nitrobenzene-d5	76		100.0		75.7	33.5	120			
Surr: 2-Fluorobiphenyl	69		100.0		69.0	26.5	109			
Surr: 4-Terphenyl-d14	77		100.0		76.8	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID **MB-34642**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **34642**	RunNo: **46760**							
Prep Date: **10/25/2017**	Analysis Date: **10/30/2017**	SeqNo: **1490400**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID **MB--34642**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **34642**	RunNo: **46760**							
Prep Date: **10/25/2017**	Analysis Date: **10/30/2017**	SeqNo: **1490401**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID **LCS-34642**	SampType: **LCS**	TestCode: **SM5210B: BOD**							
Client ID: **LCSW**	Batch ID: **34642**	RunNo: **46760**							
Prep Date: **10/25/2017**	Analysis Date: **10/30/2017**	SeqNo: **1490402**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	170	2.0	198.0	0	83.9	60.3	136			

Sample ID **LCSD-34642**	SampType: **LCSD**	TestCode: **SM5210B: BOD**							
Client ID: **LCSS02**	Batch ID: **34642**	RunNo: **46760**							
Prep Date: **10/25/2017**	Analysis Date: **10/30/2017**	SeqNo: **1490403**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	160	2.0	198.0	0	80.8	60.3	136	3.68	39.3	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID	**MB-34640**	SampType:	**MBLK**	TestCode:	**SM 9223B Fecal Indicator: E. coli MPN**				
Client ID:	**PBW**	Batch ID:	**34640**	RunNo:	**46692**				
Prep Date:	**10/25/2017**	Analysis Date:	**10/26/2017**	SeqNo:	**1487778**	Units:	**MPN/100mL**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**

04-Dec-17

Client: Western Refining Southwest, Gallup

Project: 2016 Semi Annual Ponds

Sample ID	**lcs-1 eC ~20uS**	SampType: **LCS**		TestCode: **SM2510B: Specific Conductance**						
Client ID:	**LCSW**	Batch ID: **R46730**		RunNo: **46730**						
Prep Date:		Analysis Date: **10/26/2017**		SeqNo: **1489017**		Units: **µmhos/cm**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	23	5.0	19.96	0	114	80	120			

Sample ID	**lcs-2 eC ~20uS**	SampType: **LCS**		TestCode: **SM2510B: Specific Conductance**						
Client ID:	**LCSW**	Batch ID: **R46730**		RunNo: **46730**						
Prep Date:		Analysis Date: **10/26/2017**		SeqNo: **1489041**		Units: **µmhos/cm**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	25	5.0	19.96	0	127	80	120			S

Sample ID	**1710d21-003e dup**	SampType: **DUP**		TestCode: **SM2510B: Specific Conductance**						
Client ID:	**EP-2**	Batch ID: **R46730**		RunNo: **46730**						
Prep Date:		Analysis Date: **10/26/2017**		SeqNo: **1489054**		Units: **µmhos/cm**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	17000	25						1.39	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710D21**
04-Dec-17

Client: Western Refining Southwest, Gallup
Project: 2016 Semi Annual Ponds

Sample ID	**1710d21-003e dup**	SampType: **DUP**			TestCode: **SM4500-H+B: pH**					
Client ID:	**EP-2**	Batch ID: **R46730**			RunNo: **46730**					
Prep Date:		Analysis Date: **10/26/2017**			SeqNo: **1489075**	Units: **pH units**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH		7.33									H

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1710D21** RcptNo: **1**

Received By: **Andy Freeman** **10/25/2017 9:40:00 AM**

Completed By: **Ashley Gallegos** **10/25/2017 11:42:58 AM**

Reviewed By: 10/25/17 @ 1359

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 34

(<2 or >12 unless noted)

Adjusted? yes

Checked by: SRC

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks: For metals analysis: added 0.4 mL HNO_3 to -005D, 006D, 008D, 009D, 012D, 013D + 0.5 mL HNO_3 to -006E + -013E for acceptable pH. Held for 24 hrs prior to analysis. 10/25/17 @ 1350 SRC

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.8	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

Gallup Refinery

Mailing Address:

92 GIANT CROSSING RD, GALLUP, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2016 SEMI-ANNUAL - PONDS

Project #: (PO#20838020)

EP2 - EP12B

Project Manager:

cheryl.A.johnson@andeavor.com)

Sampler: C. JOHNSON

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.4+0.4(cf) = 5.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1710D21	Analysis Request: 8260+MTBE	8270	WQCC METALS - TOTAL	WQCC METALS - DISS (FILTERE	GEN CHEM (pH, Spec Cond, Cations/Anions)	BOD	COD	E-COLI	Air Bubbles (Y or N)
10/24/2017	700	Aqueous	TRIP BLANK	MISC	MISC	-001	X								
10/24/2017	700	Aqueous	FIELD BLANK	MISC	MISC	-002	X								
10/24/2017	1510	Aqueous	EP-2	MISC	MISC	-003	X	X	X	X	X	X	X	X	
10/24/2017	1400	Aqueous	EP-3	MISC	MISC	-004	X	X	X	X	X				
10/24/2017	1340	Aqueous	EP-4	MISC	MISC	-005	X	X	X	X	X				
10/24/2017	1320	Aqueous	EP-5	MISC	MISC	-006	X	X	X	X	X				
10/24/2017	1305	Aqueous	EP-6	MISC	MISC	-007	X	X	X	X	X				
10/24/2017	1235	Aqueous	EP-7	MISC	MISC	-008	X	X	X	X	X				
10/24/2017	1220	Aqueous	EP-8	MISC	MISC	-009	X	X	X	X	X				
10/24/2017	1250	Aqueous	EP-9	MISC	MISC	-010	X	X	X	X	X				
10/24/2017	1205	Aqueous	EP-11	MISC	MISC	-011	X	X	X	X	X				
10/24/2017	1140	Aqueous	EP-12A	MISC	MISC	-012	X	X	X	X	X				
10/24/2017	1125	Aqueous	EP-12B	MISC	MISC	-013	X	X	X	X	X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/25/17	0940			10/25/17	0940
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: WQCC Metals to include RCRA 8 Metals.
GENERAL CHEMISTRY to include: pH, spec. conductance, cations/anions.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 03, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th QTR 2017 GW Samp MKTF OrderNo.: 1711B34

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 12 sample(s) on 11/21/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 11:30:00 AM
Lab ID: 1711B34-001 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	11/28/2017 5:30:28 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 5:30:28 PM	35151
Surr: DNOP	107	0	77.5-161		%Rec	1	11/28/2017 5:30:28 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/29/2017 9:42:52 AM	G47400
Surr: BFB	108	0	69.3-150		%Rec	1	11/29/2017 9:42:52 AM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.63	0.22	0.50		mg/L	5	11/22/2017 3:38:44 PM	R47325
Chloride	150	5.0	10		mg/L	20	11/22/2017 3:51:08 PM	R47325
Bromide	0.81	0.073	0.50		mg/L	5	11/22/2017 3:38:44 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	11/22/2017 3:38:44 PM	R47325
Sulfate	780	1.9	10		mg/L	20	11/22/2017 3:51:08 PM	R47325
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	11/22/2017 7:22:07 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.031	0.00099	0.0020		mg/L	1	12/7/2017 9:01:47 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:01:47 PM	D47617
Calcium	83	0.078	1.0		mg/L	1	12/7/2017 9:01:47 PM	D47617
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:01:47 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:01:47 PM	D47617
Iron	0.036	0.016	0.020		mg/L	1	12/11/2017 5:08:01 PM	C47672
Magnesium	12	0.25	1.0		mg/L	1	12/7/2017 9:01:47 PM	D47617
Manganese	0.71	0.00039	0.0020	*	mg/L	1	12/7/2017 9:01:47 PM	D47617
Potassium	0.39	0.11	1.0	J	mg/L	1	12/7/2017 9:01:47 PM	D47617
Silver	ND	0.0018	0.0050		mg/L	1	12/7/2017 9:01:47 PM	D47617
Sodium	540	1.6	10		mg/L	10	12/13/2017 10:34:49 PM	C47751
Zinc	0.0034	0.0021	0.010	J	mg/L	1	12/11/2017 5:08:01 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.32	0.0010	0.0020		mg/L	1	12/6/2017 2:21:26 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:21:26 PM	35336
Chromium	0.0077	0.0018	0.0060		mg/L	1	12/6/2017 2:21:26 PM	35336
Copper	0.012	0.0041	0.0060		mg/L	1	12/6/2017 2:21:26 PM	35336
Iron	8.0	0.10	0.20	*	mg/L	10	12/6/2017 3:58:36 PM	35336
Manganese	1.1	0.0055	0.010	*	mg/L	5	12/6/2017 3:56:54 PM	35336
Silver	ND	0.0012	0.0050		mg/L	1	12/6/2017 2:21:26 PM	35336
Zinc	0.016	0.0033	0.010		mg/L	1	12/6/2017 2:21:26 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/19/2017 10:32:00 PM	B47906

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 11:30:00 AM
Lab ID: 1711B34-001 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	11/29/2017 7:30:19 PM	B47424
Selenium	ND	0.0038	0.0050		mg/L	5	12/19/2017 10:32:00 PM	B47906
Uranium	0.0092	0.000096	0.00050		mg/L	1	11/29/2017 7:30:19 PM	B47424
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0023	0.00041	0.0010		mg/L	1	12/13/2017 2:18:09 AM	35336
Lead	0.0060	0.00023	0.00050		mg/L	1	12/13/2017 2:18:09 AM	35336
Selenium	0.0023	0.00098	0.0010		mg/L	1	12/13/2017 2:18:09 AM	35336
Uranium	0.0094	0.00015	0.00050		mg/L	1	12/13/2017 2:18:09 AM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:12:12 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Benzoic acid	6.8	3.9	20	J	µg/L	1	11/29/2017 11:22:27 AM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 11:22:27 AM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 11:22:27 AM	35147

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 11:30:00 AM
Lab ID: 1711B34-001 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 11:22:27 AM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 11:22:27 AM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 11:22:27 AM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 11:22:27 AM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 11:22:27 AM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 11:22:27 AM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 11:22:27 AM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 11:22:27 AM	35147
1-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 11:22:27 AM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Naphthalene	ND	2.9	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 11:22:27 AM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 11:22:27 AM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 11:22:27 AM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Phenol	ND	3.1	10		µg/L	1	11/29/2017 11:22:27 AM	35147

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 11:30:00 AM
Lab ID: 1711B34-001 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 11:22:27 AM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 11:22:27 AM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 11:22:27 AM	35147
Surr: 2-Fluorophenol	51.5	0	15-114		%Rec	1	11/29/2017 11:22:27 AM	35147
Surr: Phenol-d5	36.8	0	15-97.9		%Rec	1	11/29/2017 11:22:27 AM	35147
Surr: 2,4,6-Tribromophenol	74.9	0	15-161		%Rec	1	11/29/2017 11:22:27 AM	35147
Surr: Nitrobenzene-d5	71.6	0	29.3-120		%Rec	1	11/29/2017 11:22:27 AM	35147
Surr: 2-Fluorobiphenyl	68.2	0	17.5-116		%Rec	1	11/29/2017 11:22:27 AM	35147
Surr: 4-Terphenyl-d14	52.3	0	21-92.2		%Rec	1	11/29/2017 11:22:27 AM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Methyl tert-butyl ether (MTBE)	9.5	0.24	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1-Methylnaphthalene	0.30	0.16	4.0	J	µg/L	1	11/30/2017 2:19:48 PM	W47452
2-Methylnaphthalene	0.30	0.15	4.0	J	µg/L	1	11/30/2017 2:19:48 PM	W47452
Acetone	1.8	0.82	10	J	µg/L	1	11/30/2017 2:19:48 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 2:19:48 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 2:19:48 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 11:30:00 AM
Lab ID: 1711B34-001 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 2:19:48 PM	W47452
Isopropylbenzene	ND	0.051	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 2:19:48 PM	W47452
Methylene Chloride	ND	0.11	3.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
n-Butylbenzene	ND	0.13	3.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/30/2017 2:19:48 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 2:19:48 PM	W47452
Surr: 1,2-Dichloroethane-d4	93.0	0	70-130		%Rec	1	11/30/2017 2:19:48 PM	W47452

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 11:30:00 AM
Lab ID: 1711B34-001 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	1	11/30/2017 2:19:48 PM	W47452
Surr: Dibromofluoromethane	96.5	0	70-130		%Rec	1	11/30/2017 2:19:48 PM	W47452
Surr: Toluene-d8	100	0	70-130		%Rec	1	11/30/2017 2:19:48 PM	W47452

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 12:25:00 PM
Lab ID: 1711B34-002 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	11/28/2017 6:53:01 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 6:53:01 PM	35151
Surr: DNOP	96.8	0	77.5-161		%Rec	1	11/28/2017 6:53:01 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.036	0.025	0.050	J	mg/L	1	11/29/2017 10:06:41 AM	G47400
Surr: BFB	109	0	69.3-150		%Rec	1	11/29/2017 10:06:41 AM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	11/22/2017 4:03:32 PM	R47325
Chloride	3200	120	250		mg/L	500	11/30/2017 5:30:21 PM	R47469
Bromide	1.6	0.073	0.50		mg/L	5	11/22/2017 4:03:32 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	11/22/2017 4:03:32 PM	R47325
Sulfate	290	1.9	10		mg/L	20	11/22/2017 4:15:57 PM	R47325
Nitrate+Nitrite as N	0.51	0.26	2.0	J	mg/L	10	12/5/2017 2:03:02 PM	R47557
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.069	0.00099	0.0020		mg/L	1	12/7/2017 9:03:38 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:03:38 PM	D47617
Calcium	200	0.39	5.0		mg/L	5	12/11/2017 5:29:30 PM	C47672
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:03:38 PM	D47617
Copper	0.0047	0.0032	0.0060	J	mg/L	1	12/7/2017 9:03:38 PM	D47617
Iron	0.10	0.016	0.020		mg/L	1	12/11/2017 5:27:31 PM	C47672
Magnesium	36	0.25	1.0		mg/L	1	12/7/2017 9:03:38 PM	D47617
Manganese	0.24	0.00039	0.0020	*	mg/L	1	12/7/2017 9:03:38 PM	D47617
Potassium	11	0.11	1.0		mg/L	1	12/7/2017 9:03:38 PM	D47617
Silver	0.0033	0.0018	0.0050	J	mg/L	1	12/7/2017 9:03:38 PM	D47617
Sodium	2300	8.2	50		mg/L	50	12/11/2017 5:31:16 PM	C47672
Zinc	0.0044	0.0021	0.010	J	mg/L	1	12/11/2017 5:27:31 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.19	0.0010	0.0020		mg/L	1	12/6/2017 2:23:16 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:23:16 PM	35336
Chromium	0.0030	0.0018	0.0060	J	mg/L	1	12/6/2017 2:23:16 PM	35336
Copper	0.0084	0.0041	0.0060		mg/L	1	12/6/2017 2:23:16 PM	35336
Iron	6.1	0.10	0.20	*	mg/L	10	12/6/2017 4:07:23 PM	35336
Manganese	0.92	0.0011	0.0020	*	mg/L	1	12/6/2017 2:23:16 PM	35336
Silver	0.0021	0.0012	0.0050	J	mg/L	1	12/6/2017 2:23:16 PM	35336
Zinc	0.017	0.0033	0.010		mg/L	1	12/6/2017 2:23:16 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/7/2017 11:50:19 PM	B47625

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 12:25:00 PM
Lab ID: 1711B34-002
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00087	0.0025		mg/L	5	12/7/2017 11:50:19 PM	B47625
Selenium	ND	0.0038	0.0050		mg/L	5	12/7/2017 11:50:19 PM	B47625
Uranium	0.046	0.00048	0.0025	*	mg/L	5	12/7/2017 11:50:19 PM	B47625
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0030	0.0021	0.0050	J	mg/L	5	12/13/2017 2:37:52 AM	35336
Lead	0.0057	0.0011	0.0025		mg/L	5	12/22/2017 6:08:07 PM	35336
Selenium	ND	0.0098	0.010		mg/L	10	12/29/2017 11:16:44 AM	35336
Uranium	0.052	0.00077	0.0025	*	mg/L	5	12/22/2017 6:08:07 PM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:14:08 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Benzoic acid	10	3.9	20	J	µg/L	1	11/29/2017 11:50:15 AM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 11:50:15 AM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 11:50:15 AM	35147

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Lab ID: 1711B34-002
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 11:50:15 AM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 11:50:15 AM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 11:50:15 AM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 11:50:15 AM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 11:50:15 AM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 11:50:15 AM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 11:50:15 AM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 11:50:15 AM	35147
1-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 11:50:15 AM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Naphthalene	ND	2.9	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 11:50:15 AM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 11:50:15 AM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 11:50:15 AM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Phenol	ND	3.1	10		µg/L	1	11/29/2017 11:50:15 AM	35147

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Client Sample ID: MKTF-27
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 12:25:00 PM
Lab ID: 1711B34-002 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 11:50:15 AM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 11:50:15 AM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 11:50:15 AM	35147
Surr: 2-Fluorophenol	55.0	0	15-114		%Rec	1	11/29/2017 11:50:15 AM	35147
Surr: Phenol-d5	42.6	0	15-97.9		%Rec	1	11/29/2017 11:50:15 AM	35147
Surr: 2,4,6-Tribromophenol	83.6	0	15-161		%Rec	1	11/29/2017 11:50:15 AM	35147
Surr: Nitrobenzene-d5	76.8	0	29.3-120		%Rec	1	11/29/2017 11:50:15 AM	35147
Surr: 2-Fluorobiphenyl	72.2	0	17.5-116		%Rec	1	11/29/2017 11:50:15 AM	35147
Surr: 4-Terphenyl-d14	62.8	0	21-92.2		%Rec	1	11/29/2017 11:50:15 AM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Methyl tert-butyl ether (MTBE)	23	0.24	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2-Dichloroethane (EDC)	0.51	0.40	1.0	J	µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1-Methylnaphthalene	0.28	0.16	4.0	J	µg/L	1	11/30/2017 2:49:05 PM	W47452
2-Methylnaphthalene	0.26	0.15	4.0	J	µg/L	1	11/30/2017 2:49:05 PM	W47452
Acetone	2.2	0.82	10	J	µg/L	1	11/30/2017 2:49:05 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 2:49:05 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 2:49:05 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452

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Lab ID: 1711B34-002 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,1-Dichloroethane	1.9	0.40	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,1-Dichloroethene	0.48	0.081	1.0	J	µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2-Dichloropropane	0.14	0.10	1.0	J	µg/L	1	11/30/2017 2:49:05 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 2:49:05 PM	W47452
Isopropylbenzene	ND	0.051	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 2:49:05 PM	W47452
Methylene Chloride	ND	0.11	3.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
n-Butylbenzene	ND	0.13	3.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/30/2017 2:49:05 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 2:49:05 PM	W47452
Surr: 1,2-Dichloroethane-d4	96.0	0	70-130		%Rec	1	11/30/2017 2:49:05 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 12:25:00 PM
Lab ID: 1711B34-002
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	112	0	70-130		%Rec	1	11/30/2017 2:49:05 PM	W47452
Surr: Dibromofluoromethane	97.6	0	70-130		%Rec	1	11/30/2017 2:49:05 PM	W47452
Surr: Toluene-d8	102	0	70-130		%Rec	1	11/30/2017 2:49:05 PM	W47452

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:10:00 PM
Lab ID: 1711B34-003 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	11/28/2017 7:20:36 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 7:20:36 PM	35151
Surr: DNOP	102	0	77.5-161		%Rec	1	11/28/2017 7:20:36 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/29/2017 10:30:28 AM	G47400
Surr: BFB	109	0	69.3-150		%Rec	1	11/29/2017 10:30:28 AM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.0	0.22	0.50		mg/L	5	11/22/2017 4:53:11 PM	R47325
Chloride	410	12	25		mg/L	50	11/30/2017 5:42:45 PM	R47469
Bromide	2.3	0.073	0.50		mg/L	5	11/22/2017 4:53:11 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	11/22/2017 4:53:11 PM	R47325
Sulfate	180	0.48	2.5		mg/L	5	11/22/2017 4:53:11 PM	R47325
Nitrate+Nitrite as N	1.9	0.13	1.0		mg/L	5	11/22/2017 7:46:56 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.054	0.00099	0.0020		mg/L	1	12/7/2017 9:05:35 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:05:35 PM	D47617
Calcium	45	0.078	1.0		mg/L	1	12/7/2017 9:05:35 PM	D47617
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:05:35 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:05:35 PM	D47617
Iron	0.14	0.016	0.020		mg/L	1	12/11/2017 5:33:09 PM	C47672
Magnesium	8.6	0.25	1.0		mg/L	1	12/7/2017 9:05:35 PM	D47617
Manganese	0.091	0.00039	0.0020	*	mg/L	1	12/7/2017 9:05:35 PM	D47617
Potassium	2.1	0.11	1.0		mg/L	1	12/7/2017 9:05:35 PM	D47617
Silver	ND	0.0018	0.0050		mg/L	1	12/7/2017 9:05:35 PM	D47617
Sodium	610	1.6	10		mg/L	10	12/11/2017 5:35:02 PM	C47672
Zinc	0.0045	0.0021	0.010	J	mg/L	1	12/11/2017 5:33:09 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.087	0.0010	0.0020		mg/L	1	12/6/2017 2:25:00 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:25:00 PM	35336
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2017 2:25:00 PM	35336
Copper	0.0053	0.0041	0.0060	J	mg/L	1	12/6/2017 2:25:00 PM	35336
Iron	2.9	0.051	0.10	*	mg/L	5	12/6/2017 4:09:27 PM	35336
Manganese	0.18	0.0011	0.0020	*	mg/L	1	12/6/2017 2:25:00 PM	35336
Silver	ND	0.0012	0.0050		mg/L	1	12/6/2017 2:25:00 PM	35336
Zinc	0.0066	0.0033	0.010	J	mg/L	1	12/6/2017 2:25:00 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0042	0.010		mg/L	10	12/8/2017 12:29:48 AM	B47625

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:10:00 PM
Lab ID: 1711B34-003
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	11/29/2017 7:40:07 PM	B47424
Selenium	ND	0.0076	0.010		mg/L	10	12/8/2017 12:29:48 AM	B47625
Uranium	0.13	0.00096	0.0050	*	mg/L	10	12/8/2017 12:29:48 AM	B47625
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0041	0.010		mg/L	10	12/13/2017 2:50:58 AM	35336
Lead	0.0029	0.00023	0.00050		mg/L	1	12/8/2017 4:51:23 PM	35336
Selenium	ND	0.0098	0.010		mg/L	10	12/13/2017 2:50:58 AM	35336
Uranium	0.15	0.0015	0.0050	*	mg/L	10	12/13/2017 2:50:58 AM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:16:04 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Benzoic acid	5.2	3.9	20	J	µg/L	1	11/29/2017 12:18:09 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Bis(2-ethylhexyl)phthalate	12	4.8	10		µg/L	1	11/29/2017 12:18:09 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 12:18:09 PM	35147

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:10:00 PM
Lab ID: 1711B34-003
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 12:18:09 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 12:18:09 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 12:18:09 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 12:18:09 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 12:18:09 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 12:18:09 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 12:18:09 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 12:18:09 PM	35147
1-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 12:18:09 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Naphthalene	ND	2.9	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 12:18:09 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 12:18:09 PM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 12:18:09 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Phenol	ND	3.1	10		µg/L	1	11/29/2017 12:18:09 PM	35147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:10:00 PM
Lab ID: 1711B34-003 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 12:18:09 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 12:18:09 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 12:18:09 PM	35147
Surr: 2-Fluorophenol	36.4	0	15-114		%Rec	1	11/29/2017 12:18:09 PM	35147
Surr: Phenol-d5	25.7	0	15-97.9		%Rec	1	11/29/2017 12:18:09 PM	35147
Surr: 2,4,6-Tribromophenol	58.9	0	15-161		%Rec	1	11/29/2017 12:18:09 PM	35147
Surr: Nitrobenzene-d5	50.7	0	29.3-120		%Rec	1	11/29/2017 12:18:09 PM	35147
Surr: 2-Fluorobiphenyl	47.8	0	17.5-116		%Rec	1	11/29/2017 12:18:09 PM	35147
Surr: 4-Terphenyl-d14	40.9	0	21-92.2		%Rec	1	11/29/2017 12:18:09 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Methyl tert-butyl ether (MTBE)	3.3	0.24	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1-Methylnaphthalene	0.25	0.16	4.0	J	µg/L	1	11/30/2017 3:18:26 PM	W47452
2-Methylnaphthalene	0.25	0.15	4.0	J	µg/L	1	11/30/2017 3:18:26 PM	W47452
Acetone	2.8	0.82	10	J	µg/L	1	11/30/2017 3:18:26 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 3:18:26 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 3:18:26 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:10:00 PM
Lab ID: 1711B34-003 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 3:18:26 PM	W47452
Isopropylbenzene	ND	0.051	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 3:18:26 PM	W47452
Methylene Chloride	ND	0.11	3.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
n-Butylbenzene	ND	0.13	3.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/30/2017 3:18:26 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 3:18:26 PM	W47452
Surr: 1,2-Dichloroethane-d4	92.8	0	70-130		%Rec	1	11/30/2017 3:18:26 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:10:00 PM
Lab ID: 1711B34-003
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	11/30/2017 3:18:26 PM	W47452
Surr: Dibromofluoromethane	94.2	0	70-130		%Rec	1	11/30/2017 3:18:26 PM	W47452
Surr: Toluene-d8	101	0	70-130		%Rec	1	11/30/2017 3:18:26 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:50:00 PM
Lab ID: 1711B34-004
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	11/28/2017 4:12:29 PM	35166
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.0	0.36	1.0		mg/L	1	11/28/2017 7:48:06 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 7:48:06 PM	35151
Surr: DNOP	97.6	0	77.5-161		%Rec	1	11/28/2017 7:48:06 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	28	1.2	2.5		mg/L	50	11/29/2017 2:29:03 PM	G47400
Surr: BFB	117	0	69.3-150		%Rec	50	11/29/2017 2:29:03 PM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	11/22/2017 5:18:01 PM	R47325
Chloride	560	12	25		mg/L	50	11/30/2017 5:55:09 PM	R47469
Bromide	1.1	0.073	0.50		mg/L	5	11/22/2017 5:18:01 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	11/22/2017 5:18:01 PM	R47325
Sulfate	34	0.48	2.5		mg/L	5	11/22/2017 5:18:01 PM	R47325
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	11/22/2017 7:59:21 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.26	0.00099	0.0020		mg/L	1	12/7/2017 9:07:25 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:07:25 PM	D47617
Calcium	110	0.78	10		mg/L	10	12/11/2017 5:38:41 PM	C47672
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:07:25 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:07:25 PM	D47617
Iron	0.24	0.016	0.020		mg/L	1	12/11/2017 5:36:47 PM	C47672
Magnesium	20	0.25	1.0		mg/L	1	12/7/2017 9:07:25 PM	D47617
Manganese	2.1	0.0039	0.020	*	mg/L	10	12/11/2017 5:38:41 PM	C47672
Potassium	1.9	0.11	1.0		mg/L	1	12/7/2017 9:07:25 PM	D47617
Silver	0.0020	0.0018	0.0050	J	mg/L	1	12/7/2017 9:07:25 PM	D47617
Sodium	520	1.6	10		mg/L	10	12/11/2017 5:38:41 PM	C47672
Zinc	0.0035	0.0021	0.010	J	mg/L	1	12/11/2017 5:36:47 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.26	0.0010	0.0020		mg/L	1	12/6/2017 2:26:42 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:26:42 PM	35336
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2017 2:26:42 PM	35336
Copper	0.0048	0.0041	0.0060	J	mg/L	1	12/6/2017 2:26:42 PM	35336
Iron	1.4	0.051	0.10	*	mg/L	5	12/6/2017 4:11:16 PM	35336
Manganese	2.1	0.0055	0.010	*	mg/L	5	12/6/2017 4:11:16 PM	35336
Silver	0.0017	0.0012	0.0050	J	mg/L	1	12/6/2017 2:26:42 PM	35336
Zinc	ND	0.0033	0.010		mg/L	1	12/6/2017 2:26:42 PM	35336

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:50:00 PM
Lab ID: 1711B34-004
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0025	0.00042	0.0010		mg/L	1	11/29/2017 7:45:01 PM	B47424
Lead	0.0013	0.00017	0.00050		mg/L	1	11/29/2017 7:45:01 PM	B47424
Selenium	ND	0.0038	0.0050		mg/L	5	12/8/2017 12:42:56 AM	B47625
Uranium	0.013	0.000096	0.00050		mg/L	1	11/29/2017 7:45:01 PM	B47424
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0028	0.0021	0.0050	J	mg/L	5	12/13/2017 2:57:30 AM	35336
Lead	0.0031	0.00023	0.00050		mg/L	1	12/8/2017 4:57:57 PM	35336
Selenium	ND	0.0049	0.0050		mg/L	5	12/13/2017 2:57:30 AM	35336
Uranium	0.014	0.00015	0.00050		mg/L	1	12/8/2017 4:57:57 PM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:18:01 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Benzoic acid	ND	3.9	20		µg/L	1	11/29/2017 12:46:02 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 12:46:02 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:50:00 PM
Lab ID: 1711B34-004
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 12:46:02 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 12:46:02 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 12:46:02 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 12:46:02 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 12:46:02 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 12:46:02 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 12:46:02 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 12:46:02 PM	35147
1-Methylnaphthalene	9.0	3.3	10	J	µg/L	1	11/29/2017 12:46:02 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 12:46:02 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Naphthalene	5.8	2.9	10	J	µg/L	1	11/29/2017 12:46:02 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 12:46:02 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 12:46:02 PM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 12:46:02 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:50:00 PM
Lab ID: 1711B34-004 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	3.2	3.1	10	J	µg/L	1	11/29/2017 12:46:02 PM	35147
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 12:46:02 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 12:46:02 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 12:46:02 PM	35147
Surr: 2-Fluorophenol	51.0	0	15-114		%Rec	1	11/29/2017 12:46:02 PM	35147
Surr: Phenol-d5	36.5	0	15-97.9		%Rec	1	11/29/2017 12:46:02 PM	35147
Surr: 2,4,6-Tribromophenol	73.0	0	15-161		%Rec	1	11/29/2017 12:46:02 PM	35147
Surr: Nitrobenzene-d5	70.7	0	29.3-120		%Rec	1	11/29/2017 12:46:02 PM	35147
Surr: 2-Fluorobiphenyl	64.2	0	17.5-116		%Rec	1	11/29/2017 12:46:02 PM	35147
Surr: 4-Terphenyl-d14	46.3	0	21-92.2		%Rec	1	11/29/2017 12:46:02 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	5500	6.2	100		µg/L	100	11/30/2017 6:14:29 PM	W47452
Toluene	23	0.64	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Ethylbenzene	320	0.93	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Methyl tert-butyl ether (MTBE)	160	2.4	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2,4-Trimethylbenzene	3.9	1.1	10	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
1,3,5-Trimethylbenzene	2.2	0.87	10	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2-Dichloroethane (EDC)	5.6	4.0	10	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Naphthalene	5.7	1.1	20	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
1-Methylnaphthalene	8.1	1.6	40	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
2-Methylnaphthalene	ND	1.5	40		µg/L	10	11/30/2017 6:43:46 PM	W47452
Acetone	16	8.2	100	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
Bromobenzene	ND	1.4	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Bromodichloromethane	ND	1.8	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Bromoform	ND	2.1	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Bromomethane	ND	2.6	30		µg/L	10	11/30/2017 6:43:46 PM	W47452
2-Butanone	ND	11	100		µg/L	10	11/30/2017 6:43:46 PM	W47452
Carbon disulfide	ND	4.0	100		µg/L	10	11/30/2017 6:43:46 PM	W47452
Carbon Tetrachloride	ND	1.1	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Chlorobenzene	ND	1.1	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Chloroethane	ND	2.3	20		µg/L	10	11/30/2017 6:43:46 PM	W47452
Chloroform	ND	4.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Chloromethane	ND	2.9	30		µg/L	10	11/30/2017 6:43:46 PM	W47452
2-Chlorotoluene	ND	4.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
4-Chlorotoluene	ND	4.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
cis-1,2-DCE	19	2.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:50:00 PM
Lab ID: 1711B34-004
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	11/30/2017 6:43:46 PM	W47452
Dibromochloromethane	ND	0.72	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Dibromomethane	ND	0.91	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Dichlorodifluoromethane	ND	10	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,1-Dichloroethane	72	4.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,1-Dichloroethene	24	0.81	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2-Dichloropropane	ND	1.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,3-Dichloropropane	ND	1.7	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
2,2-Dichloropropane	ND	1.6	20		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,1-Dichloropropene	ND	0.93	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Hexachlorobutadiene	ND	8.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
2-Hexanone	ND	6.6	100		µg/L	10	11/30/2017 6:43:46 PM	W47452
Isopropylbenzene	42	0.51	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
4-Isopropyltoluene	1.5	0.96	10	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	11/30/2017 6:43:46 PM	W47452
Methylene Chloride	ND	1.1	30		µg/L	10	11/30/2017 6:43:46 PM	W47452
n-Butylbenzene	14	1.3	30	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
n-Propylbenzene	91	0.74	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
sec-Butylbenzene	7.9	1.1	10	J	µg/L	10	11/30/2017 6:43:46 PM	W47452
Styrene	ND	1.6	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
tert-Butylbenzene	ND	1.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	11/30/2017 6:43:46 PM	W47452
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
trans-1,2-DCE	ND	1.8	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Trichlorofluoromethane	ND	1.8	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	11/30/2017 6:43:46 PM	W47452
Vinyl chloride	31	1.8	10		µg/L	10	11/30/2017 6:43:46 PM	W47452
Xylenes, Total	18	3.2	15		µg/L	10	11/30/2017 6:43:46 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 1:50:00 PM
Lab ID: 1711B34-004
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 1,2-Dichloroethane-d4	93.0	0	70-130		%Rec	10	11/30/2017 6:43:46 PM	W47452
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	10	11/30/2017 6:43:46 PM	W47452
Surr: Dibromofluoromethane	92.3	0	70-130		%Rec	10	11/30/2017 6:43:46 PM	W47452
Surr: Toluene-d8	104	0	70-130		%Rec	10	11/30/2017 6:43:46 PM	W47452

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 2:30:00 PM
Lab ID: 1711B34-005 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	0.010	0.0060	0.0094		µg/L	1	11/28/2017 4:27:28 PM	35166
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.7	0.36	1.0		mg/L	1	11/28/2017 8:15:44 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 8:15:44 PM	35151
Surr: DNOP	104	0	77.5-161		%Rec	1	11/28/2017 8:15:44 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	12	0.25	0.50		mg/L	10	11/29/2017 3:40:48 PM	G47400
Surr: BFB	132	0	69.3-150		%Rec	10	11/29/2017 3:40:48 PM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	2.4	0.22	0.50		mg/L	5	11/22/2017 5:42:50 PM	R47325
Chloride	540	12	25		mg/L	50	11/30/2017 6:32:23 PM	R47469
Bromide	1.1	0.073	0.50		mg/L	5	11/22/2017 5:42:50 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	11/22/2017 5:42:50 PM	R47325
Sulfate	18	0.48	2.5		mg/L	5	11/22/2017 5:42:50 PM	R47325
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	11/22/2017 8:11:45 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.28	0.00099	0.0020		mg/L	1	12/7/2017 9:09:16 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:09:16 PM	D47617
Calcium	69	0.078	1.0		mg/L	1	12/7/2017 9:09:16 PM	D47617
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:09:16 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:09:16 PM	D47617
Iron	0.030	0.016	0.020		mg/L	1	12/11/2017 5:40:39 PM	C47672
Magnesium	12	0.25	1.0		mg/L	1	12/7/2017 9:09:16 PM	D47617
Manganese	0.56	0.00039	0.0020	*	mg/L	1	12/7/2017 9:09:16 PM	D47617
Potassium	2.4	0.11	1.0		mg/L	1	12/7/2017 9:09:16 PM	D47617
Silver	ND	0.0018	0.0050		mg/L	1	12/7/2017 9:09:16 PM	D47617
Sodium	640	1.6	10		mg/L	10	12/11/2017 5:42:31 PM	C47672
Zinc	0.0037	0.0021	0.010	J	mg/L	1	12/11/2017 5:40:39 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.26	0.0010	0.0020		mg/L	1	12/6/2017 2:28:27 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:28:27 PM	35336
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2017 2:28:27 PM	35336
Copper	ND	0.0041	0.0060		mg/L	1	12/6/2017 2:28:27 PM	35336
Iron	0.23	0.010	0.020		mg/L	1	12/6/2017 2:28:27 PM	35336
Manganese	0.60	0.0011	0.0020	*	mg/L	1	12/6/2017 2:28:27 PM	35336
Silver	ND	0.0012	0.0050		mg/L	1	12/6/2017 2:28:27 PM	35336
Zinc	ND	0.0033	0.010		mg/L	1	12/6/2017 2:28:27 PM	35336

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 2:30:00 PM
Lab ID: 1711B34-005 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.00042	0.0010		mg/L	1	11/29/2017 8:14:31 PM	C47424
Lead	0.00035	0.00017	0.00050	J	mg/L	1	11/29/2017 8:14:31 PM	C47424
Selenium	ND	0.0038	0.0050		mg/L	5	12/7/2017 5:15:33 PM	A47625
Uranium	0.034	0.00048	0.0025	*	mg/L	5	12/7/2017 5:15:33 PM	A47625
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0034	0.0021	0.0050	J	mg/L	5	12/13/2017 3:04:03 AM	35336
Lead	0.00062	0.00023	0.00050		mg/L	1	12/8/2017 5:04:31 PM	35336
Selenium	ND	0.0049	0.0050		mg/L	5	12/13/2017 3:04:03 AM	35336
Uranium	0.036	0.00077	0.0025	*	mg/L	5	12/13/2017 3:04:03 AM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:19:58 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Benzoic acid	ND	3.9	20		µg/L	1	11/29/2017 1:13:54 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 1:13:54 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 2:30:00 PM
Lab ID: 1711B34-005 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	4.7	4.7	10	J	µg/L	1	11/29/2017 1:13:54 PM	35147
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 1:13:54 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 1:13:54 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 1:13:54 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 1:13:54 PM	35147
2,4-Dimethylphenol	9.3	2.8	10	J	µg/L	1	11/29/2017 1:13:54 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 1:13:54 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 1:13:54 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 1:13:54 PM	35147
1-Methylnaphthalene	30	3.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2-Methylphenol	6.4	3.3	10	J	µg/L	1	11/29/2017 1:13:54 PM	35147
3+4-Methylphenol	11	3.2	10		µg/L	1	11/29/2017 1:13:54 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Naphthalene	17	2.9	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 1:13:54 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 1:13:54 PM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 1:13:54 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 2:30:00 PM
Lab ID: 1711B34-005 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	14	3.1	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 1:13:54 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 1:13:54 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 1:13:54 PM	35147
Surr: 2-Fluorophenol	55.2	0	15-114		%Rec	1	11/29/2017 1:13:54 PM	35147
Surr: Phenol-d5	40.6	0	15-97.9		%Rec	1	11/29/2017 1:13:54 PM	35147
Surr: 2,4,6-Tribromophenol	78.7	0	15-161		%Rec	1	11/29/2017 1:13:54 PM	35147
Surr: Nitrobenzene-d5	71.4	0	29.3-120		%Rec	1	11/29/2017 1:13:54 PM	35147
Surr: 2-Fluorobiphenyl	65.8	0	17.5-116		%Rec	1	11/29/2017 1:13:54 PM	35147
Surr: 4-Terphenyl-d14	48.9	0	21-92.2		%Rec	1	11/29/2017 1:13:54 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2900	3.1	50		µg/L	50	11/30/2017 7:12:57 PM	W47452
Toluene	50	0.32	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Ethylbenzene	280	0.47	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Methyl tert-butyl ether (MTBE)	130	1.2	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2,4-Trimethylbenzene	200	0.56	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,3,5-Trimethylbenzene	3.0	0.44	5.0	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2-Dichloroethane (EDC)	3.3	2.0	5.0	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Naphthalene	27	0.57	10		µg/L	5	11/30/2017 7:42:12 PM	W47452
1-Methylnaphthalene	31	0.80	20		µg/L	5	11/30/2017 7:42:12 PM	W47452
2-Methylnaphthalene	1.5	0.76	20	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
Acetone	7.4	4.1	50	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
Bromobenzene	ND	0.70	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Bromodichloromethane	ND	0.88	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Bromoform	ND	1.1	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Bromomethane	ND	1.3	15		µg/L	5	11/30/2017 7:42:12 PM	W47452
2-Butanone	ND	5.7	50		µg/L	5	11/30/2017 7:42:12 PM	W47452
Carbon disulfide	ND	2.0	50		µg/L	5	11/30/2017 7:42:12 PM	W47452
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Chlorobenzene	ND	0.53	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Chloroethane	ND	1.2	10		µg/L	5	11/30/2017 7:42:12 PM	W47452
Chloroform	ND	2.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Chloromethane	ND	1.5	15		µg/L	5	11/30/2017 7:42:12 PM	W47452
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
cis-1,2-DCE	16	1.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 2:30:00 PM
Lab ID: 1711B34-005 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	11/30/2017 7:42:12 PM	W47452
Dibromochloromethane	ND	0.36	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Dibromomethane	ND	0.45	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,1-Dichloroethane	47	2.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,1-Dichloroethene	21	0.40	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
2,2-Dichloropropane	ND	0.79	10		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
2-Hexanone	ND	3.3	50		µg/L	5	11/30/2017 7:42:12 PM	W47452
Isopropylbenzene	21	0.26	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
4-Isopropyltoluene	1.1	0.48	5.0	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	11/30/2017 7:42:12 PM	W47452
Methylene Chloride	ND	0.54	15		µg/L	5	11/30/2017 7:42:12 PM	W47452
n-Butylbenzene	4.9	0.65	15	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
n-Propylbenzene	59	0.37	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
sec-Butylbenzene	2.7	0.55	5.0	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
Styrene	ND	0.78	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	11/30/2017 7:42:12 PM	W47452
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,1,2-Trichloroethane	0.95	0.70	5.0	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
Trichloroethene (TCE)	2.4	0.56	5.0	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	11/30/2017 7:42:12 PM	W47452
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	11/30/2017 7:42:12 PM	W47452
Vinyl chloride	3.9	0.89	5.0	J	µg/L	5	11/30/2017 7:42:12 PM	W47452
Xylenes, Total	69	1.6	7.5		µg/L	5	11/30/2017 7:42:12 PM	W47452

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 2:30:00 PM
Lab ID: 1711B34-005 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 1,2-Dichloroethane-d4	95.7	0	70-130		%Rec	5	11/30/2017 7:42:12 PM	W47452
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	5	11/30/2017 7:42:12 PM	W47452
Surr: Dibromofluoromethane	94.6	0	70-130		%Rec	5	11/30/2017 7:42:12 PM	W47452
Surr: Toluene-d8	102	0	70-130		%Rec	5	11/30/2017 7:42:12 PM	W47452

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 3:25:00 PM
Lab ID: 1711B34-006 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	11/28/2017 4:42:37 PM	35166
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	11/28/2017 8:43:14 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 8:43:14 PM	35151
Surr: DNOP	102	0	77.5-161		%Rec	1	11/28/2017 8:43:14 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.075	0.025	0.050		mg/L	1	11/29/2017 10:54:19 AM	G47400
Surr: BFB	108	0	69.3-150		%Rec	1	11/29/2017 10:54:19 AM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.88	0.22	0.50		mg/L	5	11/22/2017 6:07:39 PM	R47325
Chloride	620	12	25		mg/L	50	11/30/2017 6:44:48 PM	R47469
Bromide	1.0	0.073	0.50		mg/L	5	11/22/2017 6:07:39 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	11/22/2017 6:07:39 PM	R47325
Sulfate	410	1.9	10		mg/L	20	11/22/2017 6:20:03 PM	R47325
Nitrate+Nitrite as N	0.44	0.13	1.0	J	mg/L	5	11/22/2017 8:24:09 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.032	0.00099	0.0020		mg/L	1	12/7/2017 9:11:07 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:11:07 PM	D47617
Calcium	66	0.078	1.0		mg/L	1	12/7/2017 9:11:07 PM	D47617
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:11:07 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:11:07 PM	D47617
Iron	ND	0.016	0.020		mg/L	1	12/11/2017 5:50:17 PM	C47672
Magnesium	13	0.25	1.0		mg/L	1	12/7/2017 9:11:07 PM	D47617
Manganese	0.0081	0.00039	0.0020		mg/L	1	12/7/2017 9:11:07 PM	D47617
Potassium	0.16	0.11	1.0	J	mg/L	1	12/7/2017 9:11:07 PM	D47617
Silver	ND	0.0018	0.0050		mg/L	1	12/7/2017 9:11:07 PM	D47617
Sodium	770	1.6	10		mg/L	10	12/11/2017 5:52:10 PM	C47672
Zinc	0.0050	0.0021	0.010	J	mg/L	1	12/11/2017 5:50:17 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.081	0.0010	0.0020		mg/L	1	12/6/2017 2:30:21 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:30:21 PM	35336
Chromium	0.0020	0.0018	0.0060	J	mg/L	1	12/6/2017 2:30:21 PM	35336
Copper	0.0060	0.0041	0.0060		mg/L	1	12/6/2017 2:30:21 PM	35336
Iron	2.5	0.051	0.10	*	mg/L	5	12/6/2017 4:15:01 PM	35336
Manganese	0.21	0.0011	0.0020	*	mg/L	1	12/6/2017 2:30:21 PM	35336
Silver	ND	0.0012	0.0050		mg/L	1	12/6/2017 2:30:21 PM	35336
Zinc	ND	0.0033	0.010		mg/L	1	12/6/2017 2:30:21 PM	35336

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 3:25:00 PM
Lab ID: 1711B34-006 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/8/2017 12:49:30 AM	B47625
Lead	ND	0.00017	0.00050		mg/L	1	11/29/2017 8:29:11 PM	C47424
Selenium	ND	0.0038	0.0050		mg/L	5	12/8/2017 12:49:30 AM	B47625
Uranium	0.029	0.00048	0.0025		mg/L	5	12/8/2017 12:49:30 AM	B47625
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0025	0.0021	0.0050	J	mg/L	5	12/13/2017 3:10:36 AM	35336
Lead	0.0021	0.00023	0.00050		mg/L	1	12/8/2017 5:11:04 PM	35336
Selenium	ND	0.0049	0.0050		mg/L	5	12/13/2017 3:10:36 AM	35336
Uranium	0.031	0.00077	0.0025	*	mg/L	5	12/13/2017 3:10:36 AM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:22:00 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Benzoic acid	7.9	3.9	20	J	µg/L	1	11/29/2017 1:41:46 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 1:41:46 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 3:25:00 PM
Lab ID: 1711B34-006
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 1:41:46 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 1:41:46 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 1:41:46 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 1:41:46 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 1:41:46 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 1:41:46 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 1:41:46 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 1:41:46 PM	35147
1-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 1:41:46 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Naphthalene	ND	2.9	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 1:41:46 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 1:41:46 PM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 1:41:46 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 3:25:00 PM
Lab ID: 1711B34-006 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 1:41:46 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 1:41:46 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 1:41:46 PM	35147
Surr: 2-Fluorophenol	55.4	0	15-114		%Rec	1	11/29/2017 1:41:46 PM	35147
Surr: Phenol-d5	42.1	0	15-97.9		%Rec	1	11/29/2017 1:41:46 PM	35147
Surr: 2,4,6-Tribromophenol	93.2	0	15-161		%Rec	1	11/29/2017 1:41:46 PM	35147
Surr: Nitrobenzene-d5	78.2	0	29.3-120		%Rec	1	11/29/2017 1:41:46 PM	35147
Surr: 2-Fluorobiphenyl	76.4	0	17.5-116		%Rec	1	11/29/2017 1:41:46 PM	35147
Surr: 4-Terphenyl-d14	60.7	0	21-92.2		%Rec	1	11/29/2017 1:41:46 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Methyl tert-butyl ether (MTBE)	1.4	0.24	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2-Dichloroethane (EDC)	3.0	0.40	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
2-Methylnaphthalene	0.22	0.15	4.0	J	µg/L	1	11/30/2017 3:47:55 PM	W47452
Acetone	1.3	0.82	10	J	µg/L	1	11/30/2017 3:47:55 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 3:47:55 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 3:47:55 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
cis-1,2-DCE	6.2	0.20	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 3:25:00 PM
Lab ID: 1711B34-006 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,1-Dichloroethane	68	0.40	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,1-Dichloroethene	4.9	0.081	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 3:47:55 PM	W47452
Isopropylbenzene	ND	0.051	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 3:47:55 PM	W47452
Methylene Chloride	ND	0.11	3.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
n-Butylbenzene	ND	0.13	3.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Tetrachloroethene (PCE)	0.32	0.13	1.0	J	µg/L	1	11/30/2017 3:47:55 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,1,1-Trichloroethane	1.5	0.073	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,1,2-Trichloroethane	0.64	0.14	1.0	J	µg/L	1	11/30/2017 3:47:55 PM	W47452
Trichloroethene (TCE)	4.1	0.11	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/30/2017 3:47:55 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 3:47:55 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017 3:25:00 PM
Lab ID: 1711B34-006
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 1,2-Dichloroethane-d4	95.5	0	70-130		%Rec	1	11/30/2017 3:47:55 PM	W47452
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	11/30/2017 3:47:55 PM	W47452
Surr: Dibromofluoromethane	95.6	0	70-130		%Rec	1	11/30/2017 3:47:55 PM	W47452
Surr: Toluene-d8	103	0	70-130		%Rec	1	11/30/2017 3:47:55 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP01
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017
Lab ID: 1711B34-007
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.42	0.36	1.0	J	mg/L	1	11/28/2017 9:10:32 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 9:10:32 PM	35151
Surr: DNOP	100	0	77.5-161		%Rec	1	11/28/2017 9:10:32 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/29/2017 11:18:11 AM	G47400
Surr: BFB	107	0	69.3-150		%Rec	1	11/29/2017 11:18:11 AM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.61	0.22	0.50		mg/L	5	11/22/2017 6:32:28 PM	R47325
Chloride	150	5.0	10		mg/L	20	11/22/2017 6:44:53 PM	R47325
Bromide	1.1	0.073	0.50		mg/L	5	11/22/2017 6:32:28 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	11/22/2017 6:32:28 PM	R47325
Sulfate	780	1.9	10		mg/L	20	11/22/2017 6:44:53 PM	R47325
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	11/22/2017 8:36:34 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.032	0.00099	0.0020		mg/L	1	12/7/2017 9:12:57 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:12:57 PM	D47617
Calcium	81	0.078	1.0		mg/L	1	12/7/2017 9:12:57 PM	D47617
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:12:57 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:12:57 PM	D47617
Iron	0.034	0.016	0.020		mg/L	1	12/11/2017 5:54:08 PM	C47672
Magnesium	11	0.25	1.0		mg/L	1	12/7/2017 9:12:57 PM	D47617
Manganese	0.64	0.00039	0.0020	*	mg/L	1	12/7/2017 9:12:57 PM	D47617
Potassium	0.39	0.11	1.0	J	mg/L	1	12/7/2017 9:12:57 PM	D47617
Silver	ND	0.0018	0.0050		mg/L	1	12/7/2017 9:12:57 PM	D47617
Sodium	550	1.6	10		mg/L	10	12/11/2017 5:56:00 PM	C47672
Zinc	0.0022	0.0021	0.010	J	mg/L	1	12/11/2017 5:54:08 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.43	0.0010	0.0020		mg/L	1	12/6/2017 2:32:05 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:32:05 PM	35336
Chromium	0.011	0.0018	0.0060		mg/L	1	12/6/2017 2:32:05 PM	35336
Copper	0.013	0.0041	0.0060		mg/L	1	12/6/2017 2:32:05 PM	35336
Iron	9.7	0.10	0.20	*	mg/L	10	12/6/2017 4:18:43 PM	35336
Manganese	1.2	0.0055	0.010	*	mg/L	5	12/6/2017 4:17:01 PM	35336
Silver	ND	0.0012	0.0050		mg/L	1	12/6/2017 2:32:05 PM	35336
Zinc	0.024	0.0033	0.010		mg/L	1	12/6/2017 2:32:05 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/19/2017 10:45:09 PM	B47906

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP01
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017
Lab ID: 1711B34-007
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	11/29/2017 8:34:04 PM	C47424
Selenium	ND	0.0038	0.0050		mg/L	5	12/19/2017 10:45:09 PM	B47906
Uranium	0.0093	0.000096	0.00050		mg/L	1	11/29/2017 8:34:04 PM	C47424
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0029	0.0021	0.0050	J	mg/L	5	12/13/2017 3:17:09 AM	35336
Lead	0.0077	0.00023	0.00050		mg/L	1	12/8/2017 5:30:47 PM	35336
Selenium	ND	0.0049	0.0050		mg/L	5	12/13/2017 3:17:09 AM	35336
Uranium	0.0096	0.00015	0.00050		mg/L	1	12/8/2017 5:30:47 PM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:23:59 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Benzoic acid	5.8	3.9	20	J	µg/L	1	11/29/2017 2:09:39 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 2:09:39 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 2:09:39 PM	35147

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Lab ID: 1711B34-007
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 2:09:39 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 2:09:39 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 2:09:39 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 2:09:39 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 2:09:39 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 2:09:39 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 2:09:39 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 2:09:39 PM	35147
1-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 2:09:39 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Naphthalene	ND	2.9	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 2:09:39 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 2:09:39 PM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 2:09:39 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Phenol	ND	3.1	10		µg/L	1	11/29/2017 2:09:39 PM	35147

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Client Sample ID: DUP01
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017
Lab ID: 1711B34-007
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 2:09:39 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 2:09:39 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 2:09:39 PM	35147
Surr: 2-Fluorophenol	54.0	0	15-114		%Rec	1	11/29/2017 2:09:39 PM	35147
Surr: Phenol-d5	39.4	0	15-97.9		%Rec	1	11/29/2017 2:09:39 PM	35147
Surr: 2,4,6-Tribromophenol	80.5	0	15-161		%Rec	1	11/29/2017 2:09:39 PM	35147
Surr: Nitrobenzene-d5	80.8	0	29.3-120		%Rec	1	11/29/2017 2:09:39 PM	35147
Surr: 2-Fluorobiphenyl	75.5	0	17.5-116		%Rec	1	11/29/2017 2:09:39 PM	35147
Surr: 4-Terphenyl-d14	68.4	0	21-92.2		%Rec	1	11/29/2017 2:09:39 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Methyl tert-butyl ether (MTBE)	9.2	0.24	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Acetone	2.0	0.82	10	J	µg/L	1	11/30/2017 4:17:19 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 4:17:19 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 4:17:19 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 4:17:19 PM	W47452
Isopropylbenzene	ND	0.051	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 4:17:19 PM	W47452
Methylene Chloride	ND	0.11	3.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
n-Butylbenzene	ND	0.13	3.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/30/2017 4:17:19 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 4:17:19 PM	W47452
Surr: 1,2-Dichloroethane-d4	97.3	0	70-130		%Rec	1	11/30/2017 4:17:19 PM	W47452

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP01
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/20/2017
Lab ID: 1711B34-007
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	116	0	70-130		%Rec	1	11/30/2017 4:17:19 PM	W47452
Surr: Dibromofluoromethane	97.7	0	70-130		%Rec	1	11/30/2017 4:17:19 PM	W47452
Surr: Toluene-d8	100	0	70-130		%Rec	1	11/30/2017 4:17:19 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Samp MKTF
Collection Date:
Lab ID: 1711B34-008
Matrix: TRIP BLANK
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Acetone	1.7	0.82	10	J	µg/L	1	11/30/2017 4:46:40 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 4:46:40 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 4:46:40 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 4:46:40 PM	W47452

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Samp MKTF
Collection Date:
Lab ID: 1711B34-008
Matrix: TRIP BLANK
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 4:46:40 PM	W47452
Isopropylbenzene	ND	0.051	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 4:46:40 PM	W47452
Methylene Chloride	0.24	0.11	3.0	J	µg/L	1	11/30/2017 4:46:40 PM	W47452
n-Butylbenzene	ND	0.13	3.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/30/2017 4:46:40 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 4:46:40 PM	W47452
Surr: 1,2-Dichloroethane-d4	94.2	0	70-130		%Rec	1	11/30/2017 4:46:40 PM	W47452
Surr: 4-Bromofluorobenzene	115	0	70-130		%Rec	1	11/30/2017 4:46:40 PM	W47452
Surr: Dibromofluoromethane	96.4	0	70-130		%Rec	1	11/30/2017 4:46:40 PM	W47452
Surr: Toluene-d8	102	0	70-130		%Rec	1	11/30/2017 4:46:40 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 8:50:00 AM
Lab ID: 1711B34-009
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	11/28/2017 4:57:37 PM	35166
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.78	0.36	1.0	J	mg/L	1	11/28/2017 9:37:50 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 9:37:50 PM	35151
Surr: DNOP	104	0	77.5-161		%Rec	1	11/28/2017 9:37:50 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	17	0.25	0.50		mg/L	10	11/29/2017 4:04:31 PM	G47400
Surr: BFB	157	0	69.3-150	S	%Rec	10	11/29/2017 4:04:31 PM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	11/22/2017 1:34:37 PM	R47325
Chloride	550	12	25		mg/L	50	11/30/2017 6:57:12 PM	R47469
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	11/22/2017 1:34:37 PM	R47325
Bromide	1.2	0.073	0.50		mg/L	5	11/22/2017 1:34:37 PM	R47325
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	11/22/2017 1:34:37 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/22/2017 1:34:37 PM	R47325
Sulfate	29	0.48	2.5		mg/L	5	11/22/2017 1:34:37 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.28	0.00099	0.0020		mg/L	1	12/7/2017 9:14:47 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:14:47 PM	D47617
Calcium	97	0.078	1.0		mg/L	1	12/7/2017 9:14:47 PM	D47617
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:14:47 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:14:47 PM	D47617
Iron	0.80	0.016	0.020	*	mg/L	1	12/11/2017 5:57:58 PM	C47672
Magnesium	18	0.25	1.0		mg/L	1	12/7/2017 9:14:47 PM	D47617
Manganese	2.4	0.0039	0.020	*	mg/L	10	12/11/2017 5:59:42 PM	C47672
Potassium	0.94	0.11	1.0	J	mg/L	1	12/7/2017 9:14:47 PM	D47617
Silver	ND	0.0018	0.0050		mg/L	1	12/7/2017 9:14:47 PM	D47617
Sodium	540	1.6	10		mg/L	10	12/11/2017 5:59:42 PM	C47672
Zinc	ND	0.0021	0.010		mg/L	1	12/11/2017 5:57:58 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.34	0.0010	0.0020		mg/L	1	12/6/2017 2:33:54 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:33:54 PM	35336
Chromium	0.0032	0.0018	0.0060	J	mg/L	1	12/6/2017 2:33:54 PM	35336
Copper	0.016	0.0041	0.0060		mg/L	1	12/6/2017 2:33:54 PM	35336
Iron	4.5	0.051	0.10	*	mg/L	5	12/6/2017 4:20:31 PM	35336
Manganese	2.7	0.0055	0.010	*	mg/L	5	12/6/2017 4:20:31 PM	35336
Silver	ND	0.0012	0.0050		mg/L	1	12/6/2017 2:33:54 PM	35336

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 8:50:00 AM
Lab ID: 1711B34-009
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Zinc	0.0086	0.0033	0.010	J	mg/L	1	12/6/2017 2:33:54 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0042	0.00042	0.0010		mg/L	1	11/29/2017 8:38:57 PM	C47424
Lead	0.00022	0.00017	0.00050	J	mg/L	1	11/29/2017 8:38:57 PM	C47424
Selenium	ND	0.0038	0.0050		mg/L	5	12/8/2017 12:56:04 AM	B47625
Uranium	0.024	0.000096	0.00050		mg/L	1	11/29/2017 8:38:57 PM	C47424
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0040	0.0021	0.0050	J	mg/L	5	12/13/2017 3:30:16 AM	35336
Lead	0.0053	0.0011	0.0025		mg/L	5	12/13/2017 3:30:16 AM	35336
Selenium	ND	0.0049	0.0050		mg/L	5	12/13/2017 3:30:16 AM	35336
Uranium	0.026	0.00077	0.0025		mg/L	5	12/13/2017 3:30:16 AM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:30:00 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Benzoic acid	ND	3.9	20		µg/L	1	11/29/2017 2:37:31 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 2:37:31 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 8:50:00 AM
Lab ID: 1711B34-009 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Di-n-octyl phthalate	4.7	4.7	10	J	µg/L	1	11/29/2017 2:37:31 PM	35147
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 2:37:31 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 2:37:31 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 2:37:31 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 2:37:31 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 2:37:31 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 2:37:31 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 2:37:31 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 2:37:31 PM	35147
1-Methylnaphthalene	5.9	3.3	10	J	µg/L	1	11/29/2017 2:37:31 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 2:37:31 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Naphthalene	4.5	2.9	10	J	µg/L	1	11/29/2017 2:37:31 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 2:37:31 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 2:37:31 PM	35147

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 8:50:00 AM
Lab ID: 1711B34-009
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 2:37:31 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Phenol	4.4	3.1	10	J	µg/L	1	11/29/2017 2:37:31 PM	35147
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 2:37:31 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 2:37:31 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 2:37:31 PM	35147
Surr: 2-Fluorophenol	45.4	0	15-114		%Rec	1	11/29/2017 2:37:31 PM	35147
Surr: Phenol-d5	33.3	0	15-97.9		%Rec	1	11/29/2017 2:37:31 PM	35147
Surr: 2,4,6-Tribromophenol	65.4	0	15-161		%Rec	1	11/29/2017 2:37:31 PM	35147
Surr: Nitrobenzene-d5	61.6	0	29.3-120		%Rec	1	11/29/2017 2:37:31 PM	35147
Surr: 2-Fluorobiphenyl	58.4	0	17.5-116		%Rec	1	11/29/2017 2:37:31 PM	35147
Surr: 4-Terphenyl-d14	48.6	0	21-92.2		%Rec	1	11/29/2017 2:37:31 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	1600	3.1	50		µg/L	50	11/30/2017 8:11:20 PM	W47452
Toluene	11	0.32	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Ethylbenzene	140	0.47	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Methyl tert-butyl ether (MTBE)	200	1.2	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2,4-Trimethylbenzene	4.5	0.56	5.0	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2-Dichloroethane (EDC)	9.7	2.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Naphthalene	5.6	0.57	10	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
1-Methylnaphthalene	3.7	0.80	20	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
2-Methylnaphthalene	ND	0.76	20		µg/L	5	11/30/2017 8:40:34 PM	W47452
Acetone	ND	4.1	50		µg/L	5	11/30/2017 8:40:34 PM	W47452
Bromobenzene	ND	0.70	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Bromodichloromethane	ND	0.88	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Bromoform	ND	1.1	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Bromomethane	ND	1.3	15		µg/L	5	11/30/2017 8:40:34 PM	W47452
2-Butanone	ND	5.7	50		µg/L	5	11/30/2017 8:40:34 PM	W47452
Carbon disulfide	ND	2.0	50		µg/L	5	11/30/2017 8:40:34 PM	W47452
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Chlorobenzene	ND	0.53	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Chloroethane	ND	1.2	10		µg/L	5	11/30/2017 8:40:34 PM	W47452
Chloroform	ND	2.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Chloromethane	ND	1.5	15		µg/L	5	11/30/2017 8:40:34 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 8:50:00 AM
Lab ID: 1711B34-009 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
cis-1,2-DCE	47	1.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	11/30/2017 8:40:34 PM	W47452
Dibromochloromethane	ND	0.36	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Dibromomethane	ND	0.45	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,1-Dichloroethane	210	2.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,1-Dichloroethene	94	0.40	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
2,2-Dichloropropane	ND	0.79	10		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
2-Hexanone	ND	3.3	50		µg/L	5	11/30/2017 8:40:34 PM	W47452
Isopropylbenzene	48	0.26	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
4-Isopropyltoluene	0.53	0.48	5.0	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	11/30/2017 8:40:34 PM	W47452
Methylene Chloride	ND	0.54	15		µg/L	5	11/30/2017 8:40:34 PM	W47452
n-Butylbenzene	14	0.65	15	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
n-Propylbenzene	57	0.37	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
sec-Butylbenzene	7.0	0.55	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Styrene	ND	0.78	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	11/30/2017 8:40:34 PM	W47452
Tetrachloroethene (PCE)	1.9	0.65	5.0	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,1,1-Trichloroethane	16	0.36	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
1,1,2-Trichloroethane	1.2	0.70	5.0	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
Trichloroethene (TCE)	21	0.56	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	11/30/2017 8:40:34 PM	W47452

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 8:50:00 AM
Lab ID: 1711B34-009
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	11/30/2017 8:40:34 PM	W47452
Vinyl chloride	3.2	0.89	5.0	J	µg/L	5	11/30/2017 8:40:34 PM	W47452
Xylenes, Total	13	1.6	7.5		µg/L	5	11/30/2017 8:40:34 PM	W47452
Surr: 1,2-Dichloroethane-d4	94.4	0	70-130		%Rec	5	11/30/2017 8:40:34 PM	W47452
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	5	11/30/2017 8:40:34 PM	W47452
Surr: Dibromofluoromethane	94.2	0	70-130		%Rec	5	11/30/2017 8:40:34 PM	W47452
Surr: Toluene-d8	99.9	0	70-130		%Rec	5	11/30/2017 8:40:34 PM	W47452

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:00:00 AM
Lab ID: 1711B34-010
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	0.011	0.0059	0.0093		µg/L	1	11/28/2017 5:12:42 PM	35166
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	11/28/2017 10:05:02 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 10:05:02 PM	35151
Surr: DNOP	102	0	77.5-161		%Rec	1	11/28/2017 10:05:02 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.23	0.025	0.050		mg/L	1	11/29/2017 11:42:04 AM	G47400
Surr: BFB	130	0	69.3-150		%Rec	1	11/29/2017 11:42:04 AM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	11/22/2017 2:24:15 PM	R47325
Chloride	890	12	25		mg/L	50	11/30/2017 7:09:37 PM	R47469
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	11/22/2017 2:24:15 PM	R47325
Bromide	1.5	0.073	0.50		mg/L	5	11/22/2017 2:24:15 PM	R47325
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	11/22/2017 2:24:15 PM	R47325
Phosphorus, Orthophosphate (As P)	1.3	1.2	2.5	J	mg/L	5	11/22/2017 2:24:15 PM	R47325
Sulfate	76	0.48	2.5		mg/L	5	11/22/2017 2:24:15 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.12	0.00099	0.0020		mg/L	1	12/7/2017 9:22:31 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:22:31 PM	D47617
Calcium	130	0.78	10		mg/L	10	12/11/2017 6:03:33 PM	C47672
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:22:31 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:22:31 PM	D47617
Iron	0.026	0.016	0.020		mg/L	1	12/11/2017 6:01:39 PM	C47672
Magnesium	27	0.25	1.0		mg/L	1	12/7/2017 9:22:31 PM	D47617
Manganese	0.025	0.00039	0.0020		mg/L	1	12/7/2017 9:22:31 PM	D47617
Potassium	1.4	0.11	1.0		mg/L	1	12/7/2017 9:22:31 PM	D47617
Silver	0.0023	0.0018	0.0050	J	mg/L	1	12/7/2017 9:22:31 PM	D47617
Sodium	560	1.6	10		mg/L	10	12/11/2017 6:03:33 PM	C47672
Zinc	ND	0.0021	0.010		mg/L	1	12/11/2017 6:01:39 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.14	0.0010	0.0020		mg/L	1	12/6/2017 2:35:39 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:35:39 PM	35336
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2017 2:35:39 PM	35336
Copper	0.0044	0.0041	0.0060	J	mg/L	1	12/6/2017 2:35:39 PM	35336
Iron	2.0	0.051	0.10	*	mg/L	5	12/6/2017 4:22:25 PM	35336
Manganese	0.083	0.0011	0.0020	*	mg/L	1	12/6/2017 2:35:39 PM	35336
Silver	0.0018	0.0012	0.0050	J	mg/L	1	12/6/2017 2:35:39 PM	35336

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:00:00 AM
Lab ID: 1711B34-010 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Zinc	ND	0.0033	0.010		mg/L	1	12/6/2017 2:35:39 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/8/2017 1:02:38 AM	B47625
Lead	ND	0.00017	0.00050		mg/L	1	11/29/2017 8:43:51 PM	C47424
Selenium	ND	0.0038	0.0050		mg/L	5	12/8/2017 1:02:38 AM	B47625
Uranium	0.040	0.00048	0.0025	*	mg/L	5	12/6/2017 10:09:30 PM	B47590
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0021	0.0021	0.0050	J	mg/L	5	12/13/2017 3:56:33 AM	35336
Lead	0.0018	0.0011	0.0025	J	mg/L	5	12/13/2017 3:56:33 AM	35336
Selenium	ND	0.0049	0.0050		mg/L	5	12/13/2017 3:56:33 AM	35336
Uranium	0.039	0.00077	0.0025	*	mg/L	5	12/13/2017 3:56:33 AM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:31:59 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Benzoic acid	6.2	3.9	20	J	µg/L	1	11/29/2017 3:05:18 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 3:05:18 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:00:00 AM
Lab ID: 1711B34-010 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 3:05:18 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 3:05:18 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 3:05:18 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 3:05:18 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 3:05:18 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 3:05:18 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 3:05:18 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 3:05:18 PM	35147
1-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 3:05:18 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Naphthalene	ND	2.9	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 3:05:18 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 3:05:18 PM	35147

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:00:00 AM
Lab ID: 1711B34-010 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 3:05:18 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Phenol	ND	3.1	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 3:05:18 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 3:05:18 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 3:05:18 PM	35147
Surr: 2-Fluorophenol	47.0	0	15-114		%Rec	1	11/29/2017 3:05:18 PM	35147
Surr: Phenol-d5	36.0	0	15-97.9		%Rec	1	11/29/2017 3:05:18 PM	35147
Surr: 2,4,6-Tribromophenol	75.6	0	15-161		%Rec	1	11/29/2017 3:05:18 PM	35147
Surr: Nitrobenzene-d5	70.1	0	29.3-120		%Rec	1	11/29/2017 3:05:18 PM	35147
Surr: 2-Fluorobiphenyl	61.4	0	17.5-116		%Rec	1	11/29/2017 3:05:18 PM	35147
Surr: 4-Terphenyl-d14	78.0	0	21-92.2		%Rec	1	11/29/2017 3:05:18 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.62	0.062	1.0	J	µg/L	1	11/30/2017 5:15:59 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Methyl tert-butyl ether (MTBE)	66	0.24	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2-Dichloroethane (EDC)	22	0.40	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Acetone	ND	0.82	10		µg/L	1	11/30/2017 5:15:59 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 5:15:59 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 5:15:59 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 5:15:59 PM	W47452

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:00:00 AM
Lab ID: 1711B34-010 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
cis-1,2-DCE	1.6	0.20	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,1-Dichloroethane	35	0.40	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,1-Dichloroethene	67	0.081	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2-Dichloropropane	0.19	0.10	1.0	J	µg/L	1	11/30/2017 5:15:59 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 5:15:59 PM	W47452
Isopropylbenzene	1.6	0.051	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 5:15:59 PM	W47452
Methylene Chloride	0.29	0.11	3.0	J	µg/L	1	11/30/2017 5:15:59 PM	W47452
n-Butylbenzene	0.17	0.13	3.0	J	µg/L	1	11/30/2017 5:15:59 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,1,1-Trichloroethane	4.6	0.073	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
1,1,2-Trichloroethane	2.4	0.14	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Trichloroethene (TCE)	4.1	0.11	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 5:15:59 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:00:00 AM
Lab ID: 1711B34-010 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 5:15:59 PM	W47452
Vinyl chloride	0.29	0.18	1.0	J	µg/L	1	11/30/2017 5:15:59 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 5:15:59 PM	W47452
Surr: 1,2-Dichloroethane-d4	96.6	0	70-130		%Rec	1	11/30/2017 5:15:59 PM	W47452
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	11/30/2017 5:15:59 PM	W47452
Surr: Dibromofluoromethane	93.7	0	70-130		%Rec	1	11/30/2017 5:15:59 PM	W47452
Surr: Toluene-d8	102	0	70-130		%Rec	1	11/30/2017 5:15:59 PM	W47452

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:55:00 AM
Lab ID: 1711B34-011 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	11/28/2017 10:32:56 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 10:32:56 PM	35151
Surr: DNOP	102	0	77.5-161		%Rec	1	11/28/2017 10:32:56 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	11/29/2017 12:06:01 PM	G47400
Surr: BFB	111	0	69.3-150		%Rec	1	11/29/2017 12:06:01 PM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	11/22/2017 2:49:05 PM	R47325
Chloride	4100	120	250		mg/L	500	11/30/2017 7:22:02 PM	R47469
Nitrogen, Nitrite (As N)	ND	0.14	2.0		mg/L	20	11/22/2017 3:01:29 PM	R47325
Bromide	1.5	0.073	0.50		mg/L	5	11/22/2017 2:49:05 PM	R47325
Nitrogen, Nitrate (As N)	0.14	0.11	0.50	J	mg/L	5	11/22/2017 2:49:05 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/22/2017 2:49:05 PM	R47325
Sulfate	590	48	250		mg/L	500	11/30/2017 7:22:02 PM	R47469
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.076	0.00099	0.0020		mg/L	1	12/7/2017 9:24:23 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:24:23 PM	D47617
Calcium	320	0.39	5.0		mg/L	5	12/11/2017 6:07:36 PM	C47672
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:24:23 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:24:23 PM	D47617
Iron	0.072	0.016	0.020		mg/L	1	12/11/2017 6:05:30 PM	C47672
Magnesium	61	0.25	1.0		mg/L	1	12/7/2017 9:24:23 PM	D47617
Manganese	0.021	0.00039	0.0020		mg/L	1	12/7/2017 9:24:23 PM	D47617
Potassium	6.3	0.11	1.0		mg/L	1	12/7/2017 9:24:23 PM	D47617
Silver	0.0056	0.0018	0.0050		mg/L	1	12/7/2017 9:24:23 PM	D47617
Sodium	2400	8.2	50		mg/L	50	12/11/2017 6:15:06 PM	C47672
Zinc	ND	0.0021	0.010		mg/L	1	12/11/2017 6:05:30 PM	C47672
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.16	0.0010	0.0020		mg/L	1	12/6/2017 2:37:25 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:37:25 PM	35336
Chromium	ND	0.0018	0.0060		mg/L	1	12/6/2017 2:37:25 PM	35336
Copper	0.0074	0.0041	0.0060		mg/L	1	12/6/2017 2:37:25 PM	35336
Iron	4.0	0.051	0.10	*	mg/L	5	12/6/2017 4:24:19 PM	35336
Manganese	0.18	0.0011	0.0020	*	mg/L	1	12/6/2017 2:37:25 PM	35336
Silver	0.0047	0.0012	0.0050	J	mg/L	1	12/6/2017 2:37:25 PM	35336
Zinc	0.0085	0.0033	0.010	J	mg/L	1	12/6/2017 2:37:25 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:55:00 AM
Lab ID: 1711B34-011
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0046	0.0042	0.010	J	mg/L	10	12/13/2017 7:24:09 PM	B47766
Lead	ND	0.00087	0.0025		mg/L	5	12/6/2017 10:16:05 PM	B47590
Selenium	ND	0.0076	0.010		mg/L	10	12/13/2017 7:24:09 PM	B47766
Uranium	0.052	0.00048	0.0025	*	mg/L	5	12/6/2017 10:16:05 PM	B47590
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/13/2017 2:14:33 PM	35336
Lead	0.0042	0.0011	0.0025		mg/L	5	12/13/2017 2:14:33 PM	35336
Selenium	ND	0.0049	0.0050		mg/L	5	12/13/2017 2:14:33 PM	35336
Uranium	0.053	0.00077	0.0025	*	mg/L	5	12/13/2017 2:14:33 PM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:33:59 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Benzoic acid	6.5	3.9	20	J	µg/L	1	11/29/2017 3:33:08 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 3:33:08 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147

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Lab ID: 1711B34-011
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 3:33:08 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 3:33:08 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 3:33:08 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 3:33:08 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 3:33:08 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 3:33:08 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 3:33:08 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 3:33:08 PM	35147
1-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 3:33:08 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Naphthalene	ND	2.9	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 3:33:08 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 3:33:08 PM	35147
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 3:33:08 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147

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Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017 10:55:00 AM
Lab ID: 1711B34-011 **Matrix:** AQUEOUS **Received Date:** 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 3:33:08 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 3:33:08 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 3:33:08 PM	35147
Surr: 2-Fluorophenol	52.3	0	15-114		%Rec	1	11/29/2017 3:33:08 PM	35147
Surr: Phenol-d5	37.9	0	15-97.9		%Rec	1	11/29/2017 3:33:08 PM	35147
Surr: 2,4,6-Tribromophenol	81.0	0	15-161		%Rec	1	11/29/2017 3:33:08 PM	35147
Surr: Nitrobenzene-d5	71.5	0	29.3-120		%Rec	1	11/29/2017 3:33:08 PM	35147
Surr: 2-Fluorobiphenyl	65.0	0	17.5-116		%Rec	1	11/29/2017 3:33:08 PM	35147
Surr: 4-Terphenyl-d14	43.6	0	21-92.2		%Rec	1	11/29/2017 3:33:08 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Toluene	ND	0.064	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Ethylbenzene	ND	0.093	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Naphthalene	ND	0.11	2.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Acetone	2.7	0.82	10	J	µg/L	1	11/30/2017 5:45:11 PM	W47452
Bromobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Bromodichloromethane	ND	0.18	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Bromoform	ND	0.21	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Bromomethane	ND	0.26	3.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
2-Butanone	ND	1.1	10		µg/L	1	11/30/2017 5:45:11 PM	W47452
Carbon disulfide	ND	0.40	10		µg/L	1	11/30/2017 5:45:11 PM	W47452
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Chlorobenzene	ND	0.11	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Chloroethane	ND	0.23	2.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Chloroform	ND	0.40	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Chloromethane	ND	0.29	3.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Dibromochloromethane	ND	0.072	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Dibromomethane	ND	0.091	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,1-Dichloroethane	0.59	0.40	1.0	J	µg/L	1	11/30/2017 5:45:11 PM	W47452
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
2-Hexanone	ND	0.66	10		µg/L	1	11/30/2017 5:45:11 PM	W47452
Isopropylbenzene	ND	0.051	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/30/2017 5:45:11 PM	W47452
Methylene Chloride	ND	0.11	3.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
n-Butylbenzene	ND	0.13	3.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
n-Propylbenzene	ND	0.074	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Styrene	ND	0.16	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/30/2017 5:45:11 PM	W47452
Xylenes, Total	ND	0.32	1.5		µg/L	1	11/30/2017 5:45:11 PM	W47452

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Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	1	11/30/2017 5:45:11 PM	W47452
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	11/30/2017 5:45:11 PM	W47452
Surr: Dibromofluoromethane	96.5	0	70-130		%Rec	1	11/30/2017 5:45:11 PM	W47452
Surr: Toluene-d8	100	0	70-130		%Rec	1	11/30/2017 5:45:11 PM	W47452

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017
Lab ID: 1711B34-012
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	11/28/2017 5:27:55 PM	35166
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.58	0.36	1.0	J	mg/L	1	11/28/2017 11:01:14 PM	35151
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	11/28/2017 11:01:14 PM	35151
Surr: DNOP	83.4	0	77.5-161		%Rec	1	11/28/2017 11:01:14 PM	35151
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	18	0.25	0.50		mg/L	10	11/29/2017 4:28:15 PM	G47400
Surr: BFB	156	0	69.3-150	S	%Rec	10	11/29/2017 4:28:15 PM	G47400
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	11/22/2017 3:13:54 PM	R47325
Chloride	560	12	25		mg/L	50	11/30/2017 7:34:26 PM	R47469
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	11/22/2017 3:13:54 PM	R47325
Bromide	1.2	0.073	0.50		mg/L	5	11/22/2017 3:13:54 PM	R47325
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	11/22/2017 3:13:54 PM	R47325
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/22/2017 3:13:54 PM	R47325
Sulfate	30	0.48	2.5		mg/L	5	11/22/2017 3:13:54 PM	R47325
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.27	0.00099	0.0020		mg/L	1	12/7/2017 9:26:27 PM	D47617
Cadmium	ND	0.0010	0.0020		mg/L	1	12/7/2017 9:26:27 PM	D47617
Calcium	100	0.78	10		mg/L	10	12/11/2017 6:18:54 PM	C47672
Chromium	ND	0.0013	0.0060		mg/L	1	12/7/2017 9:26:27 PM	D47617
Copper	ND	0.0032	0.0060		mg/L	1	12/7/2017 9:26:27 PM	D47617
Iron	0.77	0.016	0.020	*	mg/L	1	12/13/2017 10:36:50 PM	C47751
Magnesium	19	0.25	1.0		mg/L	1	12/7/2017 9:26:27 PM	D47617
Manganese	2.4	0.0039	0.020	*	mg/L	10	12/11/2017 6:18:54 PM	C47672
Potassium	1.0	0.11	1.0		mg/L	1	12/7/2017 9:26:27 PM	D47617
Silver	ND	0.0018	0.0050		mg/L	1	12/7/2017 9:26:27 PM	D47617
Sodium	540	1.6	10		mg/L	10	12/11/2017 6:18:54 PM	C47672
Zinc	ND	0.010	0.010		mg/L	1	12/15/2017 11:49:47 AM	A47814
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.39	0.0010	0.0020		mg/L	1	12/6/2017 2:45:06 PM	35336
Cadmium	ND	0.00058	0.0020		mg/L	1	12/6/2017 2:45:06 PM	35336
Chromium	0.0042	0.0018	0.0060	J	mg/L	1	12/6/2017 2:45:06 PM	35336
Copper	0.017	0.0041	0.0060		mg/L	1	12/6/2017 2:45:06 PM	35336
Iron	5.5	0.10	0.20	*	mg/L	10	12/6/2017 4:33:05 PM	35336
Manganese	2.9	0.011	0.020	*	mg/L	10	12/6/2017 4:33:05 PM	35336
Silver	ND	0.0012	0.0050		mg/L	1	12/6/2017 2:45:06 PM	35336

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Zinc	0.010	0.0033	0.010	J	mg/L	1	12/6/2017 2:45:06 PM	35336
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0042	0.00042	0.0010		mg/L	1	11/29/2017 9:03:31 PM	C47424
Lead	0.00027	0.00017	0.00050	J	mg/L	1	11/29/2017 9:03:31 PM	C47424
Selenium	0.0038	0.0038	0.0050	J	mg/L	5	12/8/2017 1:15:45 AM	B47625
Uranium	0.024	0.000096	0.00050		mg/L	1	11/29/2017 9:03:31 PM	C47424
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0036	0.00041	0.0010		mg/L	1	12/13/2017 4:16:12 AM	35336
Lead	0.0057	0.0011	0.0025		mg/L	5	12/13/2017 2:27:40 PM	35336
Selenium	0.0024	0.00098	0.0010		mg/L	1	12/13/2017 4:16:12 AM	35336
Uranium	0.026	0.00077	0.0025		mg/L	5	12/13/2017 2:27:40 PM	35336
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 12:35:59 PM	35511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Acenaphthylene	ND	3.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Aniline	ND	3.1	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Anthracene	ND	3.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Azobenzene	ND	4.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Benz(a)anthracene	ND	3.9	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Benzo(a)pyrene	ND	4.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Benzoic acid	14	3.9	20	J	µg/L	1	11/29/2017 4:01:00 PM	35147
Benzyl alcohol	ND	4.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	11/29/2017 4:01:00 PM	35147
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Carbazole	ND	4.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
4-Chloroaniline	ND	3.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2-Chloronaphthalene	ND	3.7	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2-Chlorophenol	ND	7.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Chrysene	ND	3.8	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Dibenzofuran	ND	4.1	10		µg/L	1	11/29/2017 4:01:00 PM	35147
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	11/29/2017 4:01:00 PM	35147
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 4:01:00 PM	35147
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Diethyl phthalate	ND	4.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Dimethyl phthalate	ND	3.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	11/29/2017 4:01:00 PM	35147
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	11/29/2017 4:01:00 PM	35147
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	11/29/2017 4:01:00 PM	35147
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	11/29/2017 4:01:00 PM	35147
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Fluoranthene	ND	4.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Fluorene	ND	4.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Hexachlorobenzene	ND	3.8	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Hexachlorobutadiene	ND	1.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Hexachloroethane	ND	1.2	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Isophorone	ND	4.4	10		µg/L	1	11/29/2017 4:01:00 PM	35147
1-Methylnaphthalene	7.0	3.3	10	J	µg/L	1	11/29/2017 4:01:00 PM	35147
2-Methylnaphthalene	ND	3.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2-Methylphenol	ND	3.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
3+4-Methylphenol	ND	3.2	10		µg/L	1	11/29/2017 4:01:00 PM	35147
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Naphthalene	5.0	2.9	10	J	µg/L	1	11/29/2017 4:01:00 PM	35147
2-Nitroaniline	ND	4.9	10		µg/L	1	11/29/2017 4:01:00 PM	35147
3-Nitroaniline	ND	4.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
4-Nitroaniline	ND	4.0	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Nitrobenzene	ND	3.6	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2-Nitrophenol	ND	5.2	10		µg/L	1	11/29/2017 4:01:00 PM	35147

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
4-Nitrophenol	ND	5.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Pentachlorophenol	ND	4.9	20		µg/L	1	11/29/2017 4:01:00 PM	35147
Phenanthrene	ND	4.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Phenol	9.9	3.1	10	J	µg/L	1	11/29/2017 4:01:00 PM	35147
Pyrene	ND	4.4	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Pyridine	ND	2.3	10		µg/L	1	11/29/2017 4:01:00 PM	35147
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	11/29/2017 4:01:00 PM	35147
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	11/29/2017 4:01:00 PM	35147
Surr: 2-Fluorophenol	49.1	0	15-114		%Rec	1	11/29/2017 4:01:00 PM	35147
Surr: Phenol-d5	37.5	0	15-97.9		%Rec	1	11/29/2017 4:01:00 PM	35147
Surr: 2,4,6-Tribromophenol	81.4	0	15-161		%Rec	1	11/29/2017 4:01:00 PM	35147
Surr: Nitrobenzene-d5	72.4	0	29.3-120		%Rec	1	11/29/2017 4:01:00 PM	35147
Surr: 2-Fluorobiphenyl	67.9	0	17.5-116		%Rec	1	11/29/2017 4:01:00 PM	35147
Surr: 4-Terphenyl-d14	53.8	0	21-92.2		%Rec	1	11/29/2017 4:01:00 PM	35147
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	1600	3.1	50		µg/L	50	11/30/2017 9:09:47 PM	W47452
Toluene	12	0.32	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Ethylbenzene	150	0.47	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Methyl tert-butyl ether (MTBE)	210	1.2	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2,4-Trimethylbenzene	4.3	0.56	5.0	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2-Dichloroethane (EDC)	9.9	2.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Naphthalene	5.5	0.57	10	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
1-Methylnaphthalene	3.3	0.80	20	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
2-Methylnaphthalene	ND	0.76	20		µg/L	5	11/30/2017 9:38:55 PM	W47452
Acetone	ND	4.1	50		µg/L	5	11/30/2017 9:38:55 PM	W47452
Bromobenzene	ND	0.70	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Bromodichloromethane	ND	0.88	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Bromoform	ND	1.1	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Bromomethane	ND	1.3	15		µg/L	5	11/30/2017 9:38:55 PM	W47452
2-Butanone	ND	5.7	50		µg/L	5	11/30/2017 9:38:55 PM	W47452
Carbon disulfide	ND	2.0	50		µg/L	5	11/30/2017 9:38:55 PM	W47452
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Chlorobenzene	ND	0.53	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Chloroethane	ND	1.2	10		µg/L	5	11/30/2017 9:38:55 PM	W47452
Chloroform	ND	2.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Chloromethane	ND	1.5	15		µg/L	5	11/30/2017 9:38:55 PM	W47452

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
cis-1,2-DCE	51	1.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	11/30/2017 9:38:55 PM	W47452
Dibromochloromethane	ND	0.36	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Dibromomethane	ND	0.45	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,1-Dichloroethane	210	2.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,1-Dichloroethene	95	0.40	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
2,2-Dichloropropane	ND	0.79	10		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
2-Hexanone	ND	3.3	50		µg/L	5	11/30/2017 9:38:55 PM	W47452
Isopropylbenzene	48	0.26	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
4-Isopropyltoluene	0.54	0.48	5.0	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	11/30/2017 9:38:55 PM	W47452
Methylene Chloride	ND	0.54	15		µg/L	5	11/30/2017 9:38:55 PM	W47452
n-Butylbenzene	14	0.65	15	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
n-Propylbenzene	58	0.37	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
sec-Butylbenzene	7.0	0.55	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Styrene	ND	0.78	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	11/30/2017 9:38:55 PM	W47452
Tetrachloroethene (PCE)	1.9	0.65	5.0	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,1,1-Trichloroethane	16	0.36	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
1,1,2-Trichloroethane	1.3	0.70	5.0	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
Trichloroethene (TCE)	21	0.56	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	11/30/2017 9:38:55 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP02
Project: 4th QTR 2017 GW Samp MKTF
Collection Date: 11/21/2017
Lab ID: 1711B34-012
Matrix: AQUEOUS
Received Date: 11/21/2017 2:50:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	11/30/2017 9:38:55 PM	W47452
Vinyl chloride	3.4	0.89	5.0	J	µg/L	5	11/30/2017 9:38:55 PM	W47452
Xylenes, Total	13	1.6	7.5		µg/L	5	11/30/2017 9:38:55 PM	W47452
Surr: 1,2-Dichloroethane-d4	93.7	0	70-130		%Rec	5	11/30/2017 9:38:55 PM	W47452
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	5	11/30/2017 9:38:55 PM	W47452
Surr: Dibromofluoromethane	91.8	0	70-130		%Rec	5	11/30/2017 9:38:55 PM	W47452
Surr: Toluene-d8	102	0	70-130		%Rec	5	11/30/2017 9:38:55 PM	W47452

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB-D**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D47617**	RunNo: **47617**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1522097** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID **LLLCS-D**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D47617**	RunNo: **47617**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1522098** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0026	0.0020	0.002000	0	130	50	150			
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			
Calcium	0.51	1.0	0.5000	0	102	50	150			J
Chromium	0.0059	0.0060	0.006000	0	98.0	50	150			J
Copper	0.0057	0.0060	0.006000	0	95.2	50	150			J
Magnesium	0.47	1.0	0.5000	0	94.9	50	150			J
Manganese	0.0022	0.0020	0.002000	0	110	50	150			
Potassium	0.49	1.0	0.5000	0	97.2	50	150			J
Silver	0.0049	0.0050	0.005000	0	98.8	50	150			J

Sample ID **LCS-D**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D47617**	RunNo: **47617**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1522099** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	104	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.7	85	115			
Calcium	48	1.0	50.00	0	96.0	85	115			
Chromium	0.49	0.0060	0.5000	0	97.1	85	115			
Copper	0.49	0.0060	0.5000	0	97.6	85	115			
Magnesium	47	1.0	50.00	0	94.7	85	115			
Manganese	0.49	0.0020	0.5000	0	97.5	85	115			
Potassium	47	1.0	50.00	0	94.4	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47672**	RunNo: **47672**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524597** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.48	1.0								J
Iron	ND	0.020								
Manganese	0.0019	0.0020								J
Zinc	ND	0.010								

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47672**	RunNo: **47672**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524600** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47672**	RunNo: **47672**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524601** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.47	1.0	0.5000	0	94.4	50	150			J
Iron	0.024	0.020	0.02000	0	118	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Sodium	0.55	1.0	0.5000	0	109	50	150			J
Zinc	0.0055	0.010	0.005000	0	110	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47672**	RunNo: **47672**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524602** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	95.2	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.0	85	115			
Sodium	50	1.0	50.00	0	100	85	115			
Zinc	0.47	0.010	0.5000	0	93.8	85	115			

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527558** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527558** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527559** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.019	0.020	0.02000	0	97.3	50	150			J
Sodium	0.55	1.0	0.5000	0	111	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527560** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	97.1	85	115			
Sodium	46	1.0	50.00	0	92.4	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A47814**	RunNo: **47814**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1529785** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A47814**	RunNo: **47814**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1529787** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.45	0.010	0.5000	0	89.5	85	115			

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A47814**	RunNo: **47814**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1530819** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0063	0.010	0.005000	0	126	50	150			J

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB-35336**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **35336**	RunNo: **47597**
Prep Date: **12/5/2017**	Analysis Date: **12/6/2017**	SeqNo: **1520933** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-35336**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **35336**	RunNo: **47597**
Prep Date: **12/5/2017**	Analysis Date: **12/6/2017**	SeqNo: **1520934** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	91.5	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	88.5	50	150			J
Chromium	0.0055	0.0060	0.006000	0	91.2	50	150			J
Copper	0.0058	0.0060	0.006000	0	96.5	50	150			J
Iron	0.019	0.020	0.02000	0	97.4	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Silver	0.0050	0.0050	0.005000	0	100	50	150			
Zinc	0.0058	0.010	0.005000	0	115	50	150			J

Sample ID **LCS-35336**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **35336**	RunNo: **47597**
Prep Date: **12/5/2017**	Analysis Date: **12/6/2017**	SeqNo: **1520936** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.52	0.0020	0.5000	0	104	85	115			
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			
Copper	0.48	0.0060	0.5000	0	96.7	85	115			
Iron	0.51	0.020	0.5000	0	103	85	115			
Manganese	0.50	0.0020	0.5000	0	99.8	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.50	0.010	0.5000	0	99.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513206** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513207** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00097	0.0010	0.001000	0	97.4	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.8	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.5	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513208** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.7	85	115			
Lead	0.012	0.00050	0.01250	0	93.2	85	115			
Uranium	0.012	0.00050	0.01250	0	93.0	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513232** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513233** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00093	0.0010	0.001000	0	92.5	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Uranium	0.00048	0.00050	0.0005000	0	96.0	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513234** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	91.5	85	115			
Lead	0.012	0.00050	0.01250	0	97.5	85	115			
Uranium	0.012	0.00050	0.01250	0	93.6	85	115			

Sample ID **1711B34-005FLLMS**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-02**	Batch ID: **C47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513236** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0.002760	85.5	70	130			
Lead	0.013	0.00050	0.01250	0.0003489	104	70	130			

Sample ID **1711B34-005FLLMS**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-02**	Batch ID: **C47424**	RunNo: **47424**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513237** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0.002760	85.3	70	130	0.238	20	
Lead	0.013	0.00050	0.01250	0.0003489	105	70	130	0.518	20	

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47590**	RunNo: **47590**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1520211** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47590**	RunNo: **47590**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1520212** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00045	0.00050	0.0005000	0	90.5	50	150			J
Uranium	0.00043	0.00050	0.0005000	0	85.3	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47590**	RunNo: **47590**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1520213** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	94.0	85	115			
Uranium	0.012	0.00050	0.01250	0	92.6	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521658** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521659** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0011	0.0010	0.001000	0	105	50	150			
Uranium	0.00046	0.00050	0.0005000	0	92.6	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521660** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	91.0	85	115			
Uranium	0.012	0.00050	0.01250	0	92.3	85	115			

Sample ID **1711B34-005FLLMS**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-02**	Batch ID: **A47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521669** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.10	0.0050	0.1250	0	81.2	70	130			
Uranium	0.094	0.0025	0.06250	0.03437	95.4	70	130			

Sample ID **1711B34-005FLLMS**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-02**	Batch ID: **A47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **1711B34-005FLLMS**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-02**	Batch ID: **A47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521670** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.10	0.0050	0.1250	0	82.2	70	130	1.23	20	
Uranium	0.095	0.0025	0.06250	0.03437	96.5	70	130	0.728	20	

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521672** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521673** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00095	0.0010	0.001000	0	94.8	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.3	50	150			J
Selenium	0.00088	0.0010	0.001000	0	88.1	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.7	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521674** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.9	85	115			
Lead	0.012	0.00050	0.01250	0	96.2	85	115			
Selenium	0.023	0.0010	0.02500	0	93.9	85	115			
Uranium	0.012	0.00050	0.01250	0	96.1	85	115			

Sample ID **1711B34-002EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-27**	Batch ID: **B47625**	RunNo: **47625**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1521683** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0	94.0	70	130			
Lead	0.061	0.0025	0.06250	0	97.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID	**1711B34-002EMSLL**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-27**	Batch ID:	**B47625**		RunNo:	**47625**				
Prep Date:		Analysis Date:	**12/7/2017**		SeqNo:	**1521683**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.11	0.0050	0.1250	0	88.5	70	130			
Uranium	0.11	0.0025	0.06250	0.04553	102	70	130			

Sample ID	**1711B34-002EMSDL**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-27**	Batch ID:	**B47625**		RunNo:	**47625**				
Prep Date:		Analysis Date:	**12/8/2017**		SeqNo:	**1521684**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0	96.1	70	130	2.28	20	
Lead	0.061	0.0025	0.06250	0	97.3	70	130	0.0943	20	
Selenium	0.11	0.0050	0.1250	0	89.6	70	130	1.21	20	
Uranium	0.11	0.0025	0.06250	0.04553	101	70	130	0.450	20	

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B47766**		RunNo:	**47766**				
Prep Date:		Analysis Date:	**12/13/2017**		SeqNo:	**1527224**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B47766**		RunNo:	**47766**				
Prep Date:		Analysis Date:	**12/13/2017**		SeqNo:	**1527225**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Selenium	0.0011	0.0010	0.001000	0	105	50	150			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B47766**		RunNo:	**47766**				
Prep Date:		Analysis Date:	**12/13/2017**		SeqNo:	**1527226**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.9	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533979** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533982** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	97.5	50	150			J
Selenium	0.00098	0.0010	0.001000	0	98.1	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533985** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.6	85	115			
Selenium	0.023	0.0010	0.02500	0	93.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID	**MB-35336**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35336**	RunNo:	**47626**					
Prep Date:	**12/5/2017**	Analysis Date:	**12/8/2017**	SeqNo:	**1522226**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35336**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35336**	RunNo:	**47626**					
Prep Date:	**12/5/2017**	Analysis Date:	**12/8/2017**	SeqNo:	**1522227**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	114	50	150			
Lead	0.00048	0.00050	0.0005000	0	95.9	50	150			J
Selenium	0.0011	0.0010	0.001000	0	109	50	150			
Uranium	0.00048	0.00050	0.0005000	0	96.1	50	150			J

Sample ID	**MSLCS-35336**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35336**	RunNo:	**47626**					
Prep Date:	**12/5/2017**	Analysis Date:	**12/8/2017**	SeqNo:	**1522228**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.8	85	115			
Lead	0.012	0.00050	0.01250	0	98.0	85	115			
Selenium	0.023	0.0010	0.02500	0	92.7	85	115			
Uranium	0.012	0.00050	0.01250	0	97.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID	**MB-35511**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**35511**	RunNo:	**47815**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1529609**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-35511**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**35511**	RunNo:	**47815**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1529610**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47325**	RunNo: **47325**
Prep Date:	Analysis Date: **11/22/2017**	SeqNo: **1509838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47325**	RunNo: **47325**
Prep Date:	Analysis Date: **11/22/2017**	SeqNo: **1509839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.6	90	110			
Chloride	4.7	0.50	5.000	0	94.2	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.3	90	110			
Bromide	2.4	0.10	2.500	0	97.0	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.5	90	110			
Sulfate	9.6	0.50	10.00	0	96.2	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	98.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47469**	RunNo: **47469**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1515568** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47469**	RunNo: **47469**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1515569** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.5	90	110			
Sulfate	9.6	0.50	10.00	0	96.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47557**	RunNo: **47557**
Prep Date:	Analysis Date: **12/5/2017**	SeqNo: **1518930** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47557**	RunNo: **47557**
Prep Date:	Analysis Date: **12/5/2017**	SeqNo: **1518931** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **MB-35166**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **35166**	RunNo: **47383**
Prep Date: **11/28/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511890** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID **LCS-35166**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **35166**	RunNo: **47383**
Prep Date: **11/28/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511891** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.094	0.010	0.1000	0	94.1	70	130			

Sample ID **1711B34-012CMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **DUP02**	Batch ID: **35166**	RunNo: **47383**
Prep Date: **11/28/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511898** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.062	0.0093	0.09309	0	66.5	57.7	132			

Sample ID **1711B34-012CMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **DUP02**	Batch ID: **35166**	RunNo: **47383**
Prep Date: **11/28/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511899** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.065	0.0093	0.09259	0	70.6	57.7	132	5.53	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **1711B34-001BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-29**	Batch ID: **35151**	RunNo: **47355**
Prep Date: **11/27/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511707** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0	122	83.3	151			
Surr: DNOP	0.56		0.5000		111	77.5	161			

Sample ID **1711B34-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-29**	Batch ID: **35151**	RunNo: **47355**
Prep Date: **11/27/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511711** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	117	83.3	151	3.83	20	
Surr: DNOP	0.54		0.5000		107	77.5	161	0	0	

Sample ID **LCS-35151**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35151**	RunNo: **47355**
Prep Date: **11/27/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511747** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.4	1.0	5.000	0	108	92.3	135			
Surr: DNOP	0.54		0.5000		108	77.5	161			

Sample ID **MB-35151**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35151**	RunNo: **47355**
Prep Date: **11/27/2017**	Analysis Date: **11/28/2017**	SeqNo: **1511748** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.0		1.000		102	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G47400**	RunNo: **47400**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513024** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	22		20.00		112	69.3	150			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G47400**	RunNo: **47400**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513025** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	75.8	123			
Surr: BFB	24		20.00		118	69.3	150			

Sample ID **1711B34-004AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-24**	Batch ID: **G47400**	RunNo: **47400**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513030** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	54	2.5	25.00	28.34	103	52.5	149			
Surr: BFB	1300		1000		129	69.3	150			

Sample ID **1711B34-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-24**	Batch ID: **G47400**	RunNo: **47400**
Prep Date:	Analysis Date: **11/29/2017**	SeqNo: **1513032** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	53	2.5	25.00	28.34	98.1	52.5	149	2.17	20	
Surr: BFB	1300		1000		128	69.3	150	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W47452**	RunNo: **47452**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1514471** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	0.40	4.0								J
2-Methylnaphthalene	0.41	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	0.30	3.0								J
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W47452**	RunNo: **47452**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1514471** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.1	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **100ng lcsb**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W47452**	RunNo: **47452**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1514472** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.9	70	130			
Toluene	19	1.0	20.00	0	97.1	70	130			
Chlorobenzene	20	1.0	20.00	0	98.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **100ng lcsb**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W47452**	RunNo: **47452**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1514472** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.3	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

Sample ID **1711b34-001a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-29**	Batch ID: **W47452**	RunNo: **47452**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1514474** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.8	70	130			
Toluene	20	1.0	20.00	0	98.9	70	130			
Chlorobenzene	20	1.0	20.00	0	97.7	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	98.9	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	91.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.3		10.00		93.3	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID **1711b34-001a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-29**	Batch ID: **W47452**	RunNo: **47452**
Prep Date:	Analysis Date: **11/30/2017**	SeqNo: **1514475** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.9	70	130	2.10	20	
Toluene	19	1.0	20.00	0	96.1	70	130	2.93	20	
Chlorobenzene	19	1.0	20.00	0	97.0	70	130	0.714	20	
1,1-Dichloroethene	20	1.0	20.00	0	98.7	70	130	0.151	20	
Trichloroethene (TCE)	18	1.0	20.00	0	89.5	70	130	2.11	20	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130	0	0	
Surr: Dibromofluoromethane	9.5		10.00		95.2	70	130	0	0	
Surr: Toluene-d8	9.5		10.00		95.3	70	130	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**

03-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Samp MKTF

Sample ID **lcs-35147**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35147**	RunNo: **47418**
Prep Date: **11/27/2017**	Analysis Date: **11/29/2017**	SeqNo: **1513086** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	75	10	100.0	0	74.7	39.7	103			
4-Chloro-3-methylphenol	170	10	200.0	0	85.9	40.5	108			
2-Chlorophenol	160	10	200.0	0	81.9	35	103			
1,4-Dichlorobenzene	66	10	100.0	0	65.9	24.7	93.7			
2,4-Dinitrotoluene	71	10	100.0	0	71.3	35.6	91.4			
N-Nitrosodi-n-propylamine	82	10	100.0	0	81.6	41.6	114			
4-Nitrophenol	120	10	200.0	0	60.0	20.7	74.3			
Pentachlorophenol	130	20	200.0	0	66.1	25.3	98.5			
Phenol	120	10	200.0	0	60.6	20.9	75.1			
Pyrene	79	10	100.0	0	79.0	45.6	108			
1,2,4-Trichlorobenzene	73	10	100.0	0	73.4	30.3	106			
Surr: 2-Fluorophenol	130		200.0		65.4	15	114			
Surr: Phenol-d5	130		200.0		63.2	15	97.9			
Surr: 2,4,6-Tribromophenol	160		200.0		79.2	15	161			
Surr: Nitrobenzene-d5	80		100.0		80.5	29.3	120			
Surr: 2-Fluorobiphenyl	72		100.0		71.6	17.5	116			
Surr: 4-Terphenyl-d14	52		100.0		51.6	21	92.2			

Sample ID **lcsd-35147**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **35147**	RunNo: **47418**
Prep Date: **11/27/2017**	Analysis Date: **11/29/2017**	SeqNo: **1513087** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	71	10	100.0	0	70.9	39.7	103	5.30	34.9	
4-Chloro-3-methylphenol	140	10	200.0	0	71.1	40.5	108	18.8	30.2	
2-Chlorophenol	160	10	200.0	0	79.2	35	103	3.31	49.5	
1,4-Dichlorobenzene	61	10	100.0	0	61.2	24.7	93.7	7.33	43.2	
2,4-Dinitrotoluene	63	10	100.0	0	63.4	35.6	91.4	11.8	49.9	
N-Nitrosodi-n-propylamine	77	10	100.0	0	76.7	41.6	114	6.21	42.1	
4-Nitrophenol	93	10	200.0	0	46.5	20.7	74.3	25.2	31.5	
Pentachlorophenol	140	20	200.0	0	68.3	25.3	98.5	3.26	52.5	
Phenol	100	10	200.0	0	52.2	20.9	75.1	15.0	54.4	
Pyrene	80	10	100.0	0	79.5	45.6	108	0.606	30.7	
1,2,4-Trichlorobenzene	67	10	100.0	0	67.2	30.3	106	8.88	48.1	
Surr: 2-Fluorophenol	120		200.0		59.5	15	114	0	0	
Surr: Phenol-d5	100		200.0		50.6	15	97.9	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		81.3	15	161	0	0	
Surr: Nitrobenzene-d5	76		100.0		75.6	29.3	120	0	0	
Surr: 2-Fluorobiphenyl	72		100.0		71.9	17.5	116	0	0	

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID	**lcsd-35147**	SampType: **LCSD**		TestCode: **EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID: **35147**		RunNo: **47418**					
Prep Date:	**11/27/2017**	Analysis Date: **11/29/2017**		SeqNo: **1513087**		Units: **µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	47		100.0		46.8	21	92.2	0	0	

Sample ID	**mb-35147**	SampType: **MBLK**		TestCode: **EPA Method 8270C: Semivolatiles**					
Client ID:	**PBW**	Batch ID: **35147**		RunNo: **47418**					
Prep Date:	**11/27/2017**	Analysis Date: **11/29/2017**		SeqNo: **1513088**		Units: **µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	9.2	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **mb-35147**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35147**	RunNo: **47418**
Prep Date: **11/27/2017**	Analysis Date: **11/29/2017**	SeqNo: **1513088** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT
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WO#: **1711B34**
03-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Samp MKTF

Sample ID **mb-35147**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**							
Client ID: **PBW**	Batch ID: **35147**	RunNo: **47418**							
Prep Date: **11/27/2017**	Analysis Date: **11/29/2017**	SeqNo: **1513088**	Units: **µg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		62.4	15	114			
Surr: Phenol-d5	110		200.0		55.8	15	97.9			
Surr: 2,4,6-Tribromophenol	180		200.0		87.5	15	161			
Surr: Nitrobenzene-d5	84		100.0		84.2	29.3	120			
Surr: 2-Fluorobiphenyl	76		100.0		75.8	17.5	116			
Surr: 4-Terphenyl-d14	55		100.0		55.1	21	92.2			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1711B34** RcptNo: **1**

Received By: **Andy Freeman** **11/21/2017 2:50:00 PM**

Completed By: **Ashley Gallegos** **11/21/2017 4:46:15 PM**

Reviewed By: DDS 11/21/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 3 (<2 or >12 unless noted)

Adjusted? NO

Checked by: ENM

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.3 - 1.0 = 3.3°C

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711834	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/20/17	1130	WATER	MKTF-29	40 ML VOA-5	HCL	-001			✓							✓					
				1 L AMBER-2	NEAT												✓				
				250 ML AMBER-1	NEAT				✓												
				250 ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 M PLASTIC-1	H_2SO_4													✓			
				125 ML PLASTIC-1	NEAT														✓		
	1225		MKTF-27	40 ML VOA-5	HCL	-002			✓							✓					
				1 L AMBER-1	NEAT												✓				
				250 ML AMBER-1	NEAT				✓												
				250 ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		

Date: 11/21/17 Time: 1450 Relinquished by:
Received by: Date Time 11/21/17 1450

Date: Time: Relinquished by:
Received by: Date Time

Remarks:

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Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.3 - 1.0 = 3.3°C

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711834	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS & ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11.20.17	1225	WATER	MKTF-27	125 ML PLASTIC-1	H_2SO_4	-002												✓			
	↓	↓	↓	125 ML PLASTIC-1	NEAT														✓		
	1310		MKTF-28	40 ML VOA-5	HCL	-003			✓							✓					
				1 L AMBER-1	NEAT												✓				
				250 ML AMBER-1	NEAT				✓												
				250 ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	H_2SO_4													✓			
	↓		↓	125 ML PLASTIC-1	NEAT	-													✓		
	1350		MKTF-24	40 ML VOA-5	HCL	-004			✓							✓					
				40 ML VOA-3	$Na_2S_2O_3$						✓										
↓	↓	↓	↓	1 L AMBER-1	NEAT												✓				

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/21/17	1450			11/21/17	1450
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0251
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.3 - 1.0 = 3.3°C

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711B34	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)	Air Bubbles (Y or N)
11/20/17	1350	WATER	MKTF-24	250 ML AMBER-1	NEAT	-004			✓												
				250 ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	H_2SO_4													✓			
				125 ML PLASTIC-1	NEAT														✓		
	1430		MKTF-02	40 ML VOA-5	HCL	-005			✓												
				40 ML VOA-3	$Na_2S_2O_3$						✓										
				1 L AMBER-1	NEAT												✓				
				~~250~~ ML AMBER-1	NEAT				✓												
				~~250~~ ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	#H_2SO_4													✓			

Date	Time	Relinquished by:	Received by:	Date	Time
11/21/17	1450			11/21/17	1450
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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Client: ANDEAVOR
GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING RD.
GALLUP, NM 87301

Phone #: 505-722-0231

email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 4TH QTR 2017 GWSAMP (MKTF)

Project #:

Project Manager: CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.3 - 1.0 = 3.3°C

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711B34	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ Soil)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS / ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/20/17	1430	WATER	MKTF-02	125 ML PLASTIC-1	NEAT	-005													✓		
	1525		MKTF-30	40 ML VOA-5	HCL	-006			✓							✓					
				40 ML VOA-3	$Na_2S_2O_3$						✓										
				1 L AMBER-1	NEAT												✓				
				250 ML AMBER-1	NEAT				✓												
				250 ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	H_2SO_4													✓			
	↓		↓	125 M PLASTIC-1	NEAT														✓		
	—		DUP01	40 ML VOA-5	HCL	-007			✓							✓					
				1 L AMBER	NEAT													✓			
↓	↓	↓	↓	250 ML ~~TP~~ PLASTIC AMBER	NEAT				✓												

Date: 11/21/17 Time: 1450 Relinquished by: [signature]

Received by: [signature] Date Time: 11/21/17 1450

Date: Time: Relinquished by:

Received by: Date Time:

Remarks:

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Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.3 - 1.0 = 3.3 C

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711B34	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANION	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/20/17	—	WATER	DUP01	250ML PLASTIC-1	HNO_3	-007													✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
				125 ML PLASTIC-1	NEAT														✓			
11/20/17	—	WATER	TRIP BLANK	40ML VOA-3	HCL	-008										✓						
11/21/17	0850		MKTF-25	40ML VOA-5	HCL	-009			✓							✓						
				40 ML VOA-3	$NA_2S_2O_3$						✓											
				1L AMBER-2	NEAT												✓					
				250ML AMBER	NEAT				✓													
				250 ML PLASTIC	HNO_3														✓			
				125 ML PLASTIC	HNO_3													✓	✓			
				125 ML PLASTIC	H_2SO_4													✓				

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/21/17	1450			11/21/17	1450
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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Mailing Address: 92 GIANT CROSSING RD
GALLUP NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.3-1.0 = 3.3°C

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711B34	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1) 8011	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS / ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/21/17	0850	WATER	MKTF-25	125ML PLASTIC	NEAT	-009													✓			
	1000	WATER	MKTF-31	40ML VOA-5	HCL	-010			✓							✓						
				40ML VOA-3	$Na_2S_2O_3$						✓											
				1L AMBER-1	NEAT												✓					
				250ML AMBER-1	NEAT				✓													
				250ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
				125 ML PLASTIC-1	NEAT														✓			
11/21/17	1055	WATER	MKTF-40	40 ML VOA-5	HCL	-011			✓							✓						
				1L AMBER-1	NEAT												✓					
				250ML AMBER	NEAT				✓													

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/21/17	1450			11/21/17	1450
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING RD GALLUP NM 87301

Phone #: 505-722-0231

email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM

QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other ____

☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush ____

Project Name: 4TH QTR 2017 GW SAMP (MKTF)

Project #:

Project Manager: CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.3 - 1.0 = 3.3 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711B34	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1) 8011	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)	Air Bubbles (Y or N)
11/21/17	1055	WATER	MKTF-40	250ML PLASTIC-1	HNO_3	-0011													✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	H_2SO_4													✓			
	↓			125ML PLASTIC-1	NEAT														✓		
	—		DUP02	40 ML VOA-5	HCL	-004			✓							✓					
				40ML VOA-3	$Na_2S_2O_3$	12					✓										
				1 L AMBER-1	NEAT												✓				
				250ML AMBER-1	NEAT				✓												
				250ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	H_2SO_4													✓			
↓	↓	↓	↓	125 ML PLASTIC-1	NEAT														✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/21/17	1450			11/21/17	1450
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 04, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4TH QTR 2017 GW SAMP MKTF OrderNo.: 1711D69

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 11/29/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 9:20:00 AM
Lab ID: 1711D69-001 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/4/2017 2:54:05 PM	35255
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/4/2017 2:54:05 PM	35255
Surr: DNOP	110	0	77.5-161		%Rec	1	12/4/2017 2:54:05 PM	35255
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	12/5/2017 12:22:40 PM	GW475
Surr: BFB	112	0	69.3-150		%Rec	1	12/5/2017 12:22:40 PM	GW475
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/4/2017 1:03:17 PM	R47521
Chloride	12000	250	500		mg/L	1000	12/11/2017 8:38:56 PM	R47703
Bromide	8.5	0.073	0.50		mg/L	5	12/4/2017 1:03:17 PM	R47521
Phosphorus, Orthophosphate (As P)	ND	5.0	10	H	mg/L	20	12/4/2017 1:15:42 PM	R47521
Sulfate	1200	4.8	25		mg/L	50	12/11/2017 8:26:31 PM	R47703
Nitrate+Nitrite as N	14	1.3	10	*	mg/L	50	12/11/2017 10:18:13 PM	R47703
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.081	0.00099	0.0020		mg/L	1	12/13/2017 11:02:55 PM	C47751
Cadmium	ND	0.0010	0.0020		mg/L	1	12/13/2017 11:02:55 PM	C47751
Calcium	2100	7.8	100		mg/L	100	12/15/2017 12:07:18 PM	A47814
Chromium	ND	0.0013	0.0060		mg/L	1	12/13/2017 11:02:55 PM	C47751
Copper	0.0076	0.0032	0.0060		mg/L	1	12/13/2017 11:02:55 PM	C47751
Iron	0.072	0.016	0.020		mg/L	1	12/13/2017 11:02:55 PM	C47751
Magnesium	330	2.5	10		mg/L	10	12/13/2017 11:04:58 PM	C47751
Manganese	6.6	0.0039	0.020	*	mg/L	10	12/13/2017 11:04:58 PM	C47751
Potassium	7.8	0.11	1.0		mg/L	1	12/13/2017 11:02:55 PM	C47751
Silver	ND	0.050	0.050		mg/L	10	12/13/2017 11:04:58 PM	C47751
Sodium	5200	16	100		mg/L	100	12/15/2017 12:07:18 PM	A47814
Zinc	ND	0.0021	0.010		mg/L	1	12/15/2017 12:05:16 PM	A47814
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.13	0.0010	0.0020		mg/L	1	12/18/2017 5:16:59 PM	35526
Cadmium	ND	0.00058	0.0020		mg/L	1	12/17/2017 8:04:48 PM	35526
Chromium	ND	0.0018	0.0060		mg/L	1	12/17/2017 8:04:48 PM	35526
Copper	0.011	0.0041	0.0060		mg/L	1	12/17/2017 8:04:48 PM	35526
Iron	2.4	0.10	0.20	*	mg/L	10	12/18/2017 5:18:32 PM	35526
Manganese	6.8	0.011	0.020	*	mg/L	10	12/18/2017 5:18:32 PM	35526
Silver	0.022	0.0012	0.0050		mg/L	1	12/18/2017 5:16:59 PM	35526
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 5:16:59 PM	35526
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0049	0.0042	0.010	J	mg/L	10	12/19/2017 10:58:17 PM	B47906

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 9:20:00 AM
Lab ID: 1711D69-001 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.0017	0.0050		mg/L	10	12/19/2017 10:58:17 PM	B47906
Selenium	ND	0.038	0.050		mg/L	50	12/13/2017 7:53:39 PM	B47766
Uranium	0.14	0.00096	0.0050	*	mg/L	10	12/19/2017 10:58:17 PM	B47906
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	ND	0.0041	0.010		mg/L	10	12/15/2017 8:48:09 PM	35432
Lead	0.0026	0.0023	0.0050	J	mg/L	10	12/15/2017 8:48:09 PM	35432
Selenium	ND	0.049	0.050		mg/L	50	12/29/2017 11:36:24 AM	35432
Uranium	0.13	0.0015	0.0050	*	mg/L	10	12/15/2017 8:48:09 PM	35432
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 10:13:53 AM	35512
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Acenaphthylene	ND	3.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Aniline	ND	3.1	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Anthracene	ND	3.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Azobenzene	ND	4.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Benzoic acid	8.6	3.9	20	J	µg/L	1	12/5/2017 4:12:08 PM	35261
Benzyl alcohol	ND	4.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/5/2017 4:12:08 PM	35261
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Carbazole	ND	4.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
4-Chloroaniline	ND	3.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2-Chlorophenol	ND	7.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Chrysene	ND	3.8	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/5/2017 4:12:08 PM	35261

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 9:20:00 AM
Lab ID: 1711D69-001
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Dibenzofuran	ND	4.1	10		µg/L	1	12/5/2017 4:12:08 PM	35261
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/5/2017 4:12:08 PM	35261
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 4:12:08 PM	35261
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Diethyl phthalate	ND	4.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/5/2017 4:12:08 PM	35261
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/5/2017 4:12:08 PM	35261
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/5/2017 4:12:08 PM	35261
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/5/2017 4:12:08 PM	35261
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Fluoranthene	ND	4.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Fluorene	ND	4.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Hexachloroethane	ND	1.2	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Isophorone	ND	4.4	10		µg/L	1	12/5/2017 4:12:08 PM	35261
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2-Methylphenol	ND	3.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/5/2017 4:12:08 PM	35261
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Naphthalene	ND	2.9	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2-Nitroaniline	ND	4.9	10		µg/L	1	12/5/2017 4:12:08 PM	35261
3-Nitroaniline	ND	4.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
4-Nitroaniline	ND	4.0	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Nitrobenzene	ND	3.6	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2-Nitrophenol	ND	5.2	10		µg/L	1	12/5/2017 4:12:08 PM	35261
4-Nitrophenol	ND	5.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Pentachlorophenol	ND	4.9	20		µg/L	1	12/5/2017 4:12:08 PM	35261
Phenanthrene	ND	4.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Phenol	ND	3.1	10		µg/L	1	12/5/2017 4:12:08 PM	35261

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 9:20:00 AM
Lab ID: 1711D69-001 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Pyridine	ND	2.3	10		µg/L	1	12/5/2017 4:12:08 PM	35261
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/5/2017 4:12:08 PM	35261
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/5/2017 4:12:08 PM	35261
Surr: 2-Fluorophenol	15.9	0	15-114		%Rec	1	12/5/2017 4:12:08 PM	35261
Surr: Phenol-d5	19.4	0	15-97.9		%Rec	1	12/5/2017 4:12:08 PM	35261
Surr: 2,4,6-Tribromophenol	31.2	0	15-161		%Rec	1	12/5/2017 4:12:08 PM	35261
Surr: Nitrobenzene-d5	96.2	0	29.3-120		%Rec	1	12/5/2017 4:12:08 PM	35261
Surr: 2-Fluorobiphenyl	92.4	0	17.5-116		%Rec	1	12/5/2017 4:12:08 PM	35261
Surr: 4-Terphenyl-d14	57.2	0	21-92.2		%Rec	1	12/5/2017 4:12:08 PM	35261
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Toluene	ND	0.064	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Naphthalene	ND	0.11	2.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Acetone	3.6	0.82	10	J	µg/L	1	12/2/2017 3:15:15 AM	A47473
Bromobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Bromoform	ND	0.21	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Bromomethane	ND	0.26	3.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
2-Butanone	ND	1.1	10		µg/L	1	12/2/2017 3:15:15 AM	A47473
Carbon disulfide	ND	0.40	10		µg/L	1	12/2/2017 3:15:15 AM	A47473
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Chloroethane	ND	0.23	2.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Chloroform	ND	0.40	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Chloromethane	ND	0.29	3.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 9:20:00 AM
Lab ID: 1711D69-001 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Dibromomethane	ND	0.091	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
2-Hexanone	ND	0.66	10		µg/L	1	12/2/2017 3:15:15 AM	A47473
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/2/2017 3:15:15 AM	A47473
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Styrene	ND	0.16	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/2/2017 3:15:15 AM	A47473
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/2/2017 3:15:15 AM	A47473
Surr: 1,2-Dichloroethane-d4	87.8	0	70-130		%Rec	1	12/2/2017 3:15:15 AM	A47473

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 9:20:00 AM
Lab ID: 1711D69-001
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	12/2/2017 3:15:15 AM	A47473
Surr: Dibromofluoromethane	89.9	0	70-130		%Rec	1	12/2/2017 3:15:15 AM	A47473
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	12/2/2017 3:15:15 AM	A47473

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 11:35:00 AM
Lab ID: 1711D69-002
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	12/4/2017 3:50:38 PM	35280
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/4/2017 3:15:56 PM	35255
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/4/2017 3:15:56 PM	35255
Surr: DNOP	114	0	77.5-161		%Rec	1	12/4/2017 3:15:56 PM	35255
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	12/5/2017 12:46:28 PM	GW475
Surr: BFB	112	0	69.3-150		%Rec	1	12/5/2017 12:46:28 PM	GW475
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/4/2017 1:28:06 PM	R47521
Chloride	860	25	50		mg/L	100	12/11/2017 8:51:21 PM	R47703
Bromide	2.4	0.073	0.50		mg/L	5	12/4/2017 1:28:06 PM	R47521
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/4/2017 1:28:06 PM	R47521
Sulfate	65	0.48	2.5		mg/L	5	12/4/2017 1:28:06 PM	R47521
Nitrate+Nitrite as N	5.6	0.13	1.0		mg/L	5	12/4/2017 3:44:38 PM	R47521
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.061	0.00099	0.0020		mg/L	1	12/13/2017 11:07:05 PM	C47751
Cadmium	ND	0.0010	0.0020		mg/L	1	12/13/2017 11:07:05 PM	C47751
Calcium	13	0.078	1.0		mg/L	1	12/13/2017 11:07:05 PM	C47751
Chromium	ND	0.0013	0.0060		mg/L	1	12/13/2017 11:07:05 PM	C47751
Copper	ND	0.0032	0.0060		mg/L	1	12/13/2017 11:07:05 PM	C47751
Iron	0.020	0.016	0.020		mg/L	1	12/13/2017 11:07:05 PM	C47751
Magnesium	1.7	0.25	1.0		mg/L	1	12/13/2017 11:07:05 PM	C47751
Manganese	0.0016	0.00039	0.0020	J	mg/L	1	12/13/2017 11:07:05 PM	C47751
Potassium	1.5	0.11	1.0		mg/L	1	12/13/2017 11:07:05 PM	C47751
Silver	ND	0.0018	0.0050		mg/L	1	12/13/2017 11:07:05 PM	C47751
Sodium	640	1.6	10		mg/L	10	12/13/2017 11:09:03 PM	C47751
Zinc	ND	0.010	0.010		mg/L	1	12/15/2017 12:09:19 PM	A47814
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.088	0.0010	0.0020		mg/L	1	12/18/2017 5:20:15 PM	35526
Cadmium	ND	0.00058	0.0020		mg/L	1	12/17/2017 8:10:22 PM	35526
Chromium	ND	0.0018	0.0060		mg/L	1	12/17/2017 8:10:22 PM	35526
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 8:10:22 PM	35526
Iron	1.3	0.051	0.10	*	mg/L	5	12/18/2017 5:21:48 PM	35526
Manganese	0.050	0.0011	0.0020	*	mg/L	1	12/17/2017 8:10:22 PM	35526
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 5:20:15 PM	35526
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 5:20:15 PM	35526

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 11:35:00 AM
Lab ID: 1711D69-002
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.021	0.050		mg/L	50	12/13/2017 8:03:28 PM	B47766
Lead	ND	0.00087	0.0025		mg/L	5	12/13/2017 7:58:34 PM	B47766
Selenium	0.037	0.0038	0.0050		mg/L	5	12/13/2017 7:58:34 PM	B47766
Uranium	0.013	0.00048	0.0025		mg/L	5	12/13/2017 7:58:34 PM	B47766
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	ND	0.0041	0.010		mg/L	10	12/15/2017 8:53:04 PM	35432
Lead	0.0016	0.0011	0.0025	J	mg/L	5	12/14/2017 10:01:25 PM	35432
Selenium	0.037	0.0049	0.0050		mg/L	5	12/14/2017 10:01:25 PM	35432
Uranium	0.015	0.00077	0.0025		mg/L	5	12/14/2017 10:01:25 PM	35432
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 10:15:50 AM	35512
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Acenaphthylene	ND	3.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Aniline	ND	3.1	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Anthracene	ND	3.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Azobenzene	ND	4.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Benzoic acid	4.7	3.9	20	J	µg/L	1	12/5/2017 5:35:31 PM	35261
Benzyl alcohol	ND	4.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/5/2017 5:35:31 PM	35261
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Carbazole	ND	4.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
4-Chloroaniline	ND	3.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2-Chlorophenol	ND	7.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Chrysene	ND	3.8	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 11:35:00 AM
Lab ID: 1711D69-002
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Dibenzofuran	ND	4.1	10		µg/L	1	12/5/2017 5:35:31 PM	35261
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/5/2017 5:35:31 PM	35261
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 5:35:31 PM	35261
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Diethyl phthalate	ND	4.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/5/2017 5:35:31 PM	35261
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/5/2017 5:35:31 PM	35261
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/5/2017 5:35:31 PM	35261
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/5/2017 5:35:31 PM	35261
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Fluoranthene	ND	4.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Fluorene	ND	4.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Hexachloroethane	ND	1.2	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Isophorone	ND	4.4	10		µg/L	1	12/5/2017 5:35:31 PM	35261
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2-Methylphenol	ND	3.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/5/2017 5:35:31 PM	35261
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Naphthalene	ND	2.9	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2-Nitroaniline	ND	4.9	10		µg/L	1	12/5/2017 5:35:31 PM	35261
3-Nitroaniline	ND	4.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
4-Nitroaniline	ND	4.0	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Nitrobenzene	ND	3.6	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2-Nitrophenol	ND	5.2	10		µg/L	1	12/5/2017 5:35:31 PM	35261
4-Nitrophenol	ND	5.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Pentachlorophenol	ND	4.9	20		µg/L	1	12/5/2017 5:35:31 PM	35261
Phenanthrene	ND	4.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 11:35:00 AM
Lab ID: 1711D69-002 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Pyrene	ND	4.4	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Pyridine	ND	2.3	10		µg/L	1	12/5/2017 5:35:31 PM	35261
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/5/2017 5:35:31 PM	35261
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/5/2017 5:35:31 PM	35261
Surr: 2-Fluorophenol	59.9	0	15-114		%Rec	1	12/5/2017 5:35:31 PM	35261
Surr: Phenol-d5	46.0	0	15-97.9		%Rec	1	12/5/2017 5:35:31 PM	35261
Surr: 2,4,6-Tribromophenol	99.9	0	15-161		%Rec	1	12/5/2017 5:35:31 PM	35261
Surr: Nitrobenzene-d5	82.0	0	29.3-120		%Rec	1	12/5/2017 5:35:31 PM	35261
Surr: 2-Fluorobiphenyl	80.0	0	17.5-116		%Rec	1	12/5/2017 5:35:31 PM	35261
Surr: 4-Terphenyl-d14	63.9	0	21-92.2		%Rec	1	12/5/2017 5:35:31 PM	35261
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Toluene	ND	0.064	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Methyl tert-butyl ether (MTBE)	0.81	0.24	1.0	J	µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2-Dichloroethane (EDC)	2.8	0.40	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Naphthalene	ND	0.11	2.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Acetone	1.7	0.82	10	J	µg/L	1	12/2/2017 3:44:07 AM	A47473
Bromobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Bromoform	ND	0.21	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Bromomethane	ND	0.26	3.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
2-Butanone	ND	1.1	10		µg/L	1	12/2/2017 3:44:07 AM	A47473
Carbon disulfide	ND	0.40	10		µg/L	1	12/2/2017 3:44:07 AM	A47473
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Chloroethane	ND	0.23	2.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Chloroform	ND	0.40	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Chloromethane	ND	0.29	3.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 11:35:00 AM
Lab ID: 1711D69-002 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Dibromomethane	ND	0.091	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,1-Dichloroethane	3.4	0.40	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,1-Dichloroethene	5.3	0.081	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
2-Hexanone	ND	0.66	10		µg/L	1	12/2/2017 3:44:07 AM	A47473
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/2/2017 3:44:07 AM	A47473
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Styrene	ND	0.16	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,1,2-Trichloroethane	0.57	0.14	1.0	J	µg/L	1	12/2/2017 3:44:07 AM	A47473
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/2/2017 3:44:07 AM	A47473
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/2/2017 3:44:07 AM	A47473

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 11:35:00 AM
Lab ID: 1711D69-002
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 1,2-Dichloroethane-d4	90.2	0	70-130		%Rec	1	12/2/2017 3:44:07 AM	A47473
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	12/2/2017 3:44:07 AM	A47473
Surr: Dibromofluoromethane	93.1	0	70-130		%Rec	1	12/2/2017 3:44:07 AM	A47473
Surr: Toluene-d8	96.4	0	70-130		%Rec	1	12/2/2017 3:44:07 AM	A47473

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 12:35:00 PM
Lab ID: 1711D69-003
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	12/4/2017 4:05:43 PM	35280
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/4/2017 3:38:03 PM	35255
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/4/2017 3:38:03 PM	35255
Surr: DNOP	120	0	77.5-161		%Rec	1	12/4/2017 3:38:03 PM	35255
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.86	0.025	0.050		mg/L	1	12/5/2017 1:10:09 PM	GW475
Surr: BFB	111	0	69.3-150		%Rec	1	12/5/2017 1:10:09 PM	GW475
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/4/2017 1:52:56 PM	R47521
Chloride	420	12	25		mg/L	50	12/11/2017 9:03:45 PM	R47703
Bromide	1.2	0.073	0.50		mg/L	5	12/4/2017 1:52:56 PM	R47521
Phosphorus, Orthophosphate (As P)	1.3	1.2	2.5	JH	mg/L	5	12/4/2017 1:52:56 PM	R47521
Sulfate	99	0.48	2.5		mg/L	5	12/4/2017 1:52:56 PM	R47521
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/4/2017 3:57:02 PM	R47521
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.049	0.00099	0.0020		mg/L	1	12/13/2017 11:11:04 PM	C47751
Cadmium	ND	0.0010	0.0020		mg/L	1	12/13/2017 11:11:04 PM	C47751
Calcium	27	0.078	1.0		mg/L	1	12/13/2017 11:11:04 PM	C47751
Chromium	ND	0.0013	0.0060		mg/L	1	12/13/2017 11:11:04 PM	C47751
Copper	ND	0.0032	0.0060		mg/L	1	12/13/2017 11:11:04 PM	C47751
Iron	0.043	0.016	0.020		mg/L	1	12/13/2017 11:11:04 PM	C47751
Magnesium	5.4	0.25	1.0		mg/L	1	12/13/2017 11:11:04 PM	C47751
Manganese	0.078	0.00039	0.0020	*	mg/L	1	12/13/2017 11:11:04 PM	C47751
Potassium	0.56	0.11	1.0	J	mg/L	1	12/13/2017 11:11:04 PM	C47751
Silver	ND	0.0018	0.0050		mg/L	1	12/13/2017 11:11:04 PM	C47751
Sodium	610	1.6	10		mg/L	10	12/13/2017 11:12:56 PM	C47751
Zinc	ND	0.010	0.010		mg/L	1	12/15/2017 12:11:11 PM	A47814
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.067	0.0010	0.0020		mg/L	1	12/18/2017 5:28:42 PM	35526
Cadmium	ND	0.00058	0.0020		mg/L	1	12/17/2017 8:12:07 PM	35526
Chromium	ND	0.0018	0.0060		mg/L	1	12/17/2017 8:12:07 PM	35526
Copper	0.0042	0.0041	0.0060	J	mg/L	1	12/17/2017 8:12:07 PM	35526
Iron	0.75	0.010	0.020	*	mg/L	1	12/17/2017 8:12:07 PM	35526
Manganese	0.079	0.0011	0.0020	*	mg/L	1	12/17/2017 8:12:07 PM	35526
Silver	ND	0.0012	0.0050		mg/L	1	12/19/2017 11:25:47 PM	35526
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 5:28:42 PM	35526

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 12:35:00 PM
Lab ID: 1711D69-003
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.0021	0.0050	J	mg/L	5	12/13/2017 8:08:22 PM	B47766
Lead	ND	0.00087	0.0025		mg/L	5	12/13/2017 8:08:22 PM	B47766
Selenium	ND	0.0038	0.0050		mg/L	5	12/13/2017 8:08:22 PM	B47766
Uranium	0.055	0.00048	0.0025	*	mg/L	5	12/13/2017 8:08:22 PM	B47766
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/14/2017 10:07:58 PM	35432
Lead	ND	0.0011	0.0025		mg/L	5	12/14/2017 10:07:58 PM	35432
Selenium	ND	0.0049	0.0050		mg/L	5	12/14/2017 10:07:58 PM	35432
Uranium	0.058	0.00077	0.0025	*	mg/L	5	12/14/2017 10:07:58 PM	35432
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 10:17:47 AM	35512
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Acenaphthylene	ND	3.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Aniline	ND	3.1	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Anthracene	ND	3.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Azobenzene	ND	4.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Benzoic acid	5.3	3.9	20	J	µg/L	1	12/5/2017 6:03:11 PM	35261
Benzyl alcohol	ND	4.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/5/2017 6:03:11 PM	35261
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Carbazole	ND	4.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
4-Chloroaniline	ND	3.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2-Chlorophenol	ND	7.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Chrysene	ND	3.8	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 12:35:00 PM
Lab ID: 1711D69-003
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Dibenzofuran	ND	4.1	10		µg/L	1	12/5/2017 6:03:11 PM	35261
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/5/2017 6:03:11 PM	35261
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 6:03:11 PM	35261
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Diethyl phthalate	ND	4.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/5/2017 6:03:11 PM	35261
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/5/2017 6:03:11 PM	35261
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/5/2017 6:03:11 PM	35261
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/5/2017 6:03:11 PM	35261
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Fluoranthene	ND	4.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Fluorene	ND	4.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Hexachloroethane	ND	1.2	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Isophorone	ND	4.4	10		µg/L	1	12/5/2017 6:03:11 PM	35261
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2-Methylphenol	ND	3.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/5/2017 6:03:11 PM	35261
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Naphthalene	ND	2.9	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2-Nitroaniline	ND	4.9	10		µg/L	1	12/5/2017 6:03:11 PM	35261
3-Nitroaniline	ND	4.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
4-Nitroaniline	ND	4.0	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Nitrobenzene	ND	3.6	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2-Nitrophenol	ND	5.2	10		µg/L	1	12/5/2017 6:03:11 PM	35261
4-Nitrophenol	ND	5.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Pentachlorophenol	ND	4.9	20		µg/L	1	12/5/2017 6:03:11 PM	35261
Phenanthrene	ND	4.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 12:35:00 PM
Lab ID: 1711D69-003
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Pyrene	ND	4.4	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Pyridine	ND	2.3	10		µg/L	1	12/5/2017 6:03:11 PM	35261
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/5/2017 6:03:11 PM	35261
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/5/2017 6:03:11 PM	35261
Surr: 2-Fluorophenol	60.0	0	15-114		%Rec	1	12/5/2017 6:03:11 PM	35261
Surr: Phenol-d5	46.1	0	15-97.9		%Rec	1	12/5/2017 6:03:11 PM	35261
Surr: 2,4,6-Tribromophenol	100	0	15-161		%Rec	1	12/5/2017 6:03:11 PM	35261
Surr: Nitrobenzene-d5	95.9	0	29.3-120		%Rec	1	12/5/2017 6:03:11 PM	35261
Surr: 2-Fluorobiphenyl	93.2	0	17.5-116		%Rec	1	12/5/2017 6:03:11 PM	35261
Surr: 4-Terphenyl-d14	56.6	0	21-92.2		%Rec	1	12/5/2017 6:03:11 PM	35261
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.28	0.062	1.0	J	µg/L	1	12/2/2017 4:41:55 AM	A47473
Toluene	ND	0.064	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Methyl tert-butyl ether (MTBE)	600	2.4	10		µg/L	10	12/2/2017 4:13:02 AM	A47473
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2-Dichloroethane (EDC)	16	0.40	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Naphthalene	ND	0.11	2.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Acetone	ND	0.82	10		µg/L	1	12/2/2017 4:41:55 AM	A47473
Bromobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Bromoform	ND	0.21	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Bromomethane	ND	0.26	3.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
2-Butanone	ND	1.1	10		µg/L	1	12/2/2017 4:41:55 AM	A47473
Carbon disulfide	ND	0.40	10		µg/L	1	12/2/2017 4:41:55 AM	A47473
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Chloroethane	ND	0.23	2.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Chloroform	ND	0.40	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Chloromethane	ND	0.29	3.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
cis-1,2-DCE	1.6	0.20	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 12:35:00 PM
Lab ID: 1711D69-003 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Dibromomethane	ND	0.091	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,1-Dichloroethane	14	0.40	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,1-Dichloroethene	23	0.081	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2-Dichloropropane	0.14	0.10	1.0	J	µg/L	1	12/2/2017 4:41:55 AM	A47473
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
2-Hexanone	ND	0.66	10		µg/L	1	12/2/2017 4:41:55 AM	A47473
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/2/2017 4:41:55 AM	A47473
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
sec-Butylbenzene	0.66	0.11	1.0	J	µg/L	1	12/2/2017 4:41:55 AM	A47473
Styrene	ND	0.16	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,1,1-Trichloroethane	0.29	0.073	1.0	J	µg/L	1	12/2/2017 4:41:55 AM	A47473
1,1,2-Trichloroethane	1.2	0.14	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Trichloroethene (TCE)	0.19	0.11	1.0	J	µg/L	1	12/2/2017 4:41:55 AM	A47473
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/2/2017 4:41:55 AM	A47473
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/2/2017 4:41:55 AM	A47473

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 12:35:00 PM
Lab ID: 1711D69-003
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 1,2-Dichloroethane-d4	94.3	0	70-130		%Rec	1	12/2/2017 4:41:55 AM	A47473
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	12/2/2017 4:41:55 AM	A47473
Surr: Dibromofluoromethane	90.6	0	70-130		%Rec	1	12/2/2017 4:41:55 AM	A47473
Surr: Toluene-d8	98.9	0	70-130		%Rec	1	12/2/2017 4:41:55 AM	A47473

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 1:35:00 PM
Lab ID: 1711D69-004
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	77	0.36	1.0		mg/L	1	12/4/2017 4:06:43 PM	35255
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/4/2017 4:06:43 PM	35255
Surr: DNOP	119	0	77.5-161		%Rec	1	12/4/2017 4:06:43 PM	35255
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.19	0.025	0.050		mg/L	1	12/5/2017 5:31:44 PM	GW475
Surr: BFB	111	0	69.3-150		%Rec	1	12/5/2017 5:31:44 PM	GW475
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/4/2017 2:17:46 PM	R47521
Chloride	850	25	50		mg/L	100	12/11/2017 9:16:10 PM	R47703
Bromide	1.5	0.073	0.50		mg/L	5	12/4/2017 2:17:46 PM	R47521
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/4/2017 2:17:46 PM	R47521
Sulfate	110	0.48	2.5		mg/L	5	12/4/2017 2:17:46 PM	R47521
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/4/2017 4:09:27 PM	R47521
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.064	0.00099	0.0020		mg/L	1	12/13/2017 11:14:57 PM	C47751
Cadmium	ND	0.0010	0.0020		mg/L	1	12/13/2017 11:14:57 PM	C47751
Calcium	20	0.078	1.0		mg/L	1	12/13/2017 11:14:57 PM	C47751
Chromium	ND	0.0013	0.0060		mg/L	1	12/13/2017 11:14:57 PM	C47751
Copper	ND	0.0032	0.0060		mg/L	1	12/13/2017 11:14:57 PM	C47751
Iron	0.21	0.016	0.020		mg/L	1	12/13/2017 11:14:57 PM	C47751
Magnesium	2.6	0.25	1.0		mg/L	1	12/13/2017 11:14:57 PM	C47751
Manganese	0.21	0.00039	0.0020	*	mg/L	1	12/13/2017 11:14:57 PM	C47751
Potassium	1.4	0.11	1.0		mg/L	1	12/13/2017 11:14:57 PM	C47751
Silver	ND	0.0018	0.0050		mg/L	1	12/13/2017 11:14:57 PM	C47751
Sodium	730	1.6	10		mg/L	10	12/13/2017 11:22:54 PM	C47751
Zinc	ND	0.010	0.010		mg/L	1	12/15/2017 12:13:03 PM	A47814
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.071	0.0010	0.0020		mg/L	1	12/18/2017 5:30:32 PM	35526
Cadmium	ND	0.00058	0.0020		mg/L	1	12/17/2017 8:14:07 PM	35526
Chromium	ND	0.0018	0.0060		mg/L	1	12/17/2017 8:14:07 PM	35526
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 8:14:07 PM	35526
Iron	0.44	0.010	0.020	*	mg/L	1	12/17/2017 8:14:07 PM	35526
Manganese	0.21	0.0011	0.0020	*	mg/L	1	12/17/2017 8:14:07 PM	35526
Silver	ND	0.0012	0.0050		mg/L	1	12/19/2017 11:27:34 PM	35526
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 5:30:32 PM	35526
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.0021	0.0050	J	mg/L	5	12/13/2017 8:13:16 PM	B47766

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 1:35:00 PM
Lab ID: 1711D69-004
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00087	0.0025		mg/L	5	12/13/2017 8:13:16 PM	B47766
Selenium	0.0044	0.0038	0.0050	J	mg/L	5	12/13/2017 8:13:16 PM	B47766
Uranium	0.0093	0.00048	0.0025		mg/L	5	12/13/2017 8:13:16 PM	B47766
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0025	0.0021	0.0050	J	mg/L	5	12/14/2017 10:14:30 PM	35432
Lead	ND	0.0011	0.0025		mg/L	5	12/14/2017 10:14:30 PM	35432
Selenium	ND	0.0049	0.0050		mg/L	5	12/14/2017 10:14:30 PM	35432
Uranium	0.011	0.00077	0.0025		mg/L	5	12/14/2017 10:14:30 PM	35432
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 10:19:45 AM	35512
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Acenaphthylene	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Aniline	ND	15	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Anthracene	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Azobenzene	ND	23	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Benz(a)anthracene	ND	19	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Benzo(a)pyrene	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Benzoic acid	52	20	100	JD	µg/L	1	12/5/2017 6:30:52 PM	35261
Benzyl alcohol	ND	23	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Bis(2-ethylhexyl)phthalate	ND	24	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Carbazole	ND	23	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
4-Chloroaniline	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2-Chloronaphthalene	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2-Chlorophenol	ND	38	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Chrysene	ND	19	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Di-n-octyl phthalate	25	23	50	JD	µg/L	1	12/5/2017 6:30:52 PM	35261

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 1:35:00 PM
Lab ID: 1711D69-004
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Dibenzofuran	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Diethyl phthalate	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Dimethyl phthalate	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Fluoranthene	ND	21	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Fluorene	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Hexachlorobenzene	ND	19	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Hexachloroethane	ND	6.0	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Isophorone	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
1-Methylnaphthalene	ND	17	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2-Methylnaphthalene	ND	16	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2-Methylphenol	ND	17	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
3+4-Methylphenol	ND	16	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Naphthalene	34	14	50	JD	µg/L	1	12/5/2017 6:30:52 PM	35261
2-Nitroaniline	ND	25	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
3-Nitroaniline	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
4-Nitroaniline	ND	20	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Nitrobenzene	ND	18	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2-Nitrophenol	ND	26	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
4-Nitrophenol	ND	27	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Pentachlorophenol	ND	25	100	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Phenanthrene	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Phenol	ND	16	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 1:35:00 PM
Lab ID: 1711D69-004
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	22	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Pyridine	ND	11	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	12/5/2017 6:30:52 PM	35261
Surr: 2-Fluorophenol	58.9	0	15-114	D	%Rec	1	12/5/2017 6:30:52 PM	35261
Surr: Phenol-d5	47.0	0	15-97.9	D	%Rec	1	12/5/2017 6:30:52 PM	35261
Surr: 2,4,6-Tribromophenol	57.9	0	15-161	D	%Rec	1	12/5/2017 6:30:52 PM	35261
Surr: Nitrobenzene-d5	92.1	0	29.3-120	D	%Rec	1	12/5/2017 6:30:52 PM	35261
Surr: 2-Fluorobiphenyl	69.3	0	17.5-116	D	%Rec	1	12/5/2017 6:30:52 PM	35261
Surr: 4-Terphenyl-d14	47.4	0	21-92.2	D	%Rec	1	12/5/2017 6:30:52 PM	35261
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	7.1	0.062	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Toluene	0.80	0.064	1.0	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
Ethylbenzene	2.6	0.093	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Methyl tert-butyl ether (MTBE)	2.0	0.24	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2,4-Trimethylbenzene	11	0.11	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,3,5-Trimethylbenzene	5.2	0.087	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2-Dichloroethane (EDC)	1.3	0.40	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Naphthalene	37	0.11	2.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1-Methylnaphthalene	16	0.16	4.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
2-Methylnaphthalene	14	0.15	4.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Acetone	30	0.82	10		µg/L	1	12/2/2017 5:10:44 AM	A47473
Bromobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Bromoform	ND	0.21	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Bromomethane	ND	0.26	3.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
2-Butanone	7.1	1.1	10	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
Carbon disulfide	ND	0.40	10		µg/L	1	12/2/2017 5:10:44 AM	A47473
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Chloroethane	ND	0.23	2.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Chloroform	ND	0.40	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Chloromethane	ND	0.29	3.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 1:35:00 PM
Lab ID: 1711D69-004
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Dibromomethane	ND	0.091	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,1-Dichloroethene	0.23	0.081	1.0	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
2-Hexanone	2.6	0.66	10	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
Isopropylbenzene	0.73	0.051	1.0	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
4-Isopropyltoluene	3.7	0.096	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
4-Methyl-2-pentanone	3.4	0.71	10	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
n-Butylbenzene	0.37	0.13	3.0	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
n-Propylbenzene	0.83	0.074	1.0	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
sec-Butylbenzene	0.26	0.11	1.0	J	µg/L	1	12/2/2017 5:10:44 AM	A47473
Styrene	ND	0.16	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/2/2017 5:10:44 AM	A47473
Xylenes, Total	37	0.32	1.5		µg/L	1	12/2/2017 5:10:44 AM	A47473
Surr: 1,2-Dichloroethane-d4	85.3	0	70-130		%Rec	1	12/2/2017 5:10:44 AM	A47473

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017 1:35:00 PM
Lab ID: 1711D69-004
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	116	0	70-130		%Rec	1	12/2/2017 5:10:44 AM	A47473
Surr: Dibromofluoromethane	88.6	0	70-130		%Rec	1	12/2/2017 5:10:44 AM	A47473
Surr: Toluene-d8	95.4	0	70-130		%Rec	1	12/2/2017 5:10:44 AM	A47473

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP03
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017
Lab ID: 1711D69-005
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/4/2017 4:28:45 PM	35255
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/4/2017 4:28:45 PM	35255
Surr: DNOP	114	0	77.5-161		%Rec	1	12/4/2017 4:28:45 PM	35255
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	12/5/2017 5:55:23 PM	GW475
Surr: BFB	110	0	69.3-150		%Rec	1	12/5/2017 5:55:23 PM	GW475
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/4/2017 3:07:24 PM	R47521
Chloride	13000	250	500		mg/L	1000	12/11/2017 9:40:59 PM	R47703
Bromide	8.9	0.073	0.50		mg/L	5	12/4/2017 3:07:24 PM	R47521
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/4/2017 3:07:24 PM	R47521
Sulfate	1100	4.8	25		mg/L	50	12/11/2017 9:28:35 PM	R47703
Nitrate+Nitrite as N	8.2	1.3	10	J	mg/L	50	12/11/2017 10:30:38 PM	R47703
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.078	0.00099	0.0020		mg/L	1	12/13/2017 11:24:52 PM	C47751
Cadmium	ND	0.0010	0.0020		mg/L	1	12/13/2017 11:24:52 PM	C47751
Calcium	2200	7.8	100		mg/L	100	12/15/2017 12:16:59 PM	A47814
Chromium	ND	0.0013	0.0060		mg/L	1	12/13/2017 11:24:52 PM	C47751
Copper	0.0083	0.0032	0.0060		mg/L	1	12/13/2017 11:24:52 PM	C47751
Iron	0.046	0.016	0.020		mg/L	1	12/13/2017 11:24:52 PM	C47751
Magnesium	360	2.5	10		mg/L	10	12/13/2017 11:26:59 PM	C47751
Manganese	7.6	0.0039	0.020	*	mg/L	10	12/13/2017 11:26:59 PM	C47751
Potassium	7.8	0.11	1.0		mg/L	1	12/13/2017 11:24:52 PM	C47751
Silver	ND	0.050	0.050		mg/L	10	12/13/2017 11:26:59 PM	C47751
Sodium	5300	16	100		mg/L	100	12/15/2017 12:16:59 PM	A47814
Zinc	ND	0.0021	0.010		mg/L	1	12/15/2017 12:14:56 PM	A47814
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.13	0.0010	0.0020		mg/L	1	12/18/2017 5:32:16 PM	35526
Cadmium	ND	0.00058	0.0020		mg/L	1	12/17/2017 8:16:07 PM	35526
Chromium	ND	0.0018	0.0060		mg/L	1	12/17/2017 8:16:07 PM	35526
Copper	0.0099	0.0041	0.0060		mg/L	1	12/17/2017 8:16:07 PM	35526
Iron	2.3	0.051	0.10	*	mg/L	5	12/19/2017 11:42:38 PM	35526
Manganese	6.0	0.011	0.020	*	mg/L	10	12/18/2017 5:42:24 PM	35526
Silver	0.023	0.0012	0.0050		mg/L	1	12/19/2017 11:29:34 PM	35526
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 5:32:16 PM	35526
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.021	0.050		mg/L	50	12/13/2017 8:37:51 PM	B47766

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP03
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017
Lab ID: 1711D69-005
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.0017	0.0050		mg/L	10	12/19/2017 11:04:51 PM	B47906
Selenium	ND	0.038	0.050		mg/L	50	12/13/2017 8:37:51 PM	B47766
Uranium	0.14	0.00096	0.0050	*	mg/L	10	12/19/2017 11:04:51 PM	B47906
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	ND	0.0083	0.020		mg/L	20	12/15/2017 9:02:54 PM	35432
Lead	ND	0.0046	0.010		mg/L	20	12/15/2017 9:02:54 PM	35432
Selenium	ND	0.020	0.020		mg/L	20	12/15/2017 9:02:54 PM	35432
Uranium	0.14	0.0015	0.0050	*	mg/L	10	12/14/2017 10:40:44 PM	35432
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/15/2017 10:21:43 AM	35512
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Acenaphthylene	ND	3.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Aniline	ND	3.1	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Anthracene	ND	3.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Azobenzene	ND	4.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Benzoic acid	4.8	3.9	20	J	µg/L	1	12/5/2017 6:58:44 PM	35261
Benzyl alcohol	ND	4.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/5/2017 6:58:44 PM	35261
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Carbazole	ND	4.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
4-Chloroaniline	ND	3.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2-Chlorophenol	ND	7.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Chrysene	ND	3.8	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/5/2017 6:58:44 PM	35261

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Client Sample ID: DUP03
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017
Lab ID: 1711D69-005
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Dibenzofuran	ND	4.1	10		µg/L	1	12/5/2017 6:58:44 PM	35261
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/5/2017 6:58:44 PM	35261
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 6:58:44 PM	35261
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Diethyl phthalate	ND	4.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/5/2017 6:58:44 PM	35261
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/5/2017 6:58:44 PM	35261
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/5/2017 6:58:44 PM	35261
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/5/2017 6:58:44 PM	35261
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Fluoranthene	ND	4.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Fluorene	ND	4.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Hexachloroethane	ND	1.2	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Isophorone	ND	4.4	10		µg/L	1	12/5/2017 6:58:44 PM	35261
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2-Methylphenol	ND	3.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/5/2017 6:58:44 PM	35261
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Naphthalene	ND	2.9	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2-Nitroaniline	ND	4.9	10		µg/L	1	12/5/2017 6:58:44 PM	35261
3-Nitroaniline	ND	4.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
4-Nitroaniline	ND	4.0	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Nitrobenzene	ND	3.6	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2-Nitrophenol	ND	5.2	10		µg/L	1	12/5/2017 6:58:44 PM	35261
4-Nitrophenol	ND	5.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Pentachlorophenol	ND	4.9	20		µg/L	1	12/5/2017 6:58:44 PM	35261
Phenanthrene	ND	4.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Phenol	ND	3.1	10		µg/L	1	12/5/2017 6:58:44 PM	35261

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Collection Date: 11/27/2017
Lab ID: 1711D69-005
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Pyridine	ND	2.3	10		µg/L	1	12/5/2017 6:58:44 PM	35261
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/5/2017 6:58:44 PM	35261
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/5/2017 6:58:44 PM	35261
Surr: 2-Fluorophenol	9.50	0	15-114	S	%Rec	1	12/5/2017 6:58:44 PM	35261
Surr: Phenol-d5	12.5	0	15-97.9	S	%Rec	1	12/5/2017 6:58:44 PM	35261
Surr: 2,4,6-Tribromophenol	19.4	0	15-161		%Rec	1	12/5/2017 6:58:44 PM	35261
Surr: Nitrobenzene-d5	78.9	0	29.3-120		%Rec	1	12/5/2017 6:58:44 PM	35261
Surr: 2-Fluorobiphenyl	69.9	0	17.5-116		%Rec	1	12/5/2017 6:58:44 PM	35261
Surr: 4-Terphenyl-d14	58.7	0	21-92.2		%Rec	1	12/5/2017 6:58:44 PM	35261
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Toluene	ND	0.064	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Naphthalene	0.39	0.11	2.0	J	µg/L	1	12/2/2017 5:39:38 AM	A47473
1-Methylnaphthalene	0.76	0.16	4.0	J	µg/L	1	12/2/2017 5:39:38 AM	A47473
2-Methylnaphthalene	0.54	0.15	4.0	J	µg/L	1	12/2/2017 5:39:38 AM	A47473
Acetone	3.2	0.82	10	J	µg/L	1	12/2/2017 5:39:38 AM	A47473
Bromobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Bromoform	ND	0.21	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Bromomethane	ND	0.26	3.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
2-Butanone	ND	1.1	10		µg/L	1	12/2/2017 5:39:38 AM	A47473
Carbon disulfide	ND	0.40	10		µg/L	1	12/2/2017 5:39:38 AM	A47473
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Chloroethane	ND	0.23	2.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Chloroform	ND	0.40	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Chloromethane	ND	0.29	3.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Dibromomethane	ND	0.091	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
2-Hexanone	ND	0.66	10		µg/L	1	12/2/2017 5:39:38 AM	A47473
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/2/2017 5:39:38 AM	A47473
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Styrene	ND	0.16	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/2/2017 5:39:38 AM	A47473
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/2/2017 5:39:38 AM	A47473
Surr: 1,2-Dichloroethane-d4	89.4	0	70-130		%Rec	1	12/2/2017 5:39:38 AM	A47473

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP03
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date: 11/27/2017
Lab ID: 1711D69-005
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	12/2/2017 5:39:38 AM	A47473
Surr: Dibromofluoromethane	87.5	0	70-130		%Rec	1	12/2/2017 5:39:38 AM	A47473
Surr: Toluene-d8	94.4	0	70-130		%Rec	1	12/2/2017 5:39:38 AM	A47473

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date:
Lab ID: 1711D69-006
Matrix: AQUEOUS
Received Date: 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	12/5/2017 6:19:01 PM	GW475
Surr: BFB	110	0	69.3-150		%Rec	1	12/5/2017 6:19:01 PM	GW475
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Toluene	ND	0.064	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Naphthalene	ND	0.11	2.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Acetone	1.6	0.82	10	J	µg/L	1	12/2/2017 6:08:28 AM	A47473
Bromobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Bromoform	ND	0.21	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Bromomethane	ND	0.26	3.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
2-Butanone	ND	1.1	10		µg/L	1	12/2/2017 6:08:28 AM	A47473
Carbon disulfide	ND	0.40	10		µg/L	1	12/2/2017 6:08:28 AM	A47473
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Chloroethane	ND	0.23	2.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Chloroform	ND	0.40	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Chloromethane	ND	0.29	3.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Dibromomethane	ND	0.091	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 4TH QTR 2017 GW SAMP MKTF
Collection Date:
Lab ID: 1711D69-006 **Matrix:** AQUEOUS **Received Date:** 11/29/2017 9:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
2-Hexanone	ND	0.66	10		µg/L	1	12/2/2017 6:08:28 AM	A47473
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/2/2017 6:08:28 AM	A47473
Methylene Chloride	0.25	0.11	3.0	J	µg/L	1	12/2/2017 6:08:28 AM	A47473
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Styrene	ND	0.16	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/2/2017 6:08:28 AM	A47473
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/2/2017 6:08:28 AM	A47473
Surr: 1,2-Dichloroethane-d4	89.2	0	70-130		%Rec	1	12/2/2017 6:08:28 AM	A47473
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	1	12/2/2017 6:08:28 AM	A47473
Surr: Dibromofluoromethane	91.2	0	70-130		%Rec	1	12/2/2017 6:08:28 AM	A47473
Surr: Toluene-d8	95.9	0	70-130		%Rec	1	12/2/2017 6:08:28 AM	A47473

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527558** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527559** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0025	0.0020	0.002000	0	127	50	150			
Cadmium	0.0019	0.0020	0.002000	0	94.0	50	150			J
Calcium	0.50	1.0	0.5000	0	101	50	150			J
Chromium	0.0058	0.0060	0.006000	0	97.5	50	150			J
Copper	0.0051	0.0060	0.006000	0	85.5	50	150			J
Iron	0.019	0.020	0.02000	0	97.3	50	150			J
Magnesium	0.48	1.0	0.5000	0	96.0	50	150			J
Manganese	0.0019	0.0020	0.002000	0	96.0	50	150			J
Potassium	0.49	1.0	0.5000	0	98.6	50	150			J
Silver	0.0053	0.0050	0.005000	0	106	50	150			
Sodium	0.55	1.0	0.5000	0	111	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527560** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.9	85	115			
Calcium	47	1.0	50.00	0	94.4	85	115			
Chromium	0.48	0.0060	0.5000	0	95.8	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.49	0.020	0.5000	0	97.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47751**	RunNo: **47751**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527560** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	48	1.0	50.00	0	95.0	85	115			
Manganese	0.48	0.0020	0.5000	0	95.2	85	115			
Potassium	47	1.0	50.00	0	93.1	85	115			
Silver	0.11	0.0050	0.1000	0	111	85	115			
Sodium	46	1.0	50.00	0	92.4	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A47814**	RunNo: **47814**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1529785** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A47814**	RunNo: **47814**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1529786** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.51	1.0	0.5000	0	103	50	150			J
Sodium	0.57	1.0	0.5000	0	114	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A47814**	RunNo: **47814**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1529787** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	56	1.0	50.00	0	112	85	115			
Sodium	56	1.0	50.00	0	111	85	115			
Zinc	0.45	0.010	0.5000	0	89.5	85	115			

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A47814**	RunNo: **47814**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1530819** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0063	0.010	0.005000	0	126	50	150			J

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **MB-35526**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **35526**	RunNo: **47837**
Prep Date: **12/14/2017**	Analysis Date: **12/17/2017**	SeqNo: **1530280** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-35526**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **35526**	RunNo: **47837**
Prep Date: **12/14/2017**	Analysis Date: **12/17/2017**	SeqNo: **1530281** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0024	0.0020	0.002000	0	121	50	150			
Cadmium	0.0023	0.0020	0.002000	0	117	50	150			
Chromium	0.0058	0.0060	0.006000	0	96.5	50	150			J
Copper	0.0060	0.0060	0.006000	0	100	50	150			
Iron	0.024	0.020	0.02000	0	119	50	150			
Manganese	0.0021	0.0020	0.002000	0	107	50	150			
Silver	0.0054	0.0050	0.005000	0	108	50	150			
Zinc	0.0068	0.010	0.005000	0	137	50	150			J

Sample ID **LCS-35526**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **35526**	RunNo: **47837**
Prep Date: **12/14/2017**	Analysis Date: **12/17/2017**	SeqNo: **1530282** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	105	85	115			
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Chromium	0.51	0.0060	0.5000	0	102	85	115			
Copper	0.52	0.0060	0.5000	0	103	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Manganese	0.51	0.0020	0.5000	0	103	85	115			
Silver	0.11	0.0050	0.1000	0	108	85	115			
Zinc	0.50	0.010	0.5000	0	99.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID	**1711D69-005EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**DUP03**	Batch ID:	**35526**		RunNo:	**47837**				
Prep Date:	**12/14/2017**	Analysis Date:	**12/17/2017**		SeqNo:	**1530651**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.53	0.0020	0.5000	0	107	70	130			
Chromium	0.44	0.0060	0.5000	0	88.6	70	130			
Copper	0.58	0.0060	0.5000	0.009890	114	70	130			

Sample ID	**1711D69-005EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**DUP03**	Batch ID:	**35526**		RunNo:	**47837**				
Prep Date:	**12/14/2017**	Analysis Date:	**12/17/2017**		SeqNo:	**1530652**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	104	70	130	2.78	20	
Chromium	0.43	0.0060	0.5000	0	86.0	70	130	2.97	20	
Copper	0.57	0.0060	0.5000	0.009890	112	70	130	1.53	20	

Sample ID	**1711D69-005EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**DUP03**	Batch ID:	**35526**		RunNo:	**47872**				
Prep Date:	**12/14/2017**	Analysis Date:	**12/18/2017**		SeqNo:	**1532099**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.62	0.0020	0.5000	0.1270	99.2	70	130			
Zinc	0.38	0.010	0.5000	0	76.9	70	130			

Sample ID	**1711D69-005EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**DUP03**	Batch ID:	**35526**		RunNo:	**47872**				
Prep Date:	**12/14/2017**	Analysis Date:	**12/18/2017**		SeqNo:	**1532100**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.63	0.0020	0.5000	0.1270	99.7	70	130	0.417	20	
Zinc	0.38	0.010	0.5000	0	76.5	70	130	0.519	20	

Sample ID	**1711D69-005EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**DUP03**	Batch ID:	**35526**		RunNo:	**47895**				
Prep Date:	**12/14/2017**	Analysis Date:	**12/19/2017**		SeqNo:	**1534850**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.15	0.0050	0.1000	0.02346	128	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**
04-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID	**1711D69-005EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**DUP03**	Batch ID:	**35526**		RunNo:	**47895**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/19/2017**		SeqNo:	**1534851**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Silver	0.15	0.0050	0.1000	0.02346	127	70	130	0.720	20		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

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WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47766**	RunNo: **47766**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527224** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47766**	RunNo: **47766**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527225** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.3	50	150			J
Selenium	0.0011	0.0010	0.001000	0	105	50	150			
Uranium	0.00047	0.00050	0.0005000	0	94.3	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47766**	RunNo: **47766**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527226** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.9	85	115			
Lead	0.012	0.00050	0.01250	0	94.6	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			
Uranium	0.012	0.00050	0.01250	0	92.9	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533979** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533982** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	97.5	50	150			J

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**
Client ID:	**BatchQC**	Batch ID:	**B47906**	RunNo:	**47906**
Prep Date:		Analysis Date:	**12/19/2017**	SeqNo:	**1533982** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00040	0.00050	0.0005000	0	80.1	50	150			J
Uranium	0.00039	0.00050	0.0005000	0	78.4	50	150			J

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**
Client ID:	**LCSW**	Batch ID:	**B47906**	RunNo:	**47906**
Prep Date:		Analysis Date:	**12/19/2017**	SeqNo:	**1533985** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.6	85	115			
Lead	0.011	0.00050	0.01250	0	91.9	85	115			
Uranium	0.012	0.00050	0.01250	0	92.3	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID	**MB-35432**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35432**	RunNo:	**47680**					
Prep Date:	**12/11/2017**	Analysis Date:	**12/11/2017**	SeqNo:	**1523781**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-35432**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35432**	RunNo:	**47680**					
Prep Date:	**12/11/2017**	Analysis Date:	**12/11/2017**	SeqNo:	**1523782**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	100	85	115			
Uranium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID	**MSLLLCS-35432**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35432**	RunNo:	**47680**					
Prep Date:	**12/11/2017**	Analysis Date:	**12/11/2017**	SeqNo:	**1523783**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	115	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.0	50	150			J
Selenium	0.00089	0.0010	0.001000	0	88.5	50	150			J
Uranium	0.00050	0.00050	0.0005000	0	99.1	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID	**MB-35512**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**35512**	RunNo:	**47808**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1529215**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-35512**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**35512**	RunNo:	**47808**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1529216**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.1	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**
04-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47521**	RunNo: **47521**
Prep Date:	Analysis Date: **12/4/2017**	SeqNo: **1517410** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47521**	RunNo: **47521**
Prep Date:	Analysis Date: **12/4/2017**	SeqNo: **1517411** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0	109	90	110			
Bromide	2.4	0.10	2.500	0	96.5	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.4	90	110			
Sulfate	9.7	0.50	10.00	0	97.1	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.4	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47703**	RunNo: **47703**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524881** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47703**	RunNo: **47703**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524882** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.6	90	110			
Sulfate	9.8	0.50	10.00	0	97.9	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID	**MB-35280**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**35280**	RunNo:	**47512**					
Prep Date:	**12/4/2017**	Analysis Date:	**12/4/2017**	SeqNo:	**1517029**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-35280**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**35280**	RunNo:	**47512**					
Prep Date:	**12/4/2017**	Analysis Date:	**12/4/2017**	SeqNo:	**1517031**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.084	0.010	0.1000	0	83.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **MB-35255**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35255**	RunNo: **47459**
Prep Date: **11/30/2017**	Analysis Date: **12/1/2017**	SeqNo: **1515499** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.80		1.000		80.0	77.5	161			

Sample ID **LCS-35255**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35255**	RunNo: **47459**
Prep Date: **11/30/2017**	Analysis Date: **12/1/2017**	SeqNo: **1515784** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.0	1.0	5.000	0	100	92.3	135			
Surr: DNOP	0.47		0.5000		94.1	77.5	161			

Sample ID **LCS-35300**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35300**	RunNo: **47491**
Prep Date: **12/4/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518569** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.49		0.5000		97.5	77.5	161			

Sample ID **MB-35300**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35300**	RunNo: **47491**
Prep Date: **12/4/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518570** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.99		1.000		99.3	77.5	161			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

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WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **GW47528**	RunNo: **47528**
Prep Date:	Analysis Date: **12/5/2017**	SeqNo: **1518208** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	23		20.00		114	69.3	150			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **GW47528**	RunNo: **47528**
Prep Date:	Analysis Date: **12/5/2017**	SeqNo: **1518209** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	75.8	123			
Surr: BFB	25		20.00		123	69.3	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A47473**	RunNo: **47473**
Prep Date:	Analysis Date: **12/1/2017**	SeqNo: **1516313** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	0.29	3.0								J
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**
04-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A47473**	RunNo: **47473**
Prep Date:	Analysis Date: **12/1/2017**	SeqNo: **1516313** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.4	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A47473**	RunNo: **47473**
Prep Date:	Analysis Date: **12/1/2017**	SeqNo: **1516314** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.0	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	99.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A47473**	RunNo: **47473**
Prep Date:	Analysis Date: **12/1/2017**	SeqNo: **1516314** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	99.3	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.5	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.9	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **1711d69-001cms**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MKTF-43**	Batch ID: **35261**	RunNo: **47542**
Prep Date: **12/1/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518377** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	88	10	100.0	0	88.0	18.1	108			
4-Chloro-3-methylphenol	100	10	200.0	0	51.2	15	111			
2-Chlorophenol	36	10	200.0	0	18.0	15	113			
1,4-Dichlorobenzene	78	10	100.0	0	78.0	21	81.3			
2,4-Dinitrotoluene	82	10	100.0	0	82.5	27.4	101			
N-Nitrosodi-n-propylamine	88	10	100.0	0	88.0	24.9	107			
4-Nitrophenol	8.2	10	200.0	0	4.09	15	62.2			JS
Pentachlorophenol	16	20	200.0	0	7.96	15	96.9			JS
Phenol	20	10	200.0	0	10.0	15	64.7			S
Pyrene	86	10	100.0	0	86.2	29.2	111			
1,2,4-Trichlorobenzene	84	10	100.0	0	83.8	22.9	94.8			
Surr: 2-Fluorophenol	15		200.0		7.60	15	114			S
Surr: Phenol-d5	20		200.0		10.1	15	97.9			S
Surr: 2,4,6-Tribromophenol	35		200.0		17.5	15	161			
Surr: Nitrobenzene-d5	88		100.0		88.2	29.3	120			
Surr: 2-Fluorobiphenyl	83		100.0		83.0	17.5	116			
Surr: 4-Terphenyl-d14	46		100.0		46.4	21	92.2			

Sample ID **1711d69-001cmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MKTF-43**	Batch ID: **35261**	RunNo: **47542**
Prep Date: **12/1/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518378** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	69.8	18.1	108	23.0	30.5	
4-Chloro-3-methylphenol	90	10	200.0	0	45.0	15	111	12.9	50	
2-Chlorophenol	38	10	200.0	0	19.1	15	113	5.71	36.3	
1,4-Dichlorobenzene	61	10	100.0	0	60.8	21	81.3	24.9	42.1	
2,4-Dinitrotoluene	62	10	100.0	0	61.9	27.4	101	28.5	28.5	R
N-Nitrosodi-n-propylamine	76	10	100.0	0	76.2	24.9	107	14.3	25.4	
4-Nitrophenol	10	10	200.0	0	5.17	15	62.2	23.3	50	S
Pentachlorophenol	15	20	200.0	0	7.60	15	96.9	4.63	50	JS
Phenol	27	10	200.0	0	13.5	15	64.7	29.6	46.1	S
Pyrene	69	10	100.0	0	68.8	29.2	111	22.4	34.3	
1,2,4-Trichlorobenzene	68	10	100.0	0	68.4	22.9	94.8	20.3	43.6	
Surr: 2-Fluorophenol	19		200.0		9.74	15	114	0	0	S
Surr: Phenol-d5	27		200.0		13.4	15	97.9	0	0	S
Surr: 2,4,6-Tribromophenol	34		200.0		16.9	15	161	0	0	
Surr: Nitrobenzene-d5	69		100.0		69.2	29.3	120	0	0	
Surr: 2-Fluorobiphenyl	68		100.0		67.6	17.5	116	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **1711d69-001cmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MKTF-43**	Batch ID: **35261**	RunNo: **47542**
Prep Date: **12/1/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518378** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	47		100.0		46.9	21	92.2	0	0	

Sample ID **lcs-35261**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35261**	RunNo: **47542**
Prep Date: **12/1/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518384** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	89	10	100.0	0	88.9	39.7	103			
4-Chloro-3-methylphenol	200	10	200.0	0	102	40.5	108			
2-Chlorophenol	190	10	200.0	0	93.3	35	103			
1,4-Dichlorobenzene	74	10	100.0	0	73.7	24.7	93.7			
2,4-Dinitrotoluene	84	10	100.0	0	84.0	35.6	91.4			
N-Nitrosodi-n-propylamine	92	10	100.0	0	91.8	41.6	114			
4-Nitrophenol	140	10	200.0	0	68.1	20.7	74.3			
Pentachlorophenol	170	20	200.0	0	82.8	25.3	98.5			
Phenol	130	10	200.0	0	62.7	20.9	75.1			
Pyrene	90	10	100.0	0	90.2	45.6	108			
1,2,4-Trichlorobenzene	85	10	100.0	0	84.7	30.3	106			
Surr: 2-Fluorophenol	140		200.0		69.4	15	114			
Surr: Phenol-d5	130		200.0		64.1	15	97.9			
Surr: 2,4,6-Tribromophenol	200		200.0		102	15	161			
Surr: Nitrobenzene-d5	92		100.0		92.3	29.3	120			
Surr: 2-Fluorobiphenyl	86		100.0		86.4	17.5	116			
Surr: 4-Terphenyl-d14	56		100.0		55.6	21	92.2			

Sample ID **mb-35261**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35261**	RunNo: **47542**
Prep Date: **12/1/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518385** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**
04-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **mb-35261**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35261**	RunNo: **47542**
Prep Date: **12/1/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518385** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	7.3	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**
04-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID **mb-35261**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35261**	RunNo: **47542**
Prep Date: **12/1/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518385** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	100		200.0		52.4	15	114			
Surr: Phenol-d5	83		200.0		41.5	15	97.9			
Surr: 2,4,6-Tribromophenol	180		200.0		90.5	15	161			
Surr: Nitrobenzene-d5	84		100.0		84.1	29.3	120			
Surr: 2-Fluorobiphenyl	77		100.0		76.5	17.5	116			
Surr: 4-Terphenyl-d14	68		100.0		67.7	21	92.2			

Sample ID **lcs-35372**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35372**	RunNo: **47719**
Prep Date: **12/7/2017**	Analysis Date: **12/12/2017**	SeqNo: **1525517** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	150		200.0		74.1	15	114			
Surr: Phenol-d5	130		200.0		66.4	15	97.9			
Surr: 2,4,6-Tribromophenol	190		200.0		95.5	15	161			
Surr: Nitrobenzene-d5	89		100.0		89.0	29.3	120			
Surr: 2-Fluorobiphenyl	84		100.0		84.5	17.5	116			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1711D69**

04-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW SAMP MKTF

Sample ID	**lcs-35372**	SampType:	**LCS**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSW**	Batch ID:	**35372**		RunNo:	**47719**				
Prep Date:	**12/7/2017**	Analysis Date:	**12/12/2017**		SeqNo:	**1525517**	Units:	**%Rec**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	65		100.0		65.0	21	92.2			

Sample ID	**mb-35372**	SampType:	**MBLK**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**PBW**	Batch ID:	**35372**		RunNo:	**47719**				
Prep Date:	**12/7/2017**	Analysis Date:	**12/12/2017**		SeqNo:	**1525518**	Units:	**%Rec**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		62.2	15	114			
Surr: Phenol-d5	93		200.0		46.3	15	97.9			
Surr: 2,4,6-Tribromophenol	180		200.0		88.4	15	161			
Surr: Nitrobenzene-d5	83		100.0		82.8	29.3	120			
Surr: 2-Fluorobiphenyl	76		100.0		76.4	17.5	116			
Surr: 4-Terphenyl-d14	67		100.0		66.8	21	92.2			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1711D69** RcptNo: **1**

Received By: **Dennis Suazo** 11/29/2017 9:20:00 AM

Completed By: **Anne Thorne** 11/29/2017 1:06:08 PM

Reviewed By: ENM 11/29/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 15 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? no
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SME

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 14-0.5(CF)=0.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711D69	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1/ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS / ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/27/17	0920	WATER	MKTF-43	40 ML VOA-5	HCL	-001			✓							✓					
				1 L AMBER-2	NEAT	-001											✓				
				250ML AMBER-1	NEAT	-001			✓												
				250 ML PLASTIC-1	HNO_3	-001													✓		
				125 ML PLASTIC-1	HNO_3	-001												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	-001												✓			
				125 ML PLASTIC-1	NEAT	-001													✓		
	1135		MKTF-41	40 ML VOA-5	HCL	-002			✓							✓					
				40 ML VOA-3	$Na_2S_2O_3$	-002					✓										
				1 L AMBER-1	NEAT	-002											✓				
				250 ML AMBER-1	NEAT	-002			✓												
				250 ML PLASTIC-1	HNO_3	-002													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/28/17	0700			11/29/17	0920
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD.
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.4 -0.5(CF) = 0.9

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Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711D69	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1) 8011	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Major Cations/Anions	WQCC Metals (Total & Dissolved)		Air Bubbles (Y or N)
11/27/17	1135	WATER	MKTF-41	125 ML PLASTIC-1	HNO_3	-002												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	-002												✓			
				125 ML PLASTIC	NEAT	-002													✓		
	1235		MKTF-32	40 ML VOA-5	HCL	-003			✓							✓					
				40 ML VOA-3	$Na_2S_2O_3$	-003					✓										
				1 L AMBER-1	NEAT	-003										BP ✓	✓				
				250 ML AMBER-1	NEAT	-003			✓							AT 11/29/17					
				250 ML PLASTIC-1	HNO_3	-003													✓		
				125 ML PLASTIC-1	HNO_3	-003												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	-003												✓			
				125 ML PLASTIC-1	NEAT	-003													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/28/17	0700			11/29/17	0920
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.4-0.5(CF)=0.9

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711269	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Major Cations/Anions	WQCC Metals	(Total & Dissolved)		Air Bubbles (Y or N)
11/27/17	1335	WATER	MKTF-42	40 mL VOA-5	HCL	-004			✓							✓						
				1L AMBER-1	NEAT	-004											✓					
				250 mL AMBER-1	NEAT	-004			✓													
				250 mL PLASTIC-1	HNO_3	-004													✓			
				125 mL PLASTIC-1	HNO_3	-004												✓	✓			
				125 mL PLASTIC-1	H_2SO_4	-004												✓				
				125 mL PLASTIC-1	NEAT	-004													✓			
	—		DUP03	40 mL VOA-5	HCL	-005			✓							✓						
				1L AMBER-1	NEAT	-005											✓					
				250 mL AMBER-1	NEAT	-005			✓													
				250 mL PLASTIC-1	HNO_3	-005													✓			
				125 mL PLASTIC-1	HNO_3	-005												✓	✓			

Date: 11/28/17 Time: 0700 Relinquished by:
Received by: Date: 11/29/17 Time: 0920
Date: Time: Relinquished by:
Received by: Date: Time:

Remarks:

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email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
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Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type): EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.4-0.5(CF)=0.9

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1711D69	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Analysis Request: MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)	Air Bubbles (Y or N)
11/27/17	—	WATER	DUP03	125 ML PLASTIC-1	H_2SO_4	005												✓		
↓	↓	↓	↓	125 ML PLASTIC-1	NEAT	005													✓	
11/27/17	—	WATER	TRIP BLANK	40 ML VOA-3	HCL	006										✓				

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/28/17	0700			11/29/17	0920
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 16, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017-1st Qtr-GW OrderNo.: 1703003

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 9 sample(s) on 2/28/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 7:00:00 AM
Lab ID: 1703003-001 **Matrix:** AQUEOUS **Received Date:** 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.10	0.096	1.0	J	µg/L	1	3/2/2017 12:02:05 PM	W41128
Toluene	0.28	0.12	1.0	J	µg/L	1	3/2/2017 12:02:05 PM	W41128
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Naphthalene	ND	0.093	2.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Acetone	7.6	4.9	10	J	µg/L	1	3/2/2017 12:02:05 PM	W41128
Bromobenzene	ND	0.098	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Bromodichloromethane	ND	0.14	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Bromoform	ND	0.10	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Bromomethane	ND	0.78	3.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
2-Butanone	ND	0.74	10		µg/L	1	3/2/2017 12:02:05 PM	W41128
Carbon disulfide	ND	0.60	10		µg/L	1	3/2/2017 12:02:05 PM	W41128
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Chloroethane	ND	0.19	2.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Chloroform	ND	0.089	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Chloromethane	ND	0.21	3.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Dibromochloromethane	ND	0.087	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Dibromomethane	ND	0.12	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	3/2/2017 12:02:05 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 7:00:00 AM
Lab ID: 1703003-001
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
2-Hexanone	ND	0.84	10		µg/L	1	3/2/2017 12:02:05 PM	W41128
Isopropylbenzene	ND	0.10	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	3/2/2017 12:02:05 PM	W41128
Methylene Chloride	ND	0.19	3.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Styrene	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Vinyl chloride	ND	0.20	1.0		µg/L	1	3/2/2017 12:02:05 PM	W41128
Xylenes, Total	ND	0.37	1.5		µg/L	1	3/2/2017 12:02:05 PM	W41128
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	1	3/2/2017 12:02:05 PM	W41128
Surr: 4-Bromofluorobenzene	83.3	0	70-130		%Rec	1	3/2/2017 12:02:05 PM	W41128
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	3/2/2017 12:02:05 PM	W41128
Surr: Toluene-d8	94.8	0	70-130		%Rec	1	3/2/2017 12:02:05 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-1
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 2:15:00 PM
Lab ID: 1703003-002
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/2/2017 10:38:42 PM	30482
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/6/2017 7:00:31 PM	30500
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/6/2017 7:00:31 PM	30500
Surr: DNOP	126	0	98.8-141		%Rec	1	3/6/2017 7:00:31 PM	30500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/2/2017 10:43:40 AM	R41125
Surr: BFB	87.0	0	52.3-138		%Rec	1	3/2/2017 10:43:40 AM	R41125
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.21	0.050	0.10		mg/L	1	3/1/2017 2:06:29 PM	R41077
Chloride	86	5.0	10		mg/L	20	3/1/2017 2:18:53 PM	R41077
Nitrogen, Nitrite (As N)	ND	0.019	0.10		mg/L	1	3/1/2017 2:06:29 PM	R41077
Bromide	0.27	0.031	0.10		mg/L	1	3/1/2017 2:06:29 PM	R41077
Nitrogen, Nitrate (As N)	0.28	0.022	0.10		mg/L	1	3/1/2017 2:06:29 PM	R41077
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/1/2017 2:06:29 PM	R41077
Sulfate	160	1.9	10		mg/L	20	3/1/2017 2:18:53 PM	R41077
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.030	0.00085	0.0020		mg/L	1	3/13/2017 5:10:52 PM	B41337
Cadmium	ND	0.0010	0.0020		mg/L	1	3/13/2017 5:10:52 PM	B41337
Calcium	2.5	0.50	1.0		mg/L	1	3/13/2017 5:10:52 PM	B41337
Chromium	0.0071	0.0010	0.0060		mg/L	1	3/13/2017 5:10:52 PM	B41337
Copper	ND	0.0032	0.0060		mg/L	1	3/13/2017 5:10:52 PM	B41337
Iron	0.16	0.020	0.020		mg/L	1	3/13/2017 5:10:52 PM	B41337
Magnesium	ND	0.50	1.0		mg/L	1	3/13/2017 5:10:52 PM	B41337
Manganese	0.014	0.00038	0.0020		mg/L	1	3/13/2017 5:10:52 PM	B41337
Potassium	0.69	0.50	1.0	J	mg/L	1	3/13/2017 5:10:52 PM	B41337
Silver	ND	0.00088	0.0050		mg/L	1	3/13/2017 5:10:52 PM	B41337
Sodium	330	2.5	5.0		mg/L	5	3/13/2017 5:12:53 PM	B41337
Zinc	0.015	0.0011	0.010		mg/L	1	3/13/2017 5:10:52 PM	B41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.20	0.00079	0.0020		mg/L	1	3/8/2017 8:43:24 AM	30543
Cadmium	ND	0.0015	0.0020		mg/L	1	3/8/2017 8:43:24 AM	30543
Chromium	0.099	0.0027	0.0060		mg/L	1	3/8/2017 8:43:24 AM	30543
Copper	0.0087	0.0030	0.0060		mg/L	1	3/8/2017 8:43:24 AM	30543
Iron	9.8	0.20	0.20	*	mg/L	10	3/10/2017 10:04:49 AM	30543
Manganese	0.38	0.00027	0.0020	*	mg/L	1	3/8/2017 8:43:24 AM	30543
Silver	ND	0.0015	0.0050		mg/L	1	3/8/2017 8:43:24 AM	30543

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-1
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 2:15:00 PM
Lab ID: 1703003-002
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Zinc	0.073	0.0027	0.010		mg/L	1	3/8/2017 8:43:24 AM	30543
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0012	0.00069	0.0050	J	mg/L	5	3/6/2017 7:05:06 PM	B41191
Lead	0.00059	0.00017	0.00050		mg/L	1	3/2/2017 3:06:13 PM	A41115
Selenium	0.0037	0.00021	0.0010		mg/L	1	3/2/2017 3:06:13 PM	A41115
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0029	0.00021	0.0010		mg/L	1	3/7/2017 2:45:52 PM	30543
Lead	0.017	0.000081	0.00050	*	mg/L	1	3/7/2017 2:45:52 PM	30543
Selenium	0.0033	0.00019	0.0010		mg/L	1	3/7/2017 2:45:52 PM	30543
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:39:45 PM	30539
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Toluene	ND	0.12	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Methyl tert-butyl ether (MTBE)	1.4	0.21	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Naphthalene	ND	0.093	2.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Acetone	ND	4.9	10		µg/L	1	3/2/2017 12:31:02 PM	W41128
Bromobenzene	ND	0.098	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Bromodichloromethane	ND	0.14	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Bromoform	ND	0.10	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Bromomethane	ND	0.78	3.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
2-Butanone	ND	0.74	10		µg/L	1	3/2/2017 12:31:02 PM	W41128
Carbon disulfide	ND	0.60	10		µg/L	1	3/2/2017 12:31:02 PM	W41128
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Chloroethane	ND	0.19	2.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Chloroform	ND	0.089	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Chloromethane	ND	0.21	3.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-1
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 2:15:00 PM
Lab ID: 1703003-002
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Dibromochloromethane	ND	0.087	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Dibromomethane	ND	0.12	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
2-Hexanone	ND	0.84	10		µg/L	1	3/2/2017 12:31:02 PM	W41128
Isopropylbenzene	ND	0.10	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	3/2/2017 12:31:02 PM	W41128
Methylene Chloride	ND	0.19	3.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Styrene	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	3/2/2017 12:31:02 PM	W41128
Vinyl chloride	ND	0.20	1.0		µg/L	1	3/2/2017 12:31:02 PM	W41128

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-1
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 2:15:00 PM
Lab ID: 1703003-002
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Xylenes, Total	ND	0.37	1.5		µg/L	1	3/2/2017 12:31:02 PM	W41128
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	3/2/2017 12:31:02 PM	W41128
Surr: 4-Bromofluorobenzene	81.9	0	70-130		%Rec	1	3/2/2017 12:31:02 PM	W41128
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	3/2/2017 12:31:02 PM	W41128
Surr: Toluene-d8	97.2	0	70-130		%Rec	1	3/2/2017 12:31:02 PM	W41128

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 3:45:00 PM
Lab ID: 1703003-003
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/2/2017 10:53:28 PM	30482
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/6/2017 7:22:01 PM	30500
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/6/2017 7:22:01 PM	30500
Surr: DNOP	130	0	98.8-141		%Rec	1	3/6/2017 7:22:01 PM	30500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/2/2017 11:07:14 AM	R41125
Surr: BFB	89.0	0	52.3-138		%Rec	1	3/2/2017 11:07:14 AM	R41125
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.14	0.050	0.10		mg/L	1	3/1/2017 2:31:18 PM	R41077
Chloride	440	12	25		mg/L	50	3/3/2017 3:15:47 AM	R41133
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/1/2017 2:43:43 PM	R41077
Bromide	0.89	0.031	0.10		mg/L	1	3/1/2017 2:31:18 PM	R41077
Nitrogen, Nitrate (As N)	0.55	0.022	0.10		mg/L	1	3/1/2017 2:31:18 PM	R41077
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/1/2017 2:31:18 PM	R41077
Sulfate	180	1.9	10		mg/L	20	3/1/2017 2:43:43 PM	R41077
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.045	0.00085	0.0020		mg/L	1	3/13/2017 5:14:42 PM	B41337
Cadmium	ND	0.0010	0.0020		mg/L	1	3/13/2017 5:14:42 PM	B41337
Calcium	55	0.50	1.0		mg/L	1	3/13/2017 5:14:42 PM	B41337
Chromium	ND	0.0010	0.0060		mg/L	1	3/13/2017 5:14:42 PM	B41337
Copper	ND	0.0032	0.0060		mg/L	1	3/13/2017 5:14:42 PM	B41337
Iron	ND	0.020	0.020		mg/L	1	3/13/2017 5:14:42 PM	B41337
Magnesium	8.7	0.50	1.0		mg/L	1	3/13/2017 5:14:42 PM	B41337
Manganese	0.042	0.00038	0.0020		mg/L	1	3/13/2017 5:14:42 PM	B41337
Potassium	1.1	0.50	1.0		mg/L	1	3/13/2017 5:14:42 PM	B41337
Silver	ND	0.00088	0.0050		mg/L	1	3/13/2017 5:14:42 PM	B41337
Sodium	510	5.0	10		mg/L	10	3/13/2017 6:17:45 PM	B41337
Zinc	0.030	0.0011	0.010		mg/L	1	3/13/2017 5:14:42 PM	B41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.042	0.00079	0.0020		mg/L	1	3/8/2017 8:45:56 AM	30543
Cadmium	ND	0.0015	0.0020		mg/L	1	3/8/2017 8:45:56 AM	30543
Chromium	ND	0.0027	0.0060		mg/L	1	3/8/2017 8:45:56 AM	30543
Copper	ND	0.0030	0.0060		mg/L	1	3/8/2017 8:45:56 AM	30543
Iron	ND	0.020	0.020		mg/L	1	3/8/2017 8:45:56 AM	30543
Manganese	0.040	0.00027	0.0020		mg/L	1	3/8/2017 8:45:56 AM	30543
Silver	ND	0.0015	0.0050		mg/L	1	3/8/2017 8:45:56 AM	30543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 3:45:00 PM
Lab ID: 1703003-003
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Zinc	ND	0.0027	0.010		mg/L	1	3/8/2017 8:45:56 AM	30543
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0019	0.00069	0.0050	J	mg/L	5	3/6/2017 7:08:10 PM	B41191
Lead	0.00018	0.00017	0.00050	J	mg/L	1	3/2/2017 3:09:16 PM	A41115
Selenium	0.013	0.00021	0.0010		mg/L	1	3/2/2017 3:09:16 PM	A41115
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0020	0.0011	0.0050	J	mg/L	5	3/7/2017 3:47:14 PM	30543
Lead	0.00020	0.000081	0.00050	J	mg/L	1	3/7/2017 2:48:53 PM	30543
Selenium	0.011	0.00019	0.0010		mg/L	1	3/7/2017 2:48:53 PM	30543
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:45:56 PM	30539
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Toluene	ND	0.12	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Methyl tert-butyl ether (MTBE)	19	0.21	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2-Dichloroethane (EDC)	0.50	0.12	1.0	J	µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Naphthalene	ND	0.093	2.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Acetone	ND	4.9	10		µg/L	1	3/2/2017 1:57:52 PM	W41128
Bromobenzene	ND	0.098	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Bromodichloromethane	ND	0.14	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Bromoform	ND	0.10	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Bromomethane	ND	0.78	3.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
2-Butanone	ND	0.74	10		µg/L	1	3/2/2017 1:57:52 PM	W41128
Carbon disulfide	ND	0.60	10		µg/L	1	3/2/2017 1:57:52 PM	W41128
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Chloroethane	ND	0.19	2.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Chloroform	ND	0.089	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Chloromethane	ND	0.21	3.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 3:45:00 PM
Lab ID: 1703003-003
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
cis-1,2-DCE	0.29	0.12	1.0	J	µg/L	1	3/2/2017 1:57:52 PM	W41128
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Dibromochloromethane	ND	0.087	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Dibromomethane	ND	0.12	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,1-Dichloroethane	0.87	0.11	1.0	J	µg/L	1	3/2/2017 1:57:52 PM	W41128
1,1-Dichloroethene	0.63	0.11	1.0	J	µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
2-Hexanone	ND	0.84	10		µg/L	1	3/2/2017 1:57:52 PM	W41128
Isopropylbenzene	ND	0.10	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	3/2/2017 1:57:52 PM	W41128
Methylene Chloride	ND	0.19	3.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Styrene	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	3/2/2017 1:57:52 PM	W41128
Vinyl chloride	ND	0.20	1.0		µg/L	1	3/2/2017 1:57:52 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 3:45:00 PM
Lab ID: 1703003-003
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Xylenes, Total	ND	0.37	1.5		µg/L	1	3/2/2017 1:57:52 PM	W41128
Surr: 1,2-Dichloroethane-d4	114	0	70-130		%Rec	1	3/2/2017 1:57:52 PM	W41128
Surr: 4-Bromofluorobenzene	82.6	0	70-130		%Rec	1	3/2/2017 1:57:52 PM	W41128
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	3/2/2017 1:57:52 PM	W41128
Surr: Toluene-d8	97.4	0	70-130		%Rec	1	3/2/2017 1:57:52 PM	W41128

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 12:28:00 PM
Lab ID: 1703003-004
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/6/2017 7:43:40 PM	30500
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/6/2017 7:43:40 PM	30500
Surr: DNOP	125	0	98.8-141		%Rec	1	3/6/2017 7:43:40 PM	30500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.057	0.025	0.050		mg/L	1	3/2/2017 11:30:47 AM	R41125
Surr: BFB	88.2	0	52.3-138		%Rec	1	3/2/2017 11:30:47 AM	R41125
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.020	0.00085	0.0020		mg/L	1	3/13/2017 5:18:36 PM	B41337
Cadmium	ND	0.0010	0.0020		mg/L	1	3/13/2017 5:18:36 PM	B41337
Chromium	ND	0.0010	0.0060		mg/L	1	3/13/2017 5:18:36 PM	B41337
Copper	ND	0.0032	0.0060		mg/L	1	3/13/2017 5:18:36 PM	B41337
Iron	ND	0.020	0.020		mg/L	1	3/13/2017 5:18:36 PM	B41337
Manganese	0.020	0.00038	0.0020		mg/L	1	3/13/2017 5:18:36 PM	B41337
Silver	ND	0.00088	0.0050		mg/L	1	3/13/2017 5:18:36 PM	B41337
Zinc	0.029	0.0011	0.010		mg/L	1	3/13/2017 5:18:36 PM	B41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.019	0.00079	0.0020		mg/L	1	3/8/2017 8:48:37 AM	30543
Cadmium	ND	0.0015	0.0020		mg/L	1	3/8/2017 8:48:37 AM	30543
Chromium	ND	0.0027	0.0060		mg/L	1	3/8/2017 8:48:37 AM	30543
Copper	ND	0.0030	0.0060		mg/L	1	3/8/2017 8:48:37 AM	30543
Iron	ND	0.020	0.020		mg/L	1	3/8/2017 8:48:37 AM	30543
Manganese	0.019	0.00027	0.0020		mg/L	1	3/8/2017 8:48:37 AM	30543
Silver	ND	0.0015	0.0050		mg/L	1	3/8/2017 8:48:37 AM	30543
Zinc	ND	0.0027	0.010		mg/L	1	3/8/2017 8:48:37 AM	30543
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0011	0.00069	0.0050	J	mg/L	5	3/6/2017 7:11:13 PM	B41191
Lead	ND	0.00017	0.00050		mg/L	1	3/2/2017 3:12:19 PM	A41115
Selenium	0.0036	0.0011	0.0050	J	mg/L	5	3/6/2017 7:11:13 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0012	0.00021	0.0010		mg/L	1	3/7/2017 2:51:53 PM	30543
Lead	ND	0.000081	0.00050		mg/L	1	3/7/2017 2:51:53 PM	30543
Selenium	0.0014	0.00019	0.0010		mg/L	1	3/7/2017 2:51:53 PM	30543
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:52:11 PM	30539
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 12:28:00 PM
Lab ID: 1703003-004
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.12	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Methyl tert-butyl ether (MTBE)	53	0.21	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2-Dichloroethane (EDC)	0.85	0.12	1.0	J	µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Naphthalene	ND	0.093	2.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Acetone	ND	4.9	10		µg/L	1	3/2/2017 2:26:57 PM	W41128
Bromobenzene	ND	0.098	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Bromodichloromethane	ND	0.14	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Bromoform	ND	0.10	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Bromomethane	ND	0.78	3.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
2-Butanone	ND	0.74	10		µg/L	1	3/2/2017 2:26:57 PM	W41128
Carbon disulfide	ND	0.60	10		µg/L	1	3/2/2017 2:26:57 PM	W41128
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Chloroethane	ND	0.19	2.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Chloroform	ND	0.089	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Chloromethane	ND	0.21	3.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Dibromochloromethane	ND	0.087	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Dibromomethane	ND	0.12	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 12:28:00 PM
Lab ID: 1703003-004
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
2-Hexanone	ND	0.84	10		µg/L	1	3/2/2017 2:26:57 PM	W41128
Isopropylbenzene	ND	0.10	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	3/2/2017 2:26:57 PM	W41128
Methylene Chloride	ND	0.19	3.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Styrene	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Vinyl chloride	ND	0.20	1.0		µg/L	1	3/2/2017 2:26:57 PM	W41128
Xylenes, Total	ND	0.37	1.5		µg/L	1	3/2/2017 2:26:57 PM	W41128
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	3/2/2017 2:26:57 PM	W41128
Surr: 4-Bromofluorobenzene	83.7	0	70-130		%Rec	1	3/2/2017 2:26:57 PM	W41128
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	3/2/2017 2:26:57 PM	W41128
Surr: Toluene-d8	96.9	0	70-130		%Rec	1	3/2/2017 2:26:57 PM	W41128

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 9:15:00 AM
Lab ID: 1703003-005
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/2/2017 11:08:18 PM	30482
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.3	0.36	1.0		mg/L	1	3/6/2017 8:05:47 PM	30500
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/6/2017 8:05:47 PM	30500
Surr: DNOP	127	0	98.8-141		%Rec	1	3/6/2017 8:05:47 PM	30500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	33	1.2	2.5		mg/L	50	3/2/2017 11:54:22 AM	R41125
Surr: BFB	90.0	0	52.3-138		%Rec	50	3/2/2017 11:54:22 AM	R41125
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	2.3	0.0043	0.010	*	mg/L	5	3/13/2017 5:30:23 PM	B41337
Cadmium	ND	0.0010	0.0020		mg/L	1	3/13/2017 5:28:44 PM	B41337
Chromium	ND	0.0010	0.0060		mg/L	1	3/13/2017 5:28:44 PM	B41337
Copper	ND	0.0032	0.0060		mg/L	1	3/13/2017 5:28:44 PM	B41337
Iron	5.1	0.20	0.20	*	mg/L	10	3/13/2017 6:19:38 PM	B41337
Manganese	2.2	0.0019	0.010	*	mg/L	5	3/13/2017 5:30:23 PM	B41337
Silver	ND	0.00088	0.0050		mg/L	1	3/13/2017 5:28:44 PM	B41337
Zinc	0.015	0.0011	0.010		mg/L	1	3/13/2017 5:28:44 PM	B41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	2.3	0.0040	0.010	*	mg/L	5	3/10/2017 10:06:40 AM	30543
Cadmium	ND	0.0015	0.0020		mg/L	1	3/8/2017 8:51:24 AM	30543
Chromium	ND	0.0027	0.0060		mg/L	1	3/8/2017 8:51:24 AM	30543
Copper	ND	0.0030	0.0060		mg/L	1	3/8/2017 8:51:24 AM	30543
Iron	4.9	0.10	0.10	*	mg/L	5	3/10/2017 10:06:40 AM	30543
Manganese	2.2	0.0014	0.010	*	mg/L	5	3/10/2017 10:06:40 AM	30543
Silver	ND	0.0015	0.0050		mg/L	1	3/8/2017 8:51:24 AM	30543
Zinc	ND	0.0027	0.010		mg/L	1	3/8/2017 8:51:24 AM	30543
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0083	0.00069	0.0050		mg/L	5	3/6/2017 7:14:16 PM	B41191
Lead	ND	0.00017	0.00050		mg/L	1	3/2/2017 3:15:23 PM	A41115
Selenium	0.013	0.0042	0.020	J	mg/L	20	3/6/2017 7:17:20 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0096	0.0011	0.0050		mg/L	5	3/7/2017 3:50:15 PM	30543
Lead	0.00017	0.000081	0.00050	J	mg/L	1	3/7/2017 2:54:54 PM	30543
Selenium	0.010	0.0037	0.020	J	mg/L	20	3/7/2017 3:53:16 PM	30543
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:54:08 PM	30539

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 9:15:00 AM
Lab ID: 1703003-005
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	12000	48	500		µg/L	500	3/2/2017 2:55:36 PM	W41128
Toluene	6.2	5.9	50	J	µg/L	50	3/2/2017 3:24:13 PM	W41128
Ethylbenzene	390	5.6	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Methyl tert-butyl ether (MTBE)	810	11	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2,4-Trimethylbenzene	7.4	5.5	50	J	µg/L	50	3/2/2017 3:24:13 PM	W41128
1,3,5-Trimethylbenzene	ND	5.8	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2-Dichloroethane (EDC)	ND	5.8	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2-Dibromoethane (EDB)	ND	5.6	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Naphthalene	24	4.6	100	J	µg/L	50	3/2/2017 3:24:13 PM	W41128
1-Methylnaphthalene	35	10	200	J	µg/L	50	3/2/2017 3:24:13 PM	W41128
2-Methylnaphthalene	ND	7.9	200		µg/L	50	3/2/2017 3:24:13 PM	W41128
Acetone	ND	250	500		µg/L	50	3/2/2017 3:24:13 PM	W41128
Bromobenzene	ND	4.9	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Bromodichloromethane	ND	7.0	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Bromoform	ND	5.1	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Bromomethane	ND	39	150		µg/L	50	3/2/2017 3:24:13 PM	W41128
2-Butanone	ND	37	500		µg/L	50	3/2/2017 3:24:13 PM	W41128
Carbon disulfide	ND	30	500		µg/L	50	3/2/2017 3:24:13 PM	W41128
Carbon Tetrachloride	ND	5.4	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Chlorobenzene	ND	5.7	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Chloroethane	ND	9.6	100		µg/L	50	3/2/2017 3:24:13 PM	W41128
Chloroform	ND	4.4	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Chloromethane	ND	11	150		µg/L	50	3/2/2017 3:24:13 PM	W41128
2-Chlorotoluene	ND	20	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
4-Chlorotoluene	ND	6.4	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
cis-1,2-DCE	ND	6.2	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
cis-1,3-Dichloropropene	ND	5.3	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2-Dibromo-3-chloropropane	ND	12	100		µg/L	50	3/2/2017 3:24:13 PM	W41128
Dibromochloromethane	ND	4.3	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Dibromomethane	ND	6.0	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2-Dichlorobenzene	ND	20	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,3-Dichlorobenzene	ND	7.2	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,4-Dichlorobenzene	ND	7.1	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Dichlorodifluoromethane	ND	18	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,1-Dichloroethane	ND	5.4	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,1-Dichloroethene	ND	5.4	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2-Dichloropropane	ND	5.5	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,3-Dichloropropane	ND	7.8	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
2,2-Dichloropropane	ND	8.3	100		µg/L	50	3/2/2017 3:24:13 PM	W41128

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 9:15:00 AM
Lab ID: 1703003-005
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	6.7	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Hexachlorobutadiene	ND	9.9	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
2-Hexanone	ND	42	500		µg/L	50	3/2/2017 3:24:13 PM	W41128
Isopropylbenzene	8.3	5.2	50	J	µg/L	50	3/2/2017 3:24:13 PM	W41128
4-Isopropyltoluene	ND	7.0	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
4-Methyl-2-pentanone	ND	21	500		µg/L	50	3/2/2017 3:24:13 PM	W41128
Methylene Chloride	ND	9.4	150		µg/L	50	3/2/2017 3:24:13 PM	W41128
n-Butylbenzene	ND	8.0	150		µg/L	50	3/2/2017 3:24:13 PM	W41128
n-Propylbenzene	14	6.6	50	J	µg/L	50	3/2/2017 3:24:13 PM	W41128
sec-Butylbenzene	ND	6.2	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Styrene	ND	5.5	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
tert-Butylbenzene	ND	5.8	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,1,1,2-Tetrachloroethane	ND	5.6	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,1,2,2-Tetrachloroethane	ND	6.4	100		µg/L	50	3/2/2017 3:24:13 PM	W41128
Tetrachloroethene (PCE)	ND	7.6	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
trans-1,2-DCE	ND	20	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
trans-1,3-Dichloropropene	ND	5.2	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2,3-Trichlorobenzene	ND	5.6	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2,4-Trichlorobenzene	ND	6.6	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,1,1-Trichloroethane	ND	4.6	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,1,2-Trichloroethane	ND	6.4	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Trichloroethene (TCE)	ND	8.8	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Trichlorofluoromethane	ND	10	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
1,2,3-Trichloropropane	ND	10	100		µg/L	50	3/2/2017 3:24:13 PM	W41128
Vinyl chloride	ND	9.8	50		µg/L	50	3/2/2017 3:24:13 PM	W41128
Xylenes, Total	ND	18	75		µg/L	50	3/2/2017 3:24:13 PM	W41128
Surr: 1,2-Dichloroethane-d4	108	0	70-130		%Rec	50	3/2/2017 3:24:13 PM	W41128
Surr: 4-Bromofluorobenzene	81.1	0	70-130		%Rec	50	3/2/2017 3:24:13 PM	W41128
Surr: Dibromofluoromethane	114	0	70-130		%Rec	50	3/2/2017 3:24:13 PM	W41128
Surr: Toluene-d8	94.5	0	70-130		%Rec	50	3/2/2017 3:24:13 PM	W41128

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 10:05:00 AM
Lab ID: 1703003-006
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/2/2017 11:23:05 PM	30482
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/6/2017 8:27:12 PM	30500
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/6/2017 8:27:12 PM	30500
Surr: DNOP	126	0	98.8-141		%Rec	1	3/6/2017 8:27:12 PM	30500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	4.5	0.25	0.50		mg/L	10	3/2/2017 1:05:04 PM	R41125
Surr: BFB	88.5	0	52.3-138		%Rec	10	3/2/2017 1:05:04 PM	R41125
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.070	0.00085	0.0020		mg/L	1	3/13/2017 5:32:21 PM	B41337
Cadmium	ND	0.0010	0.0020		mg/L	1	3/13/2017 5:32:21 PM	B41337
Chromium	ND	0.0010	0.0060		mg/L	1	3/13/2017 5:32:21 PM	B41337
Copper	ND	0.0032	0.0060		mg/L	1	3/13/2017 5:32:21 PM	B41337
Iron	0.31	0.020	0.020	*	mg/L	1	3/13/2017 5:32:21 PM	B41337
Manganese	0.32	0.00038	0.0020	*	mg/L	1	3/13/2017 5:32:21 PM	B41337
Silver	ND	0.00088	0.0050		mg/L	1	3/13/2017 5:32:21 PM	B41337
Zinc	0.028	0.0011	0.010		mg/L	1	3/13/2017 5:32:21 PM	B41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.070	0.00079	0.0020		mg/L	1	3/8/2017 8:53:48 AM	30543
Cadmium	ND	0.0015	0.0020		mg/L	1	3/8/2017 8:53:48 AM	30543
Chromium	ND	0.0027	0.0060		mg/L	1	3/8/2017 8:53:48 AM	30543
Copper	ND	0.0030	0.0060		mg/L	1	3/8/2017 8:53:48 AM	30543
Iron	0.36	0.020	0.020	*	mg/L	1	3/8/2017 8:53:48 AM	30543
Manganese	0.31	0.00027	0.0020	*	mg/L	1	3/8/2017 8:53:48 AM	30543
Silver	ND	0.0015	0.0050		mg/L	1	3/8/2017 8:53:48 AM	30543
Zinc	ND	0.0027	0.010		mg/L	1	3/8/2017 8:53:48 AM	30543
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0020	0.00069	0.0050	J	mg/L	5	3/6/2017 7:20:23 PM	B41191
Lead	ND	0.00017	0.00050		mg/L	1	3/2/2017 3:18:26 PM	A41115
Selenium	0.0064	0.0011	0.0050		mg/L	5	3/6/2017 7:20:23 PM	B41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0026	0.0011	0.0050	J	mg/L	5	3/7/2017 4:02:22 PM	30543
Lead	0.000098	0.000081	0.00050	J	mg/L	1	3/7/2017 2:57:54 PM	30543
Selenium	0.0060	0.0019	0.010	J	mg/L	10	3/7/2017 4:05:22 PM	30543
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:56:06 PM	30539

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 10:05:00 AM
Lab ID: 1703003-006
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.96	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Toluene	ND	1.2	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Ethylbenzene	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Methyl tert-butyl ether (MTBE)	4300	21	100		µg/L	100	3/2/2017 3:52:45 PM	W41128
1,2,4-Trimethylbenzene	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,3,5-Trimethylbenzene	ND	1.2	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2-Dibromoethane (EDB)	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Naphthalene	ND	0.93	20		µg/L	10	3/2/2017 4:21:13 PM	W41128
1-Methylnaphthalene	ND	2.0	40		µg/L	10	3/2/2017 4:21:13 PM	W41128
2-Methylnaphthalene	ND	1.6	40		µg/L	10	3/2/2017 4:21:13 PM	W41128
Acetone	ND	49	100		µg/L	10	3/2/2017 4:21:13 PM	W41128
Bromobenzene	ND	0.98	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Bromodichloromethane	ND	1.4	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Bromoform	ND	1.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Bromomethane	ND	7.8	30		µg/L	10	3/2/2017 4:21:13 PM	W41128
2-Butanone	ND	7.4	100		µg/L	10	3/2/2017 4:21:13 PM	W41128
Carbon disulfide	ND	6.0	100		µg/L	10	3/2/2017 4:21:13 PM	W41128
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Chlorobenzene	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Chloroethane	ND	1.9	20		µg/L	10	3/2/2017 4:21:13 PM	W41128
Chloroform	ND	0.89	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Chloromethane	ND	2.1	30		µg/L	10	3/2/2017 4:21:13 PM	W41128
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
4-Chlorotoluene	ND	1.3	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
cis-1,2-DCE	ND	1.2	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
cis-1,3-Dichloropropene	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2-Dibromo-3-chloropropane	ND	2.3	20		µg/L	10	3/2/2017 4:21:13 PM	W41128
Dibromochloromethane	ND	0.87	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Dibromomethane	ND	1.2	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2-Dichlorobenzene	ND	4.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,4-Dichlorobenzene	ND	1.4	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Dichlorodifluoromethane	ND	3.6	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,1-Dichloroethane	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,1-Dichloroethene	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2-Dichloropropane	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
2,2-Dichloropropane	ND	1.7	20		µg/L	10	3/2/2017 4:21:13 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 10:05:00 AM
Lab ID: 1703003-006
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Hexachlorobutadiene	ND	2.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
2-Hexanone	ND	8.4	100		µg/L	10	3/2/2017 4:21:13 PM	W41128
Isopropylbenzene	ND	1.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
4-Isopropyltoluene	ND	1.4	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
4-Methyl-2-pentanone	ND	4.3	100		µg/L	10	3/2/2017 4:21:13 PM	W41128
Methylene Chloride	ND	1.9	30		µg/L	10	3/2/2017 4:21:13 PM	W41128
n-Butylbenzene	ND	1.6	30		µg/L	10	3/2/2017 4:21:13 PM	W41128
n-Propylbenzene	ND	1.3	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
sec-Butylbenzene	ND	1.2	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Styrene	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
tert-Butylbenzene	ND	1.2	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,1,2,2-Tetrachloroethane	ND	1.3	20		µg/L	10	3/2/2017 4:21:13 PM	W41128
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
trans-1,2-DCE	ND	4.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
trans-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,1,1-Trichloroethane	ND	0.91	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,1,2-Trichloroethane	ND	1.3	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Trichlorofluoromethane	ND	2.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
1,2,3-Trichloropropane	ND	2.0	20		µg/L	10	3/2/2017 4:21:13 PM	W41128
Vinyl chloride	ND	2.0	10		µg/L	10	3/2/2017 4:21:13 PM	W41128
Xylenes, Total	ND	3.7	15		µg/L	10	3/2/2017 4:21:13 PM	W41128
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	10	3/2/2017 4:21:13 PM	W41128
Surr: 4-Bromofluorobenzene	79.7	0	70-130		%Rec	10	3/2/2017 4:21:13 PM	W41128
Surr: Dibromofluoromethane	109	0	70-130		%Rec	10	3/2/2017 4:21:13 PM	W41128
Surr: Toluene-d8	96.5	0	70-130		%Rec	10	3/2/2017 4:21:13 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 11:05:00 AM
Lab ID: 1703003-007
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/2/2017 11:52:38 PM	30482
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.47	0.36	1.0	J	mg/L	1	3/6/2017 8:48:50 PM	30500
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/6/2017 8:48:50 PM	30500
Surr: DNOP	129	0	98.8-141		%Rec	1	3/6/2017 8:48:50 PM	30500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	4.2	0.25	0.50		mg/L	10	3/2/2017 1:28:24 PM	R41125
Surr: BFB	88.3	0	52.3-138		%Rec	10	3/2/2017 1:28:24 PM	R41125
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.11	0.00085	0.0020		mg/L	1	3/13/2017 5:34:27 PM	B41337
Cadmium	ND	0.0010	0.0020		mg/L	1	3/13/2017 5:34:27 PM	B41337
Chromium	ND	0.0010	0.0060		mg/L	1	3/13/2017 5:34:27 PM	B41337
Copper	ND	0.0032	0.0060		mg/L	1	3/13/2017 5:34:27 PM	B41337
Iron	0.061	0.020	0.020		mg/L	1	3/13/2017 5:34:27 PM	B41337
Manganese	0.044	0.00038	0.0020		mg/L	1	3/13/2017 5:34:27 PM	B41337
Silver	ND	0.00088	0.0050		mg/L	1	3/13/2017 5:34:27 PM	B41337
Zinc	0.023	0.0011	0.010		mg/L	1	3/13/2017 5:34:27 PM	B41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.11	0.00079	0.0020		mg/L	1	3/8/2017 8:56:25 AM	30543
Cadmium	ND	0.0015	0.0020		mg/L	1	3/8/2017 8:56:25 AM	30543
Chromium	ND	0.0027	0.0060		mg/L	1	3/8/2017 8:56:25 AM	30543
Copper	ND	0.0030	0.0060		mg/L	1	3/8/2017 8:56:25 AM	30543
Iron	0.098	0.020	0.020		mg/L	1	3/8/2017 8:56:25 AM	30543
Manganese	0.045	0.00027	0.0020		mg/L	1	3/8/2017 8:56:25 AM	30543
Silver	ND	0.0015	0.0050		mg/L	1	3/8/2017 8:56:25 AM	30543
Zinc	ND	0.0027	0.010		mg/L	1	3/8/2017 8:56:25 AM	30543
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0018	0.0014	0.010	J	mg/L	10	3/6/2017 7:38:48 PM	C41191
Lead	0.00030	0.00017	0.00050	J	mg/L	1	3/2/2017 3:21:29 PM	A41115
Selenium	0.0072	0.0021	0.010	J	mg/L	10	3/6/2017 7:38:48 PM	C41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0025	0.0011	0.0050	J	mg/L	5	3/7/2017 4:08:23 PM	30543
Lead	0.00082	0.000081	0.00050		mg/L	1	3/7/2017 3:00:55 PM	30543
Selenium	0.0070	0.00094	0.0050		mg/L	5	3/7/2017 4:08:23 PM	30543
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 5:58:05 PM	30539

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 11:05:00 AM
Lab ID: 1703003-007
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.97	0.96	10	J	µg/L	10	3/2/2017 5:18:57 PM	W41128
Toluene	ND	1.2	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Ethylbenzene	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Methyl tert-butyl ether (MTBE)	4000	21	100		µg/L	100	3/2/2017 4:50:06 PM	W41128
1,2,4-Trimethylbenzene	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,3,5-Trimethylbenzene	ND	1.2	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2-Dibromoethane (EDB)	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Naphthalene	ND	0.93	20		µg/L	10	3/2/2017 5:18:57 PM	W41128
1-Methylnaphthalene	ND	2.0	40		µg/L	10	3/2/2017 5:18:57 PM	W41128
2-Methylnaphthalene	ND	1.6	40		µg/L	10	3/2/2017 5:18:57 PM	W41128
Acetone	ND	49	100		µg/L	10	3/2/2017 5:18:57 PM	W41128
Bromobenzene	ND	0.98	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Bromodichloromethane	ND	1.4	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Bromoform	ND	1.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Bromomethane	ND	7.8	30		µg/L	10	3/2/2017 5:18:57 PM	W41128
2-Butanone	ND	7.4	100		µg/L	10	3/2/2017 5:18:57 PM	W41128
Carbon disulfide	ND	6.0	100		µg/L	10	3/2/2017 5:18:57 PM	W41128
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Chlorobenzene	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Chloroethane	ND	1.9	20		µg/L	10	3/2/2017 5:18:57 PM	W41128
Chloroform	ND	0.89	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Chloromethane	ND	2.1	30		µg/L	10	3/2/2017 5:18:57 PM	W41128
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
4-Chlorotoluene	ND	1.3	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
cis-1,2-DCE	ND	1.2	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
cis-1,3-Dichloropropene	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2-Dibromo-3-chloropropane	ND	2.3	20		µg/L	10	3/2/2017 5:18:57 PM	W41128
Dibromochloromethane	ND	0.87	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Dibromomethane	ND	1.2	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2-Dichlorobenzene	ND	4.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,4-Dichlorobenzene	ND	1.4	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Dichlorodifluoromethane	ND	3.6	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,1-Dichloroethane	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,1-Dichloroethene	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2-Dichloropropane	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
2,2-Dichloropropane	ND	1.7	20		µg/L	10	3/2/2017 5:18:57 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017 11:05:00 AM
Lab ID: 1703003-007
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Hexachlorobutadiene	ND	2.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
2-Hexanone	ND	8.4	100		µg/L	10	3/2/2017 5:18:57 PM	W41128
Isopropylbenzene	ND	1.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
4-Isopropyltoluene	ND	1.4	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
4-Methyl-2-pentanone	ND	4.3	100		µg/L	10	3/2/2017 5:18:57 PM	W41128
Methylene Chloride	ND	1.9	30		µg/L	10	3/2/2017 5:18:57 PM	W41128
n-Butylbenzene	ND	1.6	30		µg/L	10	3/2/2017 5:18:57 PM	W41128
n-Propylbenzene	ND	1.3	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
sec-Butylbenzene	ND	1.2	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Styrene	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
tert-Butylbenzene	ND	1.2	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,1,2,2-Tetrachloroethane	ND	1.3	20		µg/L	10	3/2/2017 5:18:57 PM	W41128
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
trans-1,2-DCE	ND	4.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
trans-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,1,1-Trichloroethane	ND	0.91	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,1,2-Trichloroethane	ND	1.3	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Trichlorofluoromethane	ND	2.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
1,2,3-Trichloropropane	ND	2.0	20		µg/L	10	3/2/2017 5:18:57 PM	W41128
Vinyl chloride	ND	2.0	10		µg/L	10	3/2/2017 5:18:57 PM	W41128
Xylenes, Total	ND	3.7	15		µg/L	10	3/2/2017 5:18:57 PM	W41128
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	10	3/2/2017 5:18:57 PM	W41128
Surr: 4-Bromofluorobenzene	84.1	0	70-130		%Rec	10	3/2/2017 5:18:57 PM	W41128
Surr: Dibromofluoromethane	111	0	70-130		%Rec	10	3/2/2017 5:18:57 PM	W41128
Surr: Toluene-d8	94.2	0	70-130		%Rec	10	3/2/2017 5:18:57 PM	W41128

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017
Lab ID: 1703003-008
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/6/2017 9:10:35 PM	30500
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/6/2017 9:10:35 PM	30500
Surr: DNOP	127	0	98.8-141		%Rec	1	3/6/2017 9:10:35 PM	30500
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/2/2017 1:51:47 PM	R41125
Surr: BFB	88.3	0	52.3-138		%Rec	1	3/2/2017 1:51:47 PM	R41125
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.044	0.00085	0.0020		mg/L	1	3/13/2017 5:36:25 PM	B41337
Cadmium	ND	0.0010	0.0020		mg/L	1	3/13/2017 5:36:25 PM	B41337
Chromium	ND	0.0010	0.0060		mg/L	1	3/13/2017 5:36:25 PM	B41337
Copper	ND	0.0032	0.0060		mg/L	1	3/13/2017 5:36:25 PM	B41337
Iron	ND	0.020	0.020		mg/L	1	3/13/2017 5:36:25 PM	B41337
Manganese	0.042	0.00038	0.0020		mg/L	1	3/13/2017 5:36:25 PM	B41337
Silver	ND	0.00088	0.0050		mg/L	1	3/13/2017 5:36:25 PM	B41337
Zinc	0.022	0.0011	0.010		mg/L	1	3/13/2017 5:36:25 PM	B41337
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.043	0.00079	0.0020		mg/L	1	3/8/2017 8:58:43 AM	30543
Cadmium	ND	0.0015	0.0020		mg/L	1	3/8/2017 8:58:43 AM	30543
Chromium	ND	0.0027	0.0060		mg/L	1	3/8/2017 8:58:43 AM	30543
Copper	ND	0.0030	0.0060		mg/L	1	3/8/2017 8:58:43 AM	30543
Iron	ND	0.020	0.020		mg/L	1	3/8/2017 8:58:43 AM	30543
Manganese	0.045	0.00027	0.0020		mg/L	1	3/8/2017 8:58:43 AM	30543
Silver	ND	0.0015	0.0050		mg/L	1	3/8/2017 8:58:43 AM	30543
Zinc	ND	0.0027	0.010		mg/L	1	3/8/2017 8:58:43 AM	30543
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0015	0.00069	0.0050	J	mg/L	5	3/6/2017 7:41:52 PM	C41191
Lead	0.00018	0.00017	0.00050	J	mg/L	1	3/2/2017 3:24:33 PM	A41115
Selenium	0.013	0.00021	0.0010		mg/L	1	3/2/2017 3:24:33 PM	A41115
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0023	0.0011	0.0050	J	mg/L	5	3/7/2017 4:14:24 PM	30543
Lead	0.00023	0.000081	0.00050	J	mg/L	1	3/7/2017 3:03:55 PM	30543
Selenium	0.012	0.00019	0.0010		mg/L	1	3/7/2017 3:03:55 PM	30543
EPA METHOD 245.1: MERCURY							Analyst: **pmf**	
Mercury	ND	0.000053	0.00020		mg/L	1	3/6/2017 6:00:03 PM	30539
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017
Lab ID: 1703003-008
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Toluene	ND	0.12	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Methyl tert-butyl ether (MTBE)	20	0.21	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2-Dichloroethane (EDC)	0.51	0.12	1.0	J	µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Naphthalene	ND	0.093	2.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Acetone	ND	4.9	10		µg/L	1	3/2/2017 11:33:13 AM	W41128
Bromobenzene	ND	0.098	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Bromodichloromethane	ND	0.14	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Bromoform	ND	0.10	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Bromomethane	ND	0.78	3.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
2-Butanone	ND	0.74	10		µg/L	1	3/2/2017 11:33:13 AM	W41128
Carbon disulfide	ND	0.60	10		µg/L	1	3/2/2017 11:33:13 AM	W41128
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Chloroethane	ND	0.19	2.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Chloroform	ND	0.089	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Chloromethane	ND	0.21	3.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
cis-1,2-DCE	0.31	0.12	1.0	J	µg/L	1	3/2/2017 11:33:13 AM	W41128
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Dibromochloromethane	ND	0.087	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Dibromomethane	ND	0.12	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,1-Dichloroethane	0.83	0.11	1.0	J	µg/L	1	3/2/2017 11:33:13 AM	W41128
1,1-Dichloroethene	0.62	0.11	1.0	J	µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128

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Client Sample ID: DUPLICATE
Project: 2017-1st Qtr-GW
Collection Date: 2/27/2017
Lab ID: 1703003-008
Matrix: AQUEOUS
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
2-Hexanone	ND	0.84	10		µg/L	1	3/2/2017 11:33:13 AM	W41128
Isopropylbenzene	ND	0.10	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	3/2/2017 11:33:13 AM	W41128
Methylene Chloride	0.35	0.19	3.0	J	µg/L	1	3/2/2017 11:33:13 AM	W41128
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Styrene	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Vinyl chloride	ND	0.20	1.0		µg/L	1	3/2/2017 11:33:13 AM	W41128
Xylenes, Total	ND	0.37	1.5		µg/L	1	3/2/2017 11:33:13 AM	W41128
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	1	3/2/2017 11:33:13 AM	W41128
Surr: 4-Bromofluorobenzene	86.6	0	70-130		%Rec	1	3/2/2017 11:33:13 AM	W41128
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	3/2/2017 11:33:13 AM	W41128
Surr: Toluene-d8	95.9	0	70-130		%Rec	1	3/2/2017 11:33:13 AM	W41128

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017-1st Qtr-GW
Collection Date:
Lab ID: 1703003-009
Matrix: TRIP BLANK
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Toluene	ND	0.12	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Methyl tert-butyl ether (MTBE)	ND	0.21	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2-Dibromoethane (EDB)	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Naphthalene	ND	0.093	2.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1-Methylnaphthalene	ND	0.20	4.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
2-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Acetone	ND	4.9	10		µg/L	1	3/2/2017 11:04:27 AM	W41128
Bromobenzene	ND	0.098	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Bromodichloromethane	ND	0.14	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Bromoform	ND	0.10	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Bromomethane	ND	0.78	3.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
2-Butanone	ND	0.74	10		µg/L	1	3/2/2017 11:04:27 AM	W41128
Carbon disulfide	ND	0.60	10		µg/L	1	3/2/2017 11:04:27 AM	W41128
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Chloroethane	ND	0.19	2.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Chloroform	0.18	0.089	1.0	J	µg/L	1	3/2/2017 11:04:27 AM	W41128
Chloromethane	ND	0.21	3.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
4-Chlorotoluene	ND	0.13	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
cis-1,2-DCE	ND	0.12	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
cis-1,3-Dichloropropene	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2-Dibromo-3-chloropropane	ND	0.23	2.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Dibromochloromethane	ND	0.087	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Dibromomethane	ND	0.12	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,4-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Dichlorodifluoromethane	ND	0.36	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,1-Dichloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,1-Dichloroethene	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2-Dichloropropane	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
2,2-Dichloropropane	ND	0.17	2.0		µg/L	1	3/2/2017 11:04:27 AM	W41128

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017-1st Qtr-GW
Collection Date:
Lab ID: 1703003-009
Matrix: TRIP BLANK
Received Date: 2/28/2017 4:02:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Hexachlorobutadiene	ND	0.20	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
2-Hexanone	ND	0.84	10		µg/L	1	3/2/2017 11:04:27 AM	W41128
Isopropylbenzene	ND	0.10	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
4-Methyl-2-pentanone	ND	0.43	10		µg/L	1	3/2/2017 11:04:27 AM	W41128
Methylene Chloride	0.30	0.19	3.0	J	µg/L	1	3/2/2017 11:04:27 AM	W41128
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
sec-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Styrene	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
tert-Butylbenzene	ND	0.12	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,1,2,2-Tetrachloroethane	ND	0.13	2.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
trans-1,2-DCE	ND	0.40	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
trans-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,1,1-Trichloroethane	ND	0.091	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,1,2-Trichloroethane	ND	0.13	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Trichlorofluoromethane	ND	0.20	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
1,2,3-Trichloropropane	ND	0.20	2.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Vinyl chloride	ND	0.20	1.0		µg/L	1	3/2/2017 11:04:27 AM	W41128
Xylenes, Total	ND	0.37	1.5		µg/L	1	3/2/2017 11:04:27 AM	W41128
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	3/2/2017 11:04:27 AM	W41128
Surr: 4-Bromofluorobenzene	80.7	0	70-130		%Rec	1	3/2/2017 11:04:27 AM	W41128
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	3/2/2017 11:04:27 AM	W41128
Surr: Toluene-d8	95.5	0	70-130		%Rec	1	3/2/2017 11:04:27 AM	W41128

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41337**	RunNo: **41337**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295263** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B41337**	RunNo: **41337**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295264** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	89.5	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	92.5	50	150			J
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0049	0.0060	0.006000	0	81.2	50	150			J
Copper	0.0056	0.0060	0.006000	0	93.7	50	150			J
Iron	0.016	0.020	0.02000	0	82.2	50	150			J
Magnesium	0.53	1.0	0.5000	0	107	50	150			J
Manganese	0.0020	0.0020	0.002000	0	97.5	50	150			J
Potassium	0.35	1.0	0.5000	0	70.4	50	150			J
Silver	0.0050	0.0050	0.005000	0	100	50	150			
Sodium	0.39	1.0	0.5000	0	78.8	50	150			J
Zinc	0.0055	0.010	0.005000	0	111	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41337**	RunNo: **41337**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295265** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41337**	RunNo: **41337**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295265** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.48	0.0060	0.5000	0	96.9	85	115			
Iron	0.49	0.020	0.5000	0	98.7	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.3	85	115			
Potassium	50	1.0	50.00	0	99.1	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	50	1.0	50.00	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.3	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **MB-30543**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **30543**	RunNo: **41206**
Prep Date: **3/6/2017**	Analysis Date: **3/8/2017**	SeqNo: **1290776** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCS-30543**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **30543**	RunNo: **41206**
Prep Date: **3/6/2017**	Analysis Date: **3/8/2017**	SeqNo: **1290777** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.0	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.9	85	115			
Chromium	0.48	0.0060	0.5000	0	96.0	85	115			
Copper	0.48	0.0060	0.5000	0	95.1	85	115			
Iron	0.48	0.020	0.5000	0	95.4	85	115			
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			
Silver	0.097	0.0050	0.1000	0	96.5	85	115			
Zinc	0.47	0.010	0.5000	0	94.7	85	115			

Sample ID **LCSLL-30543**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **30543**	RunNo: **41206**
Prep Date: **3/6/2017**	Analysis Date: **3/8/2017**	SeqNo: **1290778** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	80.5	50	150			J
Cadmium	0.0023	0.0020	0.002000	0	116	50	150			
Chromium	0.0056	0.0060	0.006000	0	93.7	50	150			J
Copper	0.0060	0.0060	0.006000	0	99.8	50	150			J
Iron	0.023	0.020	0.02000	0	114	50	150			
Manganese	0.0018	0.0020	0.002000	0	92.0	50	150			J
Silver	0.0054	0.0050	0.005000	0	109	50	150			
Zinc	0.0058	0.010	0.005000	0	115	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41115**	RunNo: **41115**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1287734** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	95.1	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41115**	RunNo: **41115**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1287735** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	98.9	50	150			J
Selenium	0.0012	0.0010	0.001000	0	122	50	150			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41115**	RunNo: **41115**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1287736** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290363** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Selenium	0.027	0.0010	0.02500	0	108	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290364** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Selenium	0.027	0.0010	0.02500	0	108	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290365** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID	**LCSLL**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B41191**	RunNo:	**41191**					
Prep Date:		Analysis Date:	**3/6/2017**	SeqNo:	**1290365**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	106	50	150			
Selenium	0.0012	0.0010	0.001000	0	120	50	150			

Sample ID	**LCSLL**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**C41191**	RunNo:	**41191**					
Prep Date:		Analysis Date:	**3/6/2017**	SeqNo:	**1290366**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00097	0.0010	0.001000	0	97.3	50	150			J
Selenium	0.0012	0.0010	0.001000	0	119	50	150			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B41191**	RunNo:	**41191**					
Prep Date:		Analysis Date:	**3/6/2017**	SeqNo:	**1290367**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**C41191**	RunNo:	**41191**					
Prep Date:		Analysis Date:	**3/6/2017**	SeqNo:	**1290368**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID	**MB-30543**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30543**	RunNo:	**41215**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/7/2017**	SeqNo:	**1291329**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-30543**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30543**	RunNo:	**41215**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/7/2017**	SeqNo:	**1291331**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.5	85	115			
Lead	0.012	0.00050	0.01250	0	97.9	85	115			
Selenium	0.023	0.0010	0.02500	0	93.9	85	115			

Sample ID	**MSLCSLL-30543**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**30543**	RunNo:	**41215**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/7/2017**	SeqNo:	**1291333**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	103	50	150			
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.00097	0.0010	0.001000	0	97.2	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID	**MB-30539**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30539**	RunNo:	**41181**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1290053**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-30539**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30539**	RunNo:	**41181**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1290054**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.8	80	120			

Sample ID	**1703003-002GMS**	SampType:	**MS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**OW-1**	Batch ID:	**30539**	RunNo:	**41181**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1290056**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	75	125			

Sample ID	**1703003-002GMSD**	SampType:	**MSD**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**OW-1**	Batch ID:	**30539**	RunNo:	**41181**					
Prep Date:	**3/6/2017**	Analysis Date:	**3/6/2017**	SeqNo:	**1290057**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	75	125	0.149	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41077**	RunNo: **41077**
Prep Date:	Analysis Date: **3/1/2017**	SeqNo: **1286882** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41077**	RunNo: **41077**
Prep Date:	Analysis Date: **3/1/2017**	SeqNo: **1286883** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	103	90	110			
Chloride	4.8	0.50	5.000	0	95.7	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.3	90	110			
Bromide	2.4	0.10	2.500	0	96.3	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.9	90	110			
Sulfate	9.7	0.50	10.00	0	97.0	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41133**	RunNo: **41133**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288331** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41133**	RunNo: **41133**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288332** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID	**MB-30482**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**30482**	RunNo:	**41134**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/2/2017**	SeqNo:	**1288828**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-30482**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**30482**	RunNo:	**41134**					
Prep Date:	**3/2/2017**	Analysis Date:	**3/2/2017**	SeqNo:	**1288840**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.096	0.010	0.1000	0	96.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **LCS-30500**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **30500**	RunNo: **41156**
Prep Date: **3/2/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289602** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.4	1.0	5.000	0	109	82.8	146			
Surr: DNOP	0.60		0.5000		119	98.8	141			

Sample ID **MB-30500**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **30500**	RunNo: **41156**
Prep Date: **3/2/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289603** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.4		1.000		143	98.8	141			S

Sample ID **LCS-30527**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **30527**	RunNo: **41156**
Prep Date: **3/6/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289827** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.59		0.5000		118	98.8	141			

Sample ID **MB-30527**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **30527**	RunNo: **41156**
Prep Date: **3/6/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289828** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	1.2		1.000		124	98.8	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R41125**	RunNo: **41125**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288037** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		88.7	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R41125**	RunNo: **41125**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288038** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	104	79.1	123			
Surr: BFB	19		20.00		95.0	52.3	138			

Sample ID **1703003-005BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-14**	Batch ID: **R41125**	RunNo: **41125**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288043** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	59	2.5	25.00	33.20	103	64.8	129			
Surr: BFB	1000		1000		101	52.3	138			

Sample ID **1703003-005BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-14**	Batch ID: **R41125**	RunNo: **41125**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288044** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	58	2.5	25.00	33.20	98.5	64.8	129	1.88	20	
Surr: BFB	1000		1000		101	52.3	138	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41128**	RunNo: **41128**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288207** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41128**	RunNo: **41128**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288207** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	8.4		10.00		84.3	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41128**	RunNo: **41128**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288208** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	119	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703003**

16-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017-1st Qtr-GW

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41128**	RunNo: **41128**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288208** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	24	1.0	20.00	0	118	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	8.8		10.00		87.9	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			

Sample ID **1703003-002a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **OW-1**	Batch ID: **W41128**	RunNo: **41128**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288211** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	117	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	19	1.0	20.00	0	97.1	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	8.4		10.00		83.9	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	9.4		10.00		94.5	70	130			

Sample ID **1703003-002a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **OW-1**	Batch ID: **W41128**	RunNo: **41128**
Prep Date:	Analysis Date: **3/2/2017**	SeqNo: **1288212** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	121	70	130	2.91	20	
Toluene	21	1.0	20.00	0	103	70	130	1.04	20	
Chlorobenzene	20	1.0	20.00	0	98.0	70	130	0.968	20	
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130	0.837	20	
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130	2.27	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		113	70	130	0	0	
Surr: 4-Bromofluorobenzene	8.3		10.00		83.1	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		107	70	130	0	0	
Surr: Toluene-d8	9.6		10.00		96.0	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1703003 RcptNo: 1

Received by/date: AS 02/28/17

Logged By: Lindsay Mangin 2/28/2017 4:02:00 PM

Completed By: Lindsay Mangin 3/1/2017 9:04:14 AM

Reviewed By: AG 03/01/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	AJ ~~Yes~~ ☑	No ☑	
9. Was preservative added to bottles?	Yes ☑	~~No~~ ☑ AJ	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 16 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? Yes
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: AJ

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks: For metals analysis, added 0.4ml HNO3 to -008D for acceptable pH. Held 24 hours prior to analysis.

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes			

3/1 @ 1023 AJ

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 - 1ST QTR - GW

Project #:
OW WELLS

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☑ Yes ☐ No

Sample Temperature: 5.4°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1702002	8260+MTBE	8015D (DRO/GRO/MRO)	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions		EPA METHOD 8011 FOR EDB								Air Bubbles (Y or N)
2/27/2017	700	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001	X														
2/27/2017	1415	aqueous	OW-1	MISC	MISC	-002	X	X	X	X	X		X								
2/27/2017	1545	aqueous	OW-10	MISC	MISC	-003	X	X	X	X	X		X								
2/27/2017	1228	aqueous	OW-13	MISC	MISC	-004	X	X	X	X											
2/27/2017	915	aqueous	OW-14	MISC	MISC	-005	X	X	X	X			X								
2/27/2017	1005	aqueous	OW-29	MISC	MISC	-006	X	X	X	X			X								
2/27/2017	1105	aqueous	OW-30	MISC	MISC	-007	X	X	X	X			X								
2/27/2017		aqueous	DUPLICATE	MISC	MISC	-008	X	X	X	X											
2/27/2017		aqueous	TRIP BLANK	VOAS	HCL	-009	X														

Date	Time	Relinquished by:	Received by:	Date	Time
2/28/17	1200			2/28/17	1302
2/28/17	1602			2/28/17	1602

Remarks:
DO NOT INCLUDE URANIUM "U" FOR WQCC METALS ANALYSIS

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 28, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017 1ST QTR MKTF Wells OrderNo.: 1703192

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 7:00:00 AM
Lab ID: 1703192-001 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.099	0.096	1.0	J	µg/L	1	3/6/2017 4:47:16 PM	W41163
Toluene	0.26	0.089	1.0	J	µg/L	1	3/6/2017 4:47:16 PM	W41163
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Naphthalene	ND	0.083	2.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Acetone	6.1	0.88	10	J	µg/L	1	3/6/2017 4:47:16 PM	W41163
Bromobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Bromoform	ND	0.21	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Bromomethane	ND	0.78	3.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
2-Butanone	ND	1.1	10		µg/L	1	3/6/2017 4:47:16 PM	W41163
Carbon disulfide	ND	0.60	10		µg/L	1	3/6/2017 4:47:16 PM	W41163
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Chloroethane	ND	0.23	2.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Chloroform	ND	0.089	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Chloromethane	ND	0.21	3.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Dibromomethane	ND	0.12	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/6/2017 4:47:16 PM	W41163

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 7:00:00 AM
Lab ID: 1703192-001 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
2-Hexanone	1.1	0.66	10	J	µg/L	1	3/6/2017 4:47:16 PM	W41163
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/6/2017 4:47:16 PM	W41163
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Styrene	ND	0.16	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/6/2017 4:47:16 PM	W41163
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/6/2017 4:47:16 PM	W41163
Surr: 1,2-Dichloroethane-d4	116	0	70-130		%Rec	1	3/6/2017 4:47:16 PM	W41163
Surr: 4-Bromofluorobenzene	87.0	0	70-130		%Rec	1	3/6/2017 4:47:16 PM	W41163
Surr: Dibromofluoromethane	116	0	70-130		%Rec	1	3/6/2017 4:47:16 PM	W41163
Surr: Toluene-d8	97.7	0	70-130		%Rec	1	3/6/2017 4:47:16 PM	W41163

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-37
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 10:25:00 AM
Lab ID: 1703192-002
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	6.2	0.36	1.0		mg/L	1	3/7/2017 2:12:33 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 2:12:33 AM	30527
Surr: DNOP	129	0	98.8-141		%Rec	1	3/7/2017 2:12:33 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	15	0.50	1.0		mg/L	20	3/6/2017 2:58:31 PM	G41160
Surr: BFB	120	0	52.3-138		%Rec	20	3/6/2017 2:58:31 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.16	0.050	0.10		mg/L	1	3/14/2017 5:11:42 PM	R41363
Chloride	180	5.0	10		mg/L	20	3/14/2017 5:24:06 PM	R41363
Bromide	1.0	0.031	0.10		mg/L	1	3/14/2017 5:11:42 PM	R41363
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 5:11:42 PM	R41363
Sulfate	12	0.096	0.50		mg/L	1	3/14/2017 5:11:42 PM	R41363
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 8:30:17 PM	R41363
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	1.2	0.0085	0.020		mg/L	10	3/17/2017 4:59:21 PM	A41488
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 10:15:53 AM	B41404
Calcium	56	2.5	5.0		mg/L	5	3/16/2017 10:20:54 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 10:15:53 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 10:15:53 AM	B41404
Iron	2.4	0.10	0.10	*	mg/L	5	3/16/2017 10:20:54 AM	B41404
Magnesium	13	0.50	1.0		mg/L	1	3/16/2017 10:15:53 AM	B41404
Manganese	1.1	0.0038	0.020	*	mg/L	10	3/17/2017 4:59:21 PM	A41488
Potassium	1.7	0.50	1.0		mg/L	1	3/16/2017 10:15:53 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/17/2017 4:54:06 PM	A41488
Sodium	240	2.5	5.0		mg/L	5	3/16/2017 10:20:54 AM	B41404
Zinc	0.024	0.0011	0.010		mg/L	1	3/17/2017 4:54:06 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	1.3	0.0040	0.010		mg/L	5	3/15/2017 11:25:04 AM	30567
Cadmium	ND	0.0015	0.0020		mg/L	1	3/9/2017 6:11:04 PM	30567
Chromium	ND	0.0027	0.0060		mg/L	1	3/9/2017 6:11:04 PM	30567
Copper	0.0038	0.0030	0.0060	J	mg/L	1	3/9/2017 6:11:04 PM	30567
Iron	11	0.40	0.40	*	mg/L	20	3/15/2017 11:26:50 AM	30567
Manganese	1.5	0.0014	0.010	*	mg/L	5	3/15/2017 11:25:04 AM	30567
Silver	ND	0.0015	0.0050		mg/L	1	3/9/2017 6:11:04 PM	30567
Zinc	0.027	0.0027	0.010		mg/L	1	3/9/2017 6:11:04 PM	30567
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0036	0.00014	0.0010		mg/L	1	3/6/2017 8:30:51 PM	C41191

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-37
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 10:25:00 AM
Lab ID: 1703192-002
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0020	0.00017	0.00050		mg/L	1	3/6/2017 8:30:51 PM	C41191
Selenium	0.0040	0.00021	0.0010		mg/L	1	3/6/2017 8:30:51 PM	C41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0040	0.00021	0.0010		mg/L	1	3/8/2017 1:14:54 PM	30567
Lead	0.027	0.00041	0.0025	*	mg/L	5	3/8/2017 1:45:13 PM	30567
Selenium	0.0034	0.00019	0.0010		mg/L	1	3/8/2017 1:14:54 PM	30567
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00019	0.000037	0.00020	J	mg/L	1	3/17/2017 3:58:35 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 11:53:23 AM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Bis(2-ethylhexyl)phthalate	20	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Carbazole	ND	2.3	10		µg/L	1	3/9/2017 11:53:23 AM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 11:53:23 AM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 11:53:23 AM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Di-n-butyl phthalate	3.6	2.4	10	J	µg/L	1	3/9/2017 11:53:23 AM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 11:53:23 AM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-37
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 10:25:00 AM
Lab ID: 1703192-002
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 11:53:23 AM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 11:53:23 AM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 11:53:23 AM	30544
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/9/2017 11:53:23 AM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 11:53:23 AM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 11:53:23 AM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 11:53:23 AM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
1-Methylnaphthalene	420	15	50		µg/L	5	3/10/2017 11:30:32 AM	30544
2-Methylnaphthalene	690	14	50		µg/L	5	3/10/2017 11:30:32 AM	30544
2-Methylphenol	ND	2.5	10		µg/L	1	3/9/2017 11:53:23 AM	30544
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/9/2017 11:53:23 AM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 11:53:23 AM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Naphthalene	890	13	50		µg/L	5	3/10/2017 11:30:32 AM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 11:53:23 AM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 11:53:23 AM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 11:53:23 AM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 11:53:23 AM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Phenol	ND	2.0	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 11:53:23 AM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-37
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 10:25:00 AM
Lab ID: 1703192-002
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 11:53:23 AM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 11:53:23 AM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 11:53:23 AM	30544
Surr: 2-Fluorophenol	26.8	0	15-98.1		%Rec	1	3/9/2017 11:53:23 AM	30544
Surr: Phenol-d5	14.7	0	15-80.7	S	%Rec	1	3/9/2017 11:53:23 AM	30544
Surr: 2,4,6-Tribromophenol	53.0	0	15-112		%Rec	1	3/9/2017 11:53:23 AM	30544
Surr: Nitrobenzene-d5	0	0	27.2-90.7	S	%Rec	1	3/9/2017 11:53:23 AM	30544
Surr: 2-Fluorobiphenyl	75.8	0	23.3-85.6		%Rec	1	3/9/2017 11:53:23 AM	30544
Surr: 4-Terphenyl-d14	48.7	0	27.6-107		%Rec	1	3/9/2017 11:53:23 AM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2000	4.8	50		µg/L	50	3/8/2017 2:50:11 PM	W41230
Toluene	180	0.45	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Ethylbenzene	24	0.56	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Methyl tert-butyl ether (MTBE)	32	0.74	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2,4-Trimethylbenzene	770	5.2	50		µg/L	50	3/8/2017 2:50:11 PM	W41230
1,3,5-Trimethylbenzene	100	0.58	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2-Dichloroethane (EDC)	8.3	0.58	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Naphthalene	490	0.42	10		µg/L	5	3/6/2017 8:36:25 PM	W41163
1-Methylnaphthalene	150	0.80	20		µg/L	5	3/6/2017 8:36:25 PM	W41163
2-Methylnaphthalene	200	0.76	20		µg/L	5	3/6/2017 8:36:25 PM	W41163
Acetone	ND	4.4	50		µg/L	5	3/6/2017 8:36:25 PM	W41163
Bromobenzene	ND	0.70	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Bromodichloromethane	ND	0.88	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Bromoform	ND	1.1	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Bromomethane	ND	3.9	15		µg/L	5	3/6/2017 8:36:25 PM	W41163
2-Butanone	ND	5.7	50		µg/L	5	3/6/2017 8:36:25 PM	W41163
Carbon disulfide	ND	3.0	50		µg/L	5	3/6/2017 8:36:25 PM	W41163
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Chlorobenzene	ND	0.53	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Chloroethane	ND	1.2	10		µg/L	5	3/6/2017 8:36:25 PM	W41163
Chloroform	ND	0.44	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Chloromethane	ND	1.1	15		µg/L	5	3/6/2017 8:36:25 PM	W41163
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
cis-1,3-Dichloropropene	ND	0.50	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	3/6/2017 8:36:25 PM	W41163
Dibromochloromethane	ND	0.39	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-37
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 10:25:00 AM
Lab ID: 1703192-002 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.60	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2-Dichlorobenzene	ND	0.60	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Dichlorodifluoromethane	ND	1.6	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,1-Dichloroethane	16	0.52	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,1-Dichloroethene	95	0.40	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
2,2-Dichloropropane	ND	0.60	10		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Hexachlorobutadiene	ND	1.9	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
2-Hexanone	ND	3.3	50		µg/L	5	3/6/2017 8:36:25 PM	W41163
Isopropylbenzene	82	0.49	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
4-Isopropyltoluene	6.4	0.70	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	3/6/2017 8:36:25 PM	W41163
Methylene Chloride	ND	0.54	15		µg/L	5	3/6/2017 8:36:25 PM	W41163
n-Butylbenzene	49	0.80	15		µg/L	5	3/6/2017 8:36:25 PM	W41163
n-Propylbenzene	110	0.66	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
sec-Butylbenzene	15	0.51	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Styrene	ND	0.78	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	3/6/2017 8:36:25 PM	W41163
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
trans-1,3-Dichloropropene	ND	0.45	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,1,1-Trichloroethane	24	0.36	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Trichloroethene (TCE)	210	0.88	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	3/6/2017 8:36:25 PM	W41163
Vinyl chloride	ND	0.89	5.0		µg/L	5	3/6/2017 8:36:25 PM	W41163
Xylenes, Total	960	16	75		µg/L	50	3/8/2017 2:50:11 PM	W41230
Surr: 1,2-Dichloroethane-d4	94.1	0	70-130		%Rec	5	3/6/2017 8:36:25 PM	W41163
Surr: 4-Bromofluorobenzene	90.6	0	70-130		%Rec	5	3/6/2017 8:36:25 PM	W41163
Surr: Dibromofluoromethane	91.6	0	70-130		%Rec	5	3/6/2017 8:36:25 PM	W41163

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-37
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 10:25:00 AM
Lab ID: 1703192-002
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	102	0	70-130		%Rec	5	3/6/2017 8:36:25 PM	W41163

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 2:18:00 PM
Lab ID: 1703192-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.7	0.36	1.0		mg/L	1	3/7/2017 2:33:55 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 2:33:55 AM	30527
Surr: DNOP	134	0	98.8-141		%Rec	1	3/7/2017 2:33:55 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.81	0.025	0.050		mg/L	1	3/6/2017 4:08:38 PM	G41160
Surr: BFB	132	0	52.3-138		%Rec	1	3/6/2017 4:08:38 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.62	0.050	0.10		mg/L	1	3/14/2017 6:01:21 PM	R41363
Chloride	180	5.0	10		mg/L	20	3/14/2017 6:13:46 PM	R41363
Bromide	1.1	0.031	0.10		mg/L	1	3/14/2017 6:01:21 PM	R41363
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 6:01:21 PM	R41363
Sulfate	0.22	0.096	0.50	J	mg/L	1	3/14/2017 6:01:21 PM	R41363
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 8:42:41 PM	R41363
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	2.0	0.0043	0.010	*	mg/L	5	3/16/2017 10:28:40 AM	B41404
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 10:26:49 AM	B41404
Calcium	81	0.50	1.0		mg/L	1	3/16/2017 10:26:49 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 10:26:49 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 10:26:49 AM	B41404
Iron	1.4	0.10	0.10	*	mg/L	5	3/16/2017 10:28:40 AM	B41404
Magnesium	20	0.50	1.0		mg/L	1	3/16/2017 10:26:49 AM	B41404
Manganese	1.9	0.0019	0.010	*	mg/L	5	3/16/2017 10:28:40 AM	B41404
Potassium	0.52	0.50	1.0	J	mg/L	1	3/16/2017 10:26:49 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/16/2017 10:26:49 AM	B41404
Sodium	260	2.5	5.0		mg/L	5	3/16/2017 10:28:40 AM	B41404
Zinc	0.024	0.0011	0.010		mg/L	1	3/17/2017 5:01:14 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	2.2	0.0040	0.010	*	mg/L	5	3/15/2017 11:28:37 AM	30567
Cadmium	ND	0.0015	0.0020		mg/L	1	3/9/2017 6:13:37 PM	30567
Chromium	ND	0.0027	0.0060		mg/L	1	3/9/2017 6:13:37 PM	30567
Copper	ND	0.0030	0.0060		mg/L	1	3/9/2017 6:13:37 PM	30567
Iron	4.9	0.20	0.20	*	mg/L	10	3/15/2017 11:30:36 AM	30567
Manganese	2.1	0.0014	0.010	*	mg/L	5	3/15/2017 11:28:37 AM	30567
Silver	ND	0.0015	0.0050		mg/L	1	3/9/2017 6:13:37 PM	30567
Zinc	0.012	0.0027	0.010		mg/L	1	3/9/2017 6:13:37 PM	30567
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0023	0.00014	0.0010		mg/L	1	3/6/2017 8:40:06 PM	C41191

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 2:18:00 PM
Lab ID: 1703192-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/6/2017 8:40:06 PM	C41191
Selenium	0.0043	0.00021	0.0010		mg/L	1	3/6/2017 8:40:06 PM	C41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0030	0.00021	0.0010		mg/L	1	3/8/2017 1:17:55 PM	30567
Lead	0.0047	0.000081	0.00050		mg/L	1	3/8/2017 1:17:55 PM	30567
Selenium	0.0039	0.00019	0.0010		mg/L	1	3/8/2017 1:17:55 PM	30567
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:00:34 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	5.5	2.6	10	J	µg/L	1	3/10/2017 10:34:34 AM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Aniline	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Anthracene	ND	2.5	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/10/2017 10:34:34 AM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Bis(2-ethylhexyl)phthalate	7.5	2.6	10	J	µg/L	1	3/10/2017 10:34:34 AM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Carbazole	2.6	2.3	10	J	µg/L	1	3/10/2017 10:34:34 AM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/10/2017 10:34:34 AM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Chrysene	ND	2.8	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/10/2017 10:34:34 AM	30544

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 2:18:00 PM
Lab ID: 1703192-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/10/2017 10:34:34 AM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/10/2017 10:34:34 AM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Diethyl phthalate	2.8	2.7	10	J	µg/L	1	3/10/2017 10:34:34 AM	30544
Dimethyl phthalate	3.2	2.4	10	J	µg/L	1	3/10/2017 10:34:34 AM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/10/2017 10:34:34 AM	30544
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/10/2017 10:34:34 AM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/10/2017 10:34:34 AM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/10/2017 10:34:34 AM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Fluorene	6.2	2.7	10	J	µg/L	1	3/10/2017 10:34:34 AM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Isophorone	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
1-Methylnaphthalene	63	2.9	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2-Methylnaphthalene	24	2.9	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2-Methylphenol	ND	2.5	10		µg/L	1	3/10/2017 10:34:34 AM	30544
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/10/2017 10:34:34 AM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/10/2017 10:34:34 AM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Naphthalene	17	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/10/2017 10:34:34 AM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/10/2017 10:34:34 AM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/10/2017 10:34:34 AM	30544
Phenanthrene	4.9	2.6	10	J	µg/L	1	3/10/2017 10:34:34 AM	30544
Phenol	ND	2.0	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Pyrene	ND	3.1	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Pyridine	ND	2.2	10		µg/L	1	3/10/2017 10:34:34 AM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 2:18:00 PM
Lab ID: 1703192-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/10/2017 10:34:34 AM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/10/2017 10:34:34 AM	30544
Surr: 2-Fluorophenol	15.1	0	15-98.1		%Rec	1	3/10/2017 10:34:34 AM	30544
Surr: Phenol-d5	11.2	0	15-80.7	S	%Rec	1	3/10/2017 10:34:34 AM	30544
Surr: 2,4,6-Tribromophenol	38.0	0	15-112		%Rec	1	3/10/2017 10:34:34 AM	30544
Surr: Nitrobenzene-d5	57.7	0	27.2-90.7		%Rec	1	3/10/2017 10:34:34 AM	30544
Surr: 2-Fluorobiphenyl	53.6	0	23.3-85.6		%Rec	1	3/10/2017 10:34:34 AM	30544
Surr: 4-Terphenyl-d14	38.1	0	27.6-107		%Rec	1	3/10/2017 10:34:34 AM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	27	0.096	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Toluene	0.33	0.089	1.0	J	µg/L	1	3/6/2017 8:07:54 PM	W41163
Ethylbenzene	26	0.11	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Methyl tert-butyl ether (MTBE)	93	0.15	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2,4-Trimethylbenzene	1.3	0.10	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2-Dichloroethane (EDC)	0.47	0.12	1.0	J	µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Naphthalene	31	0.083	2.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1-Methylnaphthalene	89	1.6	40		µg/L	10	3/6/2017 7:39:20 PM	W41163
2-Methylnaphthalene	30	0.15	4.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Acetone	ND	0.88	10		µg/L	1	3/6/2017 8:07:54 PM	W41163
Bromobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Bromoform	ND	0.21	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Bromomethane	ND	0.78	3.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
2-Butanone	ND	1.1	10		µg/L	1	3/6/2017 8:07:54 PM	W41163
Carbon disulfide	ND	0.60	10		µg/L	1	3/6/2017 8:07:54 PM	W41163
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Chloroethane	ND	0.23	2.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Chloroform	ND	0.089	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Chloromethane	ND	0.21	3.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
cis-1,2-DCE	3.1	0.20	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 2:18:00 PM
Lab ID: 1703192-003 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,1-Dichloroethane	0.85	0.10	1.0	J	µg/L	1	3/6/2017 8:07:54 PM	W41163
1,1-Dichloroethene	0.69	0.081	1.0	J	µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
2-Hexanone	ND	0.66	10		µg/L	1	3/6/2017 8:07:54 PM	W41163
Isopropylbenzene	4.7	0.098	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
4-Isopropyltoluene	1.0	0.14	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/6/2017 8:07:54 PM	W41163
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
n-Butylbenzene	3.0	0.16	3.0	J	µg/L	1	3/6/2017 8:07:54 PM	W41163
n-Propylbenzene	8.3	0.13	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
sec-Butylbenzene	3.0	0.10	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Styrene	ND	0.16	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
tert-Butylbenzene	0.31	0.10	1.0	J	µg/L	1	3/6/2017 8:07:54 PM	W41163
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/6/2017 8:07:54 PM	W41163
Xylenes, Total	0.85	0.32	1.5	J	µg/L	1	3/6/2017 8:07:54 PM	W41163
Surr: 1,2-Dichloroethane-d4	98.1	0	70-130		%Rec	1	3/6/2017 8:07:54 PM	W41163
Surr: 4-Bromofluorobenzene	88.2	0	70-130		%Rec	1	3/6/2017 8:07:54 PM	W41163
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	3/6/2017 8:07:54 PM	W41163

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 2:18:00 PM
Lab ID: 1703192-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	100	0	70-130		%Rec	1	3/6/2017 8:07:54 PM	W41163

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 11:38:00 AM
Lab ID: 1703192-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/8/2017 2:13:30 PM	30575
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	13	0.36	1.0		mg/L	1	3/7/2017 2:55:28 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 2:55:28 AM	30527
Surr: DNOP	136	0	98.8-141		%Rec	1	3/7/2017 2:55:28 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	35	1.2	2.5		mg/L	50	3/6/2017 4:32:02 PM	G41160
Surr: BFB	97.8	0	52.3-138		%Rec	50	3/6/2017 4:32:02 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.60	0.25	0.50		mg/L	5	3/14/2017 6:26:10 PM	R41363
Chloride	140	5.0	10		mg/L	20	3/14/2017 6:38:35 PM	R41363
Bromide	1.2	0.15	0.50		mg/L	5	3/14/2017 6:26:10 PM	R41363
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	3/14/2017 6:26:10 PM	R41363
Sulfate	ND	0.48	2.5		mg/L	5	3/14/2017 6:26:10 PM	R41363
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 8:55:06 PM	R41363
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	5.4	0.0085	0.020	*	mg/L	10	3/17/2017 5:11:07 PM	A41488
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 10:30:35 AM	B41404
Calcium	130	2.5	5.0		mg/L	5	3/16/2017 10:32:13 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 10:30:35 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 10:30:35 AM	B41404
Iron	17	0.40	0.40	*	mg/L	20	3/17/2017 5:13:04 PM	A41488
Magnesium	36	0.50	1.0		mg/L	1	3/16/2017 10:30:35 AM	B41404
Manganese	2.1	0.0019	0.010	*	mg/L	5	3/16/2017 10:32:13 AM	B41404
Potassium	0.57	0.50	1.0	J	mg/L	1	3/16/2017 10:30:35 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/16/2017 10:30:35 AM	B41404
Sodium	200	2.5	5.0		mg/L	5	3/16/2017 10:32:13 AM	B41404
Zinc	0.022	0.0011	0.010		mg/L	1	3/17/2017 5:09:27 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	5.8	0.0079	0.020	*	mg/L	10	3/15/2017 11:32:31 AM	30567
Cadmium	ND	0.0015	0.0020		mg/L	1	3/9/2017 6:15:37 PM	30567
Chromium	ND	0.0027	0.0060		mg/L	1	3/9/2017 6:15:37 PM	30567
Copper	ND	0.0030	0.0060		mg/L	1	3/9/2017 6:15:37 PM	30567
Iron	17	1.0	1.0	*	mg/L	50	3/15/2017 11:34:28 AM	30567
Manganese	2.1	0.0027	0.020	*	mg/L	10	3/15/2017 11:32:31 AM	30567
Silver	ND	0.0015	0.0050		mg/L	1	3/9/2017 6:15:37 PM	30567
Zinc	0.066	0.0027	0.010		mg/L	1	3/9/2017 6:15:37 PM	30567

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 11:38:00 AM
Lab ID: 1703192-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.012	0.00014	0.0010	*	mg/L	1	3/6/2017 8:43:09 PM	C41191
Lead	0.0020	0.00017	0.00050		mg/L	1	3/6/2017 8:43:09 PM	C41191
Selenium	0.0036	0.00021	0.0010		mg/L	1	3/6/2017 8:43:09 PM	C41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.013	0.00021	0.0010	*	mg/L	1	3/8/2017 1:20:55 PM	30567
Lead	0.0092	0.000081	0.00050		mg/L	1	3/8/2017 1:20:55 PM	30567
Selenium	0.0032	0.00019	0.0010		mg/L	1	3/8/2017 1:20:55 PM	30567
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:02:33 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	6.7	2.6	10	J	µg/L	1	3/9/2017 12:49:31 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 12:49:31 PM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Bis(2-ethylhexyl)phthalate	7.2	2.6	10	J	µg/L	1	3/9/2017 12:49:31 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Carbazole	6.4	2.3	10	J	µg/L	1	3/9/2017 12:49:31 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 12:49:31 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 12:49:31 PM	30544

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 11:38:00 AM
Lab ID: 1703192-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 12:49:31 PM	30544
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 12:49:31 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 12:49:31 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 12:49:31 PM	30544
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/9/2017 12:49:31 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 12:49:31 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 12:49:31 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Fluorene	8.6	2.7	10	J	µg/L	1	3/9/2017 12:49:31 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
1-Methylnaphthalene	190	2.9	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2-Methylnaphthalene	320	14	50		µg/L	5	3/10/2017 11:58:36 AM	30544
2-Methylphenol	ND	2.5	10		µg/L	1	3/9/2017 12:49:31 PM	30544
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/9/2017 12:49:31 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 12:49:31 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Naphthalene	280	13	50		µg/L	5	3/10/2017 11:58:36 AM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 12:49:31 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 12:49:31 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 12:49:31 PM	30544
Phenanthrene	5.7	2.6	10	J	µg/L	1	3/9/2017 12:49:31 PM	30544
Phenol	29	2.0	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 12:49:31 PM	30544

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Client Sample ID: MKTF-36
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 11:38:00 AM
Lab ID: 1703192-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 12:49:31 PM	30544
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 12:49:31 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 12:49:31 PM	30544
Surr: 2-Fluorophenol	22.2	0	15-98.1		%Rec	1	3/9/2017 12:49:31 PM	30544
Surr: Phenol-d5	16.4	0	15-80.7		%Rec	1	3/9/2017 12:49:31 PM	30544
Surr: 2,4,6-Tribromophenol	41.0	0	15-112		%Rec	1	3/9/2017 12:49:31 PM	30544
Surr: Nitrobenzene-d5	60.8	0	27.2-90.7		%Rec	1	3/9/2017 12:49:31 PM	30544
Surr: 2-Fluorobiphenyl	53.0	0	23.3-85.6		%Rec	1	3/9/2017 12:49:31 PM	30544
Surr: 4-Terphenyl-d14	31.3	0	27.6-107		%Rec	1	3/9/2017 12:49:31 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	8600	48	500		µg/L	500	3/7/2017 10:57:32 PM	W41205
Toluene	13	4.5	50	J	µg/L	50	3/7/2017 8:05:14 PM	W41205
Ethylbenzene	1400	5.6	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Methyl tert-butyl ether (MTBE)	8000	7.4	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2,4-Trimethylbenzene	19	5.2	50	J	µg/L	50	3/7/2017 8:05:14 PM	W41205
1,3,5-Trimethylbenzene	ND	5.8	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2-Dichloroethane (EDC)	ND	5.8	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Naphthalene	620	4.2	100		µg/L	50	3/7/2017 8:05:14 PM	W41205
1-Methylnaphthalene	360	8.0	200		µg/L	50	3/7/2017 8:05:14 PM	W41205
2-Methylnaphthalene	480	7.6	200		µg/L	50	3/7/2017 8:05:14 PM	W41205
Acetone	ND	44	500		µg/L	50	3/7/2017 8:05:14 PM	W41205
Bromobenzene	ND	7.0	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Bromodichloromethane	ND	8.8	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Bromoform	ND	11	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Bromomethane	ND	39	150		µg/L	50	3/7/2017 8:05:14 PM	W41205
2-Butanone	ND	57	500		µg/L	50	3/7/2017 8:05:14 PM	W41205
Carbon disulfide	ND	30	500		µg/L	50	3/7/2017 8:05:14 PM	W41205
Carbon Tetrachloride	ND	5.5	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Chlorobenzene	ND	5.3	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Chloroethane	ND	12	100		µg/L	50	3/7/2017 8:05:14 PM	W41205
Chloroform	ND	4.4	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Chloromethane	ND	11	150		µg/L	50	3/7/2017 8:05:14 PM	W41205
2-Chlorotoluene	ND	20	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
4-Chlorotoluene	ND	20	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
cis-1,2-DCE	ND	10	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
cis-1,3-Dichloropropene	ND	5.0	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	3/7/2017 8:05:14 PM	W41205

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Client Sample ID: MKTF-36
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 11:38:00 AM
Lab ID: 1703192-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	3.9	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Dibromomethane	ND	6.0	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2-Dichlorobenzene	ND	6.0	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,3-Dichlorobenzene	ND	7.2	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,4-Dichlorobenzene	ND	20	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Dichlorodifluoromethane	ND	16	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,1-Dichloroethane	ND	5.2	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,1-Dichloroethene	ND	4.0	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2-Dichloropropane	ND	5.1	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,3-Dichloropropane	ND	7.8	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
2,2-Dichloropropane	ND	6.0	100		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,1-Dichloropropene	ND	6.7	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Hexachlorobutadiene	ND	19	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
2-Hexanone	ND	33	500		µg/L	50	3/7/2017 8:05:14 PM	W41205
Isopropylbenzene	31	4.9	50	J	µg/L	50	3/7/2017 8:05:14 PM	W41205
4-Isopropyltoluene	ND	7.0	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
4-Methyl-2-pentanone	ND	35	500		µg/L	50	3/7/2017 8:05:14 PM	W41205
Methylene Chloride	ND	5.4	150		µg/L	50	3/7/2017 8:05:14 PM	W41205
n-Butylbenzene	ND	8.0	150		µg/L	50	3/7/2017 8:05:14 PM	W41205
n-Propylbenzene	78	6.6	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
sec-Butylbenzene	18	5.1	50	J	µg/L	50	3/7/2017 8:05:14 PM	W41205
Styrene	ND	7.8	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
tert-Butylbenzene	ND	5.2	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,1,1,2-Tetrachloroethane	ND	5.6	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	3/7/2017 8:05:14 PM	W41205
Tetrachloroethene (PCE)	ND	7.6	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
trans-1,2-DCE	ND	9.2	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
trans-1,3-Dichloropropene	ND	4.5	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2,3-Trichlorobenzene	ND	5.6	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2,4-Trichlorobenzene	ND	6.6	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Trichloroethene (TCE)	ND	8.8	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Trichlorofluoromethane	ND	9.1	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
1,2,3-Trichloropropane	ND	19	100		µg/L	50	3/7/2017 8:05:14 PM	W41205
Vinyl chloride	ND	8.9	50		µg/L	50	3/7/2017 8:05:14 PM	W41205
Xylenes, Total	32	16	75	J	µg/L	50	3/7/2017 8:05:14 PM	W41205
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	50	3/7/2017 8:05:14 PM	W41205
Surr: 4-Bromofluorobenzene	86.9	0	70-130		%Rec	50	3/7/2017 8:05:14 PM	W41205

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Client Sample ID: MKTF-36
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Collection Date: 3/1/2017 11:38:00 AM
Lab ID: 1703192-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	108	0	70-130		%Rec	50	3/7/2017 8:05:14 PM	W41205
Surr: Toluene-d8	95.8	0	70-130		%Rec	50	3/7/2017 8:05:14 PM	W41205

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 12:20:00 PM
Lab ID: 1703192-005
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/8/2017 2:28:39 PM	30575
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.1	0.36	1.0		mg/L	1	3/7/2017 3:16:58 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 3:16:58 AM	30527
Surr: DNOP	135	0	98.8-141		%Rec	1	3/7/2017 3:16:58 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.73	0.025	0.050		mg/L	1	3/7/2017 10:42:20 AM	G41160
Surr: BFB	107	0	52.3-138		%Rec	1	3/7/2017 10:42:20 AM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.94	0.050	0.10		mg/L	1	3/14/2017 6:51:00 PM	R41363
Chloride	71	5.0	10		mg/L	20	3/14/2017 7:03:25 PM	R41363
Bromide	0.97	0.031	0.10		mg/L	1	3/14/2017 6:51:00 PM	R41363
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 6:51:00 PM	R41363
Sulfate	410	1.9	10		mg/L	20	3/14/2017 7:03:25 PM	R41363
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 9:07:30 PM	R41363
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.060	0.00085	0.0020		mg/L	1	3/16/2017 10:41:48 AM	B41404
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 10:41:48 AM	B41404
Calcium	150	2.5	5.0		mg/L	5	3/16/2017 10:43:28 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 10:41:48 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 10:41:48 AM	B41404
Iron	3.1	0.10	0.10	*	mg/L	5	3/16/2017 10:43:28 AM	B41404
Magnesium	41	0.50	1.0		mg/L	1	3/16/2017 10:41:48 AM	B41404
Manganese	3.3	0.0019	0.010	*	mg/L	5	3/16/2017 10:43:28 AM	B41404
Potassium	ND	0.50	1.0		mg/L	1	3/16/2017 10:41:48 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/16/2017 10:41:48 AM	B41404
Sodium	120	2.5	5.0		mg/L	5	3/16/2017 10:43:28 AM	B41404
Zinc	0.023	0.0011	0.010		mg/L	1	3/17/2017 5:15:11 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	1.9	0.0079	0.020		mg/L	10	3/15/2017 11:36:15 AM	30567
Cadmium	ND	0.0015	0.0020		mg/L	1	3/9/2017 6:17:16 PM	30567
Chromium	0.0055	0.0027	0.0060	J	mg/L	1	3/9/2017 6:17:16 PM	30567
Copper	ND	0.0030	0.0060		mg/L	1	3/9/2017 6:17:16 PM	30567
Iron	8.6	0.20	0.20	*	mg/L	10	3/15/2017 11:36:15 AM	30567
Manganese	4.3	0.0027	0.020	*	mg/L	10	3/15/2017 11:36:15 AM	30567
Silver	ND	0.0015	0.0050		mg/L	1	3/9/2017 6:17:16 PM	30567
Zinc	0.016	0.0027	0.010		mg/L	1	3/9/2017 6:17:16 PM	30567

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 12:20:00 PM
Lab ID: 1703192-005
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00072	0.00069	0.0050	J	mg/L	5	3/7/2017 9:04:07 PM	C41216
Lead	ND	0.00017	0.00050		mg/L	1	3/6/2017 8:46:12 PM	C41191
Selenium	0.0040	0.00021	0.0010		mg/L	1	3/6/2017 8:46:12 PM	C41191
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0021	0.00021	0.0010		mg/L	1	3/8/2017 1:23:56 PM	30567
Lead	0.0087	0.000081	0.00050		mg/L	1	3/8/2017 1:23:56 PM	30567
Selenium	0.0029	0.00019	0.0010		mg/L	1	3/8/2017 1:23:56 PM	30567
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:04:33 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 1:17:56 PM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Bis(2-ethylhexyl)phthalate	7.6	2.6	10	J	µg/L	1	3/9/2017 1:17:56 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Carbazole	ND	2.3	10		µg/L	1	3/9/2017 1:17:56 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 1:17:56 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 12:20:00 PM
Lab ID: 1703192-005
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 1:17:56 PM	30544
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 1:17:56 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 1:17:56 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 1:17:56 PM	30544
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/9/2017 1:17:56 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 1:17:56 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 1:17:56 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2-Methylphenol	ND	2.5	10		µg/L	1	3/9/2017 1:17:56 PM	30544
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/9/2017 1:17:56 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 1:17:56 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Naphthalene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 1:17:56 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 1:17:56 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 1:17:56 PM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Phenol	ND	2.0	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 1:17:56 PM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 12:20:00 PM
Lab ID: 1703192-005 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 1:17:56 PM	30544
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 1:17:56 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 1:17:56 PM	30544
Surr: 2-Fluorophenol	21.0	0	15-98.1		%Rec	1	3/9/2017 1:17:56 PM	30544
Surr: Phenol-d5	14.2	0	15-80.7	S	%Rec	1	3/9/2017 1:17:56 PM	30544
Surr: 2,4,6-Tribromophenol	36.4	0	15-112		%Rec	1	3/9/2017 1:17:56 PM	30544
Surr: Nitrobenzene-d5	71.5	0	27.2-90.7		%Rec	1	3/9/2017 1:17:56 PM	30544
Surr: 2-Fluorobiphenyl	66.6	0	23.3-85.6		%Rec	1	3/9/2017 1:17:56 PM	30544
Surr: 4-Terphenyl-d14	35.0	0	27.6-107		%Rec	1	3/9/2017 1:17:56 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	53	0.096	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Toluene	0.11	0.089	1.0	J	µg/L	1	3/6/2017 5:16:08 PM	W41163
Ethylbenzene	2.7	0.11	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Methyl tert-butyl ether (MTBE)	7.9	0.15	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Naphthalene	0.18	0.083	2.0	J	µg/L	1	3/6/2017 5:16:08 PM	W41163
1-Methylnaphthalene	0.44	0.16	4.0	J	µg/L	1	3/6/2017 5:16:08 PM	W41163
2-Methylnaphthalene	0.32	0.15	4.0	J	µg/L	1	3/6/2017 5:16:08 PM	W41163
Acetone	ND	0.88	10		µg/L	1	3/6/2017 5:16:08 PM	W41163
Bromobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Bromoform	ND	0.21	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Bromomethane	ND	0.78	3.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
2-Butanone	ND	1.1	10		µg/L	1	3/6/2017 5:16:08 PM	W41163
Carbon disulfide	ND	0.60	10		µg/L	1	3/6/2017 5:16:08 PM	W41163
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Chlorobenzene	0.51	0.11	1.0	J	µg/L	1	3/6/2017 5:16:08 PM	W41163
Chloroethane	ND	0.23	2.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Chloroform	ND	0.089	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Chloromethane	ND	0.21	3.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/6/2017 5:16:08 PM	W41163

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 12:20:00 PM
Lab ID: 1703192-005 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Dibromomethane	ND	0.12	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,4-Dichlorobenzene	1.7	0.40	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
2-Hexanone	ND	0.66	10		µg/L	1	3/6/2017 5:16:08 PM	W41163
Isopropylbenzene	1.4	0.098	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
4-Isopropyltoluene	0.16	0.14	1.0	J	µg/L	1	3/6/2017 5:16:08 PM	W41163
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/6/2017 5:16:08 PM	W41163
Methylene Chloride	0.66	0.11	3.0	J	µg/L	1	3/6/2017 5:16:08 PM	W41163
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
n-Propylbenzene	3.8	0.13	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
sec-Butylbenzene	2.0	0.10	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Styrene	ND	0.16	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/6/2017 5:16:08 PM	W41163
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/6/2017 5:16:08 PM	W41163
Surr: 1,2-Dichloroethane-d4	88.4	0	70-130		%Rec	1	3/6/2017 5:16:08 PM	W41163
Surr: 4-Bromofluorobenzene	90.8	0	70-130		%Rec	1	3/6/2017 5:16:08 PM	W41163

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 12:20:00 PM
Lab ID: 1703192-005
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	90.9	0	70-130		%Rec	1	3/6/2017 5:16:08 PM	W41163
Surr: Toluene-d8	98.3	0	70-130		%Rec	1	3/6/2017 5:16:08 PM	W41163

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 1:27:00 PM
Lab ID: 1703192-006 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/7/2017 3:38:37 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 3:38:37 AM	30527
Surr: DNOP	137	0	98.8-141		%Rec	1	3/7/2017 3:38:37 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/6/2017 5:18:53 PM	G41160
Surr: BFB	91.5	0	52.3-138		%Rec	1	3/6/2017 5:18:53 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.45	0.050	0.10		mg/L	1	3/14/2017 7:15:49 PM	R41363
Chloride	310	5.0	10		mg/L	20	3/14/2017 7:28:14 PM	R41363
Bromide	2.3	0.031	0.10		mg/L	1	3/14/2017 7:15:49 PM	R41363
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 7:15:49 PM	R41363
Sulfate	220	1.9	10		mg/L	20	3/14/2017 7:28:14 PM	R41363
Nitrate+Nitrite as N	9.0	0.13	1.0		mg/L	5	3/14/2017 9:19:55 PM	R41363
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.079	0.00085	0.0020		mg/L	1	3/16/2017 10:45:23 AM	B41404
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 10:45:23 AM	B41404
Calcium	69	0.50	1.0		mg/L	1	3/16/2017 10:45:23 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 10:45:23 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 10:45:23 AM	B41404
Iron	ND	0.020	0.020		mg/L	1	3/16/2017 10:45:23 AM	B41404
Magnesium	16	0.50	1.0		mg/L	1	3/16/2017 10:45:23 AM	B41404
Manganese	0.00076	0.00038	0.0020	J	mg/L	1	3/16/2017 10:45:23 AM	B41404
Potassium	1.1	0.50	1.0		mg/L	1	3/16/2017 10:45:23 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/16/2017 10:45:23 AM	B41404
Sodium	340	2.5	5.0		mg/L	5	3/16/2017 10:47:16 AM	B41404
Zinc	0.028	0.0011	0.010		mg/L	1	3/17/2017 5:16:50 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	0.11	0.00079	0.0020		mg/L	1	3/9/2017 6:18:56 PM	30567
Cadmium	ND	0.0015	0.0020		mg/L	1	3/9/2017 6:18:56 PM	30567
Chromium	ND	0.0027	0.0060		mg/L	1	3/9/2017 6:18:56 PM	30567
Copper	ND	0.0030	0.0060		mg/L	1	3/9/2017 6:18:56 PM	30567
Iron	1.8	0.10	0.10	*	mg/L	5	3/15/2017 11:38:14 AM	30567
Manganese	0.049	0.00027	0.0020		mg/L	1	3/9/2017 6:18:56 PM	30567
Silver	ND	0.0015	0.0050		mg/L	1	3/9/2017 6:18:56 PM	30567
Zinc	0.018	0.0027	0.010		mg/L	1	3/9/2017 6:18:56 PM	30567
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0025	0.00069	0.0050	J	mg/L	5	3/7/2017 9:09:15 PM	C41216

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 1:27:00 PM
Lab ID: 1703192-006
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/6/2017 8:49:16 PM	C41191
Selenium	0.0045	0.0042	0.020	J	mg/L	20	3/7/2017 9:14:23 PM	C41216
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0034	0.0011	0.0050	J	mg/L	5	3/8/2017 1:48:13 PM	30567
Lead	0.0020	0.000081	0.00050		mg/L	1	3/8/2017 1:26:56 PM	30567
Selenium	0.011	0.00094	0.0050		mg/L	5	3/8/2017 1:48:13 PM	30567
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00018	0.000037	0.00020	J	mg/L	1	3/17/2017 4:06:33 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 1:46:24 PM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Bis(2-ethylhexyl)phthalate	7.8	2.6	10	J	µg/L	1	3/9/2017 1:46:24 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Carbazole	ND	2.3	10		µg/L	1	3/9/2017 1:46:24 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 1:46:24 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Di-n-butyl phthalate	2.7	2.4	10	J	µg/L	1	3/9/2017 1:46:24 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 1:46:24 PM	30544

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Lab ID: 1703192-006
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 1:46:24 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 1:46:24 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 1:46:24 PM	30544
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/9/2017 1:46:24 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 1:46:24 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 1:46:24 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2-Methylphenol	ND	2.5	10		µg/L	1	3/9/2017 1:46:24 PM	30544
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/9/2017 1:46:24 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 1:46:24 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Naphthalene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 1:46:24 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 1:46:24 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 1:46:24 PM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Phenol	ND	2.0	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 1:46:24 PM	30544

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 1:27:00 PM
Lab ID: 1703192-006
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 1:46:24 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 1:46:24 PM	30544
Surr: 2-Fluorophenol	58.4	0	15-98.1		%Rec	1	3/9/2017 1:46:24 PM	30544
Surr: Phenol-d5	36.6	0	15-80.7		%Rec	1	3/9/2017 1:46:24 PM	30544
Surr: 2,4,6-Tribromophenol	79.6	0	15-112		%Rec	1	3/9/2017 1:46:24 PM	30544
Surr: Nitrobenzene-d5	80.0	0	27.2-90.7		%Rec	1	3/9/2017 1:46:24 PM	30544
Surr: 2-Fluorobiphenyl	81.5	0	23.3-85.6		%Rec	1	3/9/2017 1:46:24 PM	30544
Surr: 4-Terphenyl-d14	71.5	0	27.6-107		%Rec	1	3/9/2017 1:46:24 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Toluene	ND	0.089	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Methyl tert-butyl ether (MTBE)	0.58	0.15	1.0	J	µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Naphthalene	ND	0.083	2.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Acetone	ND	0.88	10		µg/L	1	3/6/2017 6:42:06 PM	W41163
Bromobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Bromoform	ND	0.21	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Bromomethane	ND	0.78	3.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
2-Butanone	ND	1.1	10		µg/L	1	3/6/2017 6:42:06 PM	W41163
Carbon disulfide	ND	0.60	10		µg/L	1	3/6/2017 6:42:06 PM	W41163
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Chloroethane	ND	0.23	2.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Chloroform	ND	0.089	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Chloromethane	ND	0.21	3.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163

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Lab ID: 1703192-006 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,1-Dichloroethane	0.47	0.10	1.0	J	µg/L	1	3/6/2017 6:42:06 PM	W41163
1,1-Dichloroethene	0.71	0.081	1.0	J	µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
2-Hexanone	ND	0.66	10		µg/L	1	3/6/2017 6:42:06 PM	W41163
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/6/2017 6:42:06 PM	W41163
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Styrene	ND	0.16	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Trichloroethene (TCE)	2.2	0.18	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/6/2017 6:42:06 PM	W41163
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/6/2017 6:42:06 PM	W41163
Surr: 1,2-Dichloroethane-d4	121	0	70-130		%Rec	1	3/6/2017 6:42:06 PM	W41163
Surr: 4-Bromofluorobenzene	87.1	0	70-130		%Rec	1	3/6/2017 6:42:06 PM	W41163
Surr: Dibromofluoromethane	118	0	70-130		%Rec	1	3/6/2017 6:42:06 PM	W41163

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017 1:27:00 PM
Lab ID: 1703192-006
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	97.2	0	70-130		%Rec	1	3/6/2017 6:42:06 PM	W41163

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date:
Lab ID: 1703192-007
Matrix: TRIP BLANK
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Toluene	0.096	0.089	1.0	J	µg/L	1	3/6/2017 4:18:23 PM	W41163
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Naphthalene	ND	0.083	2.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Acetone	8.0	0.88	10	J	µg/L	1	3/6/2017 4:18:23 PM	W41163
Bromobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Bromoform	ND	0.21	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Bromomethane	ND	0.78	3.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
2-Butanone	ND	1.1	10		µg/L	1	3/6/2017 4:18:23 PM	W41163
Carbon disulfide	ND	0.60	10		µg/L	1	3/6/2017 4:18:23 PM	W41163
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Chloroethane	ND	0.23	2.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Chloroform	ND	0.089	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Chloromethane	ND	0.21	3.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Dibromomethane	ND	0.12	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/6/2017 4:18:23 PM	W41163

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date:
Lab ID: 1703192-007
Matrix: TRIP BLANK
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
2-Hexanone	ND	0.66	10		µg/L	1	3/6/2017 4:18:23 PM	W41163
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/6/2017 4:18:23 PM	W41163
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Styrene	ND	0.16	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/6/2017 4:18:23 PM	W41163
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/6/2017 4:18:23 PM	W41163
Surr: 1,2-Dichloroethane-d4	115	0	70-130		%Rec	1	3/6/2017 4:18:23 PM	W41163
Surr: 4-Bromofluorobenzene	85.7	0	70-130		%Rec	1	3/6/2017 4:18:23 PM	W41163
Surr: Dibromofluoromethane	117	0	70-130		%Rec	1	3/6/2017 4:18:23 PM	W41163
Surr: Toluene-d8	97.4	0	70-130		%Rec	1	3/6/2017 4:18:23 PM	W41163

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BLIND DUPLICATE
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017
Lab ID: 1703192-008
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/8/2017 2:43:52 PM	30575
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.4	0.36	1.0		mg/L	1	3/7/2017 4:00:06 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 4:00:06 AM	30527
Surr: DNOP	136	0	98.8-141		%Rec	1	3/7/2017 4:00:06 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.72	0.025	0.050		mg/L	1	3/7/2017 11:05:56 AM	G41160
Surr: BFB	107	0	52.3-138		%Rec	1	3/7/2017 11:05:56 AM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.93	0.050	0.10		mg/L	1	3/14/2017 7:40:38 PM	R41363
Chloride	69	5.0	10		mg/L	20	3/14/2017 7:53:02 PM	R41363
Bromide	0.97	0.031	0.10		mg/L	1	3/14/2017 7:40:38 PM	R41363
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 7:40:38 PM	R41363
Sulfate	410	1.9	10		mg/L	20	3/14/2017 7:53:02 PM	R41363
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 9:32:20 PM	R41363
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	0.059	0.00085	0.0020		mg/L	1	3/16/2017 10:49:10 AM	B41404
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 10:49:10 AM	B41404
Calcium	150	2.5	5.0		mg/L	5	3/16/2017 10:50:49 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 10:49:10 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 10:49:10 AM	B41404
Iron	3.3	0.10	0.10	*	mg/L	5	3/16/2017 10:50:49 AM	B41404
Magnesium	41	0.50	1.0		mg/L	1	3/16/2017 10:49:10 AM	B41404
Manganese	3.5	0.0019	0.010	*	mg/L	5	3/16/2017 10:50:49 AM	B41404
Potassium	ND	0.50	1.0		mg/L	1	3/16/2017 10:49:10 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/16/2017 10:49:10 AM	B41404
Sodium	120	2.5	5.0		mg/L	5	3/16/2017 10:50:49 AM	B41404
Zinc	0.020	0.0011	0.010		mg/L	1	3/17/2017 5:18:45 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	2.2	0.0079	0.020	*	mg/L	10	3/15/2017 11:40:08 AM	30567
Cadmium	ND	0.0015	0.0020		mg/L	1	3/9/2017 6:26:37 PM	30567
Chromium	0.0065	0.0027	0.0060		mg/L	1	3/9/2017 6:26:37 PM	30567
Copper	ND	0.0030	0.0060		mg/L	1	3/9/2017 6:26:37 PM	30567
Iron	12	0.40	0.40	*	mg/L	20	3/16/2017 9:31:41 AM	30567
Manganese	4.4	0.0027	0.020	*	mg/L	10	3/15/2017 11:40:08 AM	30567
Silver	ND	0.0015	0.0050		mg/L	1	3/9/2017 6:26:37 PM	30567
Zinc	0.022	0.0027	0.010		mg/L	1	3/9/2017 6:26:37 PM	30567

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BLIND DUPLICATE
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017
Lab ID: 1703192-008
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0014	0.010		mg/L	10	3/7/2017 9:19:32 PM	C41216
Lead	ND	0.00017	0.00050		mg/L	1	3/6/2017 8:52:19 PM	C41191
Selenium	ND	0.0021	0.010		mg/L	10	3/7/2017 9:19:32 PM	C41216
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0027	0.00021	0.0010		mg/L	1	3/8/2017 1:29:57 PM	30567
Lead	0.011	0.000081	0.00050		mg/L	1	3/8/2017 1:29:57 PM	30567
Selenium	0.0030	0.00019	0.0010		mg/L	1	3/8/2017 1:29:57 PM	30567
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00016	0.000037	0.00020	J	mg/L	1	3/17/2017 4:08:35 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 2:15:02 PM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Bis(2-ethylhexyl)phthalate	7.3	2.6	10	J	µg/L	1	3/9/2017 2:15:02 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Carbazole	ND	2.3	10		µg/L	1	3/9/2017 2:15:02 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 2:15:02 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Di-n-butyl phthalate	3.1	2.4	10	J	µg/L	1	3/9/2017 2:15:02 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BLIND DUPLICATE
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/1/2017
Lab ID: 1703192-008
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 2:15:02 PM	30544
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 2:15:02 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 2:15:02 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 2:15:02 PM	30544
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/9/2017 2:15:02 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 2:15:02 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 2:15:02 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2-Methylphenol	ND	2.5	10		µg/L	1	3/9/2017 2:15:02 PM	30544
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/9/2017 2:15:02 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 2:15:02 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Naphthalene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 2:15:02 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 2:15:02 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 2:15:02 PM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Phenol	ND	2.0	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 2:15:02 PM	30544

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Hall Environmental Analysis Laboratory, Inc.

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Lab ID: 1703192-008
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 2:15:02 PM	30544
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 2:15:02 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 2:15:02 PM	30544
Surr: 2-Fluorophenol	21.7	0	15-98.1		%Rec	1	3/9/2017 2:15:02 PM	30544
Surr: Phenol-d5	25.8	0	15-80.7		%Rec	1	3/9/2017 2:15:02 PM	30544
Surr: 2,4,6-Tribromophenol	37.6	0	15-112		%Rec	1	3/9/2017 2:15:02 PM	30544
Surr: Nitrobenzene-d5	65.5	0	27.2-90.7		%Rec	1	3/9/2017 2:15:02 PM	30544
Surr: 2-Fluorobiphenyl	70.1	0	23.3-85.6		%Rec	1	3/9/2017 2:15:02 PM	30544
Surr: 4-Terphenyl-d14	72.1	0	27.6-107		%Rec	1	3/9/2017 2:15:02 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	54	0.096	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Toluene	0.12	0.089	1.0	J	µg/L	1	3/6/2017 7:10:43 PM	W41163
Ethylbenzene	3.3	0.11	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Methyl tert-butyl ether (MTBE)	8.0	0.15	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2,4-Trimethylbenzene	0.13	0.10	1.0	J	µg/L	1	3/6/2017 7:10:43 PM	W41163
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Naphthalene	0.29	0.083	2.0	J	µg/L	1	3/6/2017 7:10:43 PM	W41163
1-Methylnaphthalene	0.62	0.16	4.0	J	µg/L	1	3/6/2017 7:10:43 PM	W41163
2-Methylnaphthalene	0.52	0.15	4.0	J	µg/L	1	3/6/2017 7:10:43 PM	W41163
Acetone	ND	0.88	10		µg/L	1	3/6/2017 7:10:43 PM	W41163
Bromobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Bromoform	ND	0.21	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Bromomethane	ND	0.78	3.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
2-Butanone	ND	1.1	10		µg/L	1	3/6/2017 7:10:43 PM	W41163
Carbon disulfide	ND	0.60	10		µg/L	1	3/6/2017 7:10:43 PM	W41163
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Chlorobenzene	0.50	0.11	1.0	J	µg/L	1	3/6/2017 7:10:43 PM	W41163
Chloroethane	ND	0.23	2.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Chloroform	ND	0.089	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Chloromethane	ND	0.21	3.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/6/2017 7:10:43 PM	W41163

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Lab ID: 1703192-008
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Dibromomethane	ND	0.12	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,4-Dichlorobenzene	1.5	0.40	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
2-Hexanone	ND	0.66	10		µg/L	1	3/6/2017 7:10:43 PM	W41163
Isopropylbenzene	1.4	0.098	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/6/2017 7:10:43 PM	W41163
Methylene Chloride	0.68	0.11	3.0	J	µg/L	1	3/6/2017 7:10:43 PM	W41163
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
n-Propylbenzene	3.8	0.13	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
sec-Butylbenzene	1.9	0.10	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Styrene	ND	0.16	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/6/2017 7:10:43 PM	W41163
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/6/2017 7:10:43 PM	W41163
Surr: 1,2-Dichloroethane-d4	97.0	0	70-130		%Rec	1	3/6/2017 7:10:43 PM	W41163
Surr: 4-Bromofluorobenzene	87.3	0	70-130		%Rec	1	3/6/2017 7:10:43 PM	W41163

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Lab ID: 1703192-008
Matrix: AQUEOUS
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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	95.5	0	70-130		%Rec	1	3/6/2017 7:10:43 PM	W41163
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	3/6/2017 7:10:43 PM	W41163

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41404**	RunNo: **41404**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1297894** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	0.0054	0.0060								J
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41404**	RunNo: **41404**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1297895** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	52	1.0	50.00	0	103	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.49	0.0060	0.5000	0	98.0	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Potassium	50	1.0	50.00	0	99.5	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	50	1.0	50.00	0	101	85	115			

Sample ID **1703192-002FMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-37**	Batch ID: **B41404**	RunNo: **41404**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1298195** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	96.7	70	130			
Chromium	0.49	0.0060	0.5000	0	97.7	70	130			
Copper	0.46	0.0060	0.5000	0	91.6	70	130			
Magnesium	60	1.0	50.00	12.74	93.6	70	130			
Potassium	47	1.0	50.00	1.746	91.0	70	130			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**1703192-002FMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-37**	Batch ID:	**B41404**		RunNo:	**41404**				
Prep Date:		Analysis Date:	**3/16/2017**		SeqNo:	**1298196**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	99.4	70	130	2.80	20	
Chromium	0.50	0.0060	0.5000	0	100	70	130	2.63	20	
Copper	0.47	0.0060	0.5000	0	93.3	70	130	1.81	20	
Magnesium	60	1.0	50.00	12.74	95.5	70	130	1.61	20	
Potassium	48	1.0	50.00	1.746	92.9	70	130	2.00	20	

Sample ID	**1703192-002FMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-37**	Batch ID:	**B41404**		RunNo:	**41404**				
Prep Date:		Analysis Date:	**3/16/2017**		SeqNo:	**1298457**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	310	5.0	250.0	55.86	101	70	130			
Iron	4.7	0.10	2.500	2.383	93.0	70	130			
Sodium	450	5.0	250.0	235.5	87.6	70	130			

Sample ID	**1703192-002FMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-37**	Batch ID:	**B41404**		RunNo:	**41404**				
Prep Date:		Analysis Date:	**3/16/2017**		SeqNo:	**1298458**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	300	5.0	250.0	55.86	99.1	70	130	1.51	20	
Iron	4.7	0.10	2.500	2.383	92.4	70	130	0.316	20	
Sodium	450	5.0	250.0	235.5	85.7	70	130	1.06	20	

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A41488**		RunNo:	**41488**				
Prep Date:		Analysis Date:	**3/17/2017**		SeqNo:	**1300638**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LCS-A**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A41488**		RunNo:	**41488**				
Prep Date:		Analysis Date:	**3/17/2017**		SeqNo:	**1300641**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**LCS-A**	SampType: **LCS**		TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A41488**		RunNo: **41488**					
Prep Date:		Analysis Date: **3/17/2017**		SeqNo: **1300641**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.3	85	115			
Iron	0.47	0.020	0.5000	0	94.5	85	115			
Manganese	0.46	0.0020	0.5000	0	92.9	85	115			
Silver	0.095	0.0050	0.1000	0	94.8	85	115			
Zinc	0.47	0.010	0.5000	0	94.6	85	115			

Sample ID	**1703192-002FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**MKTF-37**	Batch ID: **A41488**		RunNo: **41488**					
Prep Date:		Analysis Date: **3/17/2017**		SeqNo: **1300658**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.089	0.0050	0.1000	0	88.9	70	130			
Zinc	0.51	0.010	0.5000	0.02436	96.6	70	130			

Sample ID	**1703192-002FMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**MKTF-37**	Batch ID: **A41488**		RunNo: **41488**					
Prep Date:		Analysis Date: **3/17/2017**		SeqNo: **1300659**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.091	0.0050	0.1000	0	91.4	70	130	2.80	20	
Zinc	0.51	0.010	0.5000	0.02436	96.6	70	130	0.0493	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **MB-30567**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **30567**	RunNo: **41280**
Prep Date: **3/7/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293268** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCS-30567**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **30567**	RunNo: **41280**
Prep Date: **3/7/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293269** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Chromium	0.49	0.0060	0.5000	0	97.7	85	115			
Copper	0.47	0.0060	0.5000	0	94.4	85	115			
Iron	0.48	0.020	0.5000	0	96.8	85	115			
Manganese	0.48	0.0020	0.5000	0	96.2	85	115			
Silver	0.098	0.0050	0.1000	0	98.4	85	115			
Zinc	0.49	0.010	0.5000	0	97.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290364** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.012	0.00050	0.01250	0	95.3	85	115			
Selenium	0.027	0.0010	0.02500	0	108	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C41191**	RunNo: **41191**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1290368** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41216**	RunNo: **41216**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1291492** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.2	85	115			
Selenium	0.024	0.0010	0.02500	0	95.6	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C41216**	RunNo: **41216**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1291497** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**MB-30567**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30567**	RunNo:	**41232**					
Prep Date:	**3/7/2017**	Analysis Date:	**3/8/2017**	SeqNo:	**1291918**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-30567**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30567**	RunNo:	**41232**					
Prep Date:	**3/7/2017**	Analysis Date:	**3/8/2017**	SeqNo:	**1291919**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.0	85	115			
Lead	0.012	0.00050	0.01250	0	98.8	85	115			
Selenium	0.024	0.0010	0.02500	0	94.3	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**MB-30737**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30737**	RunNo:	**41489**					
Prep Date:	**3/16/2017**	Analysis Date:	**3/17/2017**	SeqNo:	**1300796**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00020								J

Sample ID	**LCS-30737**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30737**	RunNo:	**41489**					
Prep Date:	**3/16/2017**	Analysis Date:	**3/17/2017**	SeqNo:	**1300797**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41363**	RunNo: **41363**
Prep Date:	Analysis Date: **3/14/2017**	SeqNo: **1297183** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41363**	RunNo: **41363**
Prep Date:	Analysis Date: **3/14/2017**	SeqNo: **1297184** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0	110	90	110			
Chloride	4.9	0.50	5.000	0	97.7	90	110			
Bromide	2.6	0.10	2.500	0	103	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	100	90	110			
Sulfate	9.9	0.50	10.00	0	99.4	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**MB-30575**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**30575**	RunNo:	**41252**					
Prep Date:	**3/8/2017**	Analysis Date:	**3/8/2017**	SeqNo:	**1292384**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-30575**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**30575**	RunNo:	**41252**					
Prep Date:	**3/8/2017**	Analysis Date:	**3/8/2017**	SeqNo:	**1292387**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.097	0.010	0.1000	0	96.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **LCS-30527**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **30527**	RunNo: **41156**
Prep Date: **3/6/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289827** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	109	82.8	146			
Surr: DNOP	0.59		0.5000		118	98.8	141			

Sample ID **MB-30527**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **30527**	RunNo: **41156**
Prep Date: **3/6/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289828** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		124	98.8	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G41160**	RunNo: **41160**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289717** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.7	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G41160**	RunNo: **41160**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289718** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.49	0.050	0.5000	0	97.6	79.1	123			
Surr: BFB	20		20.00		101	52.3	138			

Sample ID **1703192-002BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-37**	Batch ID: **G41160**	RunNo: **41160**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289720** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	1.0	10.00	14.74	101	64.8	129			
Surr: BFB	510		400.0		128	52.3	138			

Sample ID **1703192-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-37**	Batch ID: **G41160**	RunNo: **41160**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289721** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	1.0	10.00	14.74	92.8	64.8	129	3.42	20	
Surr: BFB	510		400.0		128	52.3	138	0	0	

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G41160**	RunNo: **41189**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290721** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.6	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G41160**	RunNo: **41189**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290722** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**
28-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST QTR MKTF Wells

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G41160**	RunNo: **41189**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290722** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	90.1	79.1	123			
Surr: BFB	20		20.00		99.1	52.3	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41163**	RunNo: **41163**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289847** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41163**	RunNo: **41163**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289847** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	8.5		10.00		85.3	70	130			
Surr: Dibromofluoromethane	11		10.00		111	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41163**	RunNo: **41163**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289848** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0	119	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	20	1.0	20.00	0	98.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41163**	RunNo: **41163**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289848** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	116	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	8.9		10.00		88.6	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID **1703192-005a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-35**	Batch ID: **W41163**	RunNo: **41163**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289854** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	73	1.0	20.00	52.60	99.8	70	130			
Toluene	21	1.0	20.00	0.1132	103	70	130			
Chlorobenzene	21	1.0	20.00	0.5080	101	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.1	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	87.1	70	130			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.0	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.5	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.8	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **1703192-005a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-35**	Batch ID: **W41163**	RunNo: **41163**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289859** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	71	1.0	20.00	52.60	91.7	70	130	2.25	20	
Toluene	20	1.0	20.00	0.1132	99.1	70	130	3.74	20	
Chlorobenzene	20	1.0	20.00	0.5080	97.1	70	130	4.05	20	
1,1-Dichloroethene	18	1.0	20.00	0	89.7	70	130	3.68	20	
Trichloroethene (TCE)	17	1.0	20.00	0	84.0	70	130	3.67	20	
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130	0	0	
Surr: Dibromofluoromethane	8.8		10.00		88.3	70	130	0	0	
Surr: Toluene-d8	10		10.00		100	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290733** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290733** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		116	70	130			
Surr: 4-Bromofluorobenzene	8.8		10.00		87.6	70	130			
Surr: Dibromofluoromethane	12		10.00		120	70	130			
Surr: Toluene-d8	9.7		10.00		96.7	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290734** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	0	126	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290734** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	24	1.0	20.00	0	120	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	111	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		120	70	130			
Surr: 4-Bromofluorobenzene	8.6		10.00		86.3	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **1703192-004a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-36**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290737** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	9900	50	1000	8520	140	70	130			ES
Toluene	1000	50	1000	13.31	101	70	130			
Chlorobenzene	980	50	1000	0	98.2	70	130			
1,1-Dichloroethene	1100	50	1000	0	114	70	130			
Trichloroethene (TCE)	1100	50	1000	0	108	70	130			
Surr: 1,2-Dichloroethane-d4	560		500.0		112	70	130			
Surr: 4-Bromofluorobenzene	430		500.0		86.5	70	130			
Surr: Dibromofluoromethane	530		500.0		107	70	130			
Surr: Toluene-d8	490		500.0		97.5	70	130			

Sample ID **1703192-004a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-36**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290738** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	9300	50	1000	8520	78.5	70	130	6.44	20	E
Toluene	990	50	1000	13.31	98.0	70	130	2.79	20	
Chlorobenzene	940	50	1000	0	93.9	70	130	4.47	20	
1,1-Dichloroethene	1100	50	1000	0	105	70	130	8.43	20	
Trichloroethene (TCE)	1000	50	1000	0	99.8	70	130	7.49	20	
Surr: 1,2-Dichloroethane-d4	530		500.0		106	70	130	0	0	
Surr: 4-Bromofluorobenzene	450		500.0		90.0	70	130	0	0	
Surr: Dibromofluoromethane	520		500.0		104	70	130	0	0	
Surr: Toluene-d8	480		500.0		95.4	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41230**	RunNo: **41230**
Prep Date:	Analysis Date: **3/8/2017**	SeqNo: **1292249** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	8.7		10.00		87.3	70	130			
Surr: Dibromofluoromethane	12		10.00		115	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41230**	RunNo: **41230**
Prep Date:	Analysis Date: **3/8/2017**	SeqNo: **1292255** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	0	125	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.0	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	9.6		10.00		95.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **lcs-30544**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293431** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	83	10	100.0	0	82.9	42.9	100			
4-Chloro-3-methylphenol	160	10	200.0	0	77.5	36.2	110			
2-Chlorophenol	180	10	200.0	0	88.0	33.4	97.8			
1,4-Dichlorobenzene	70	10	100.0	0	70.1	32.8	79.3			
2,4-Dinitrotoluene	74	10	100.0	0	73.7	34.9	107			
N-Nitrosodi-n-propylamine	80	10	100.0	0	80.1	30.7	111			
4-Nitrophenol	94	10	200.0	0	47.0	15	91.9			
Pentachlorophenol	130	20	200.0	0	66.4	33.3	93.5			
Phenol	94	10	200.0	0	47.2	20.9	86.4			
Pyrene	78	10	100.0	0	78.0	45.6	111			
1,2,4-Trichlorobenzene	74	10	100.0	0	73.8	38.7	88.2			
Surr: 2-Fluorophenol	100		200.0		50.1	15	98.1			
Surr: Phenol-d5	69		200.0		34.5	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		72.1	15	112			
Surr: Nitrobenzene-d5	78		100.0		78.5	27.2	90.7			
Surr: 2-Fluorobiphenyl	76		100.0		76.4	23.3	85.6			
Surr: 4-Terphenyl-d14	63		100.0		62.6	27.6	107			

Sample ID **lcsd-30544**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293432** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	81	10	100.0	0	80.9	42.9	100	2.47	37.4	
4-Chloro-3-methylphenol	120	10	200.0	0	58.2	36.2	110	28.5	26.8	R
2-Chlorophenol	100	10	200.0	0	50.5	33.4	97.8	54.2	30.3	R
1,4-Dichlorobenzene	52	10	100.0	0	52.2	32.8	79.3	29.3	32	
2,4-Dinitrotoluene	66	10	100.0	0	65.6	34.9	107	11.6	36.7	
N-Nitrosodi-n-propylamine	85	10	100.0	0	84.9	30.7	111	5.75	29.9	
4-Nitrophenol	57	10	200.0	0	28.4	15	91.9	49.3	28.8	R
Pentachlorophenol	93	20	200.0	0	46.7	33.3	93.5	34.8	38.2	
Phenol	70	10	200.0	0	35.2	20.9	86.4	29.2	39.8	
Pyrene	83	10	100.0	0	82.6	45.6	111	5.68	28.3	
1,2,4-Trichlorobenzene	60	10	100.0	0	59.6	38.7	88.2	21.2	39.8	
Surr: 2-Fluorophenol	55		200.0		27.7	15	98.1	0	0	
Surr: Phenol-d5	51		200.0		25.6	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	90		200.0		45.2	15	112	0	0	
Surr: Nitrobenzene-d5	75		100.0		74.9	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	64		100.0		63.8	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **lcsd-30544**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293432** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	42		100.0		42.3	27.6	107	0	0	

Sample ID **mb-30544**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.6	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	7.5	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	2.7	10								J
Di-n-octyl phthalate	3.6	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**
28-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST QTR MKTF Wells

Sample ID **mb-30544**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703192**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **mb-30544**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		60.3	15	98.1			
Surr: Phenol-d5	85		200.0		42.3	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		80.7	15	112			
Surr: Nitrobenzene-d5	85		100.0		85.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	84		100.0		83.6	23.3	85.6			
Surr: 4-Terphenyl-d14	70		100.0		70.0	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1703192 RcptNo: 1

Received by/date: AS 03/03/17

Logged By: **Lindsay Mangin** 3/3/2017 4:06:00 PM

Completed By: **Lindsay Mangin** 3/6/2017 8:53:27 AM

Reviewed By: 03/06/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☑	~~No~~ ☑ ENM	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 18
(<2 or >12 unless noted)
Adjusted? YES
Checked by: ENM

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

17. Additional remarks: ~~Added~~ for NO_3 NO_2 analysis added 0.4 mL H_2SO_4 to -005F 2of2, for acceptable PH. -ENM 03/06/17

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 1ST QTR - MKTF WELLS

Project #:

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703192	8260+MTBE	8015D(DRO/MRO/GRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	MAJOR CATIONS/ANIONS		METHOD 8011 - EDB								Air Bubbles (Y or N)
3/1/2017	700	AQUEOUS	FIELD BLANK	3-40ML VOAS	HCL	-001	X															
3/1/2017	1025	AQUEOUS	MKTF-37	MISC	MISC	-002	X	X	X	X	X	X										
3/1/2017	1418	AQUEOUS	MKTF-18	MISC	MISC	-003	X	X	X	X	X	X										
3/1/2017	1138	AQUEOUS	MKTF-36	MISC	MISC	-004	X	X	X	X	X	X		X								
3/1/2017	1220	AQUEOUS	MKTF-35	MISC	MISC	-005	X	X	X	X	X	X		X								
3/1/2017	1327	AQUEOUS	MKTF-34	MISC	MISC	-006	X	X	X	X	X	X										
3/1/2017		AQUEOUS	TRIP BLANK	MISC	MISC	-007	X															
3/1/2017		AQUEOUS	BLIND DUPLICATE	MISC	MISC	-008	X	X	X	X	X	X		X								
														AT 030617								

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/2/2017	1600			3-3-17	1330
3/3/17	1606			3/3/17	1606

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 28, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017 1ST QTR MKTF Wells OrderNo.: 1703193

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 7:00:00 AM
Lab ID: 1703193-001 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.098	0.096	1.0	J	µg/L	1	3/7/2017 6:38:19 PM	W41205
Toluene	0.27	0.089	1.0	J	µg/L	1	3/7/2017 6:38:19 PM	W41205
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Naphthalene	ND	0.083	2.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Acetone	8.0	0.88	10	J	µg/L	1	3/7/2017 6:38:19 PM	W41205
Bromobenzene	ND	0.14	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Bromoform	ND	0.21	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Bromomethane	ND	0.78	3.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
2-Butanone	ND	1.1	10		µg/L	1	3/7/2017 6:38:19 PM	W41205
Carbon disulfide	ND	0.60	10		µg/L	1	3/7/2017 6:38:19 PM	W41205
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Chloroethane	ND	0.23	2.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Chloroform	ND	0.089	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Chloromethane	ND	0.21	3.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Dibromomethane	ND	0.12	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/7/2017 6:38:19 PM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 7:00:00 AM
Lab ID: 1703193-001 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
2-Hexanone	1.0	0.66	10	J	µg/L	1	3/7/2017 6:38:19 PM	W41205
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/7/2017 6:38:19 PM	W41205
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Styrene	ND	0.16	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/7/2017 6:38:19 PM	W41205
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/7/2017 6:38:19 PM	W41205
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	3/7/2017 6:38:19 PM	W41205
Surr: 4-Bromofluorobenzene	84.5	0	70-130		%Rec	1	3/7/2017 6:38:19 PM	W41205
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	3/7/2017 6:38:19 PM	W41205
Surr: Toluene-d8	95.1	0	70-130		%Rec	1	3/7/2017 6:38:19 PM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-4
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:30:00 AM
Lab ID: 1703193-002
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.7	0.36	1.0		mg/L	1	3/7/2017 4:21:44 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 4:21:44 AM	30527
Surr: DNOP	136	0	98.8-141		%Rec	1	3/7/2017 4:21:44 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	12	0.50	1.0		mg/L	20	3/6/2017 6:05:38 PM	G41160
Surr: BFB	101	0	52.3-138		%Rec	20	3/6/2017 6:05:38 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.99	0.050	0.10		mg/L	1	3/17/2017 9:45:32 AM	R41459
Chloride	220	5.0	10		mg/L	20	3/13/2017 11:52:10 PM	A41350
Bromide	2.1	0.031	0.10		mg/L	1	3/13/2017 11:39:45 PM	A41350
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/13/2017 11:39:45 PM	A41350
Sulfate	2.8	0.096	0.50		mg/L	1	3/13/2017 11:39:45 PM	A41350
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 2:08:39 AM	A41350
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	3.0	0.0043	0.010	*	mg/L	5	3/16/2017 10:57:50 AM	B41404
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 10:52:44 AM	B41404
Calcium	120	2.5	5.0		mg/L	5	3/16/2017 10:57:50 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 10:52:44 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 10:52:44 AM	B41404
Iron	4.8	0.10	0.10	*	mg/L	5	3/16/2017 10:57:50 AM	B41404
Magnesium	29	0.50	1.0		mg/L	1	3/16/2017 10:52:44 AM	B41404
Manganese	1.4	0.0019	0.010	*	mg/L	5	3/16/2017 10:57:50 AM	B41404
Potassium	ND	0.50	1.0		mg/L	1	3/16/2017 10:52:44 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/16/2017 10:52:44 AM	B41404
Sodium	330	2.5	5.0		mg/L	5	3/16/2017 10:57:50 AM	B41404
Zinc	0.026	0.0011	0.010		mg/L	1	3/17/2017 5:20:25 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	3.2	0.0040	0.010	*	mg/L	5	3/17/2017 10:08:37 AM	30658
Cadmium	ND	0.0015	0.0020		mg/L	1	3/17/2017 7:14:28 AM	30658
Chromium	ND	0.0027	0.0060		mg/L	1	3/17/2017 7:14:28 AM	30658
Copper	ND	0.0030	0.0060		mg/L	1	3/17/2017 7:14:28 AM	30658
Iron	8.2	0.20	0.20	*	mg/L	10	3/17/2017 10:10:40 AM	30658
Manganese	1.5	0.0014	0.010	*	mg/L	5	3/17/2017 10:08:37 AM	30658
Silver	ND	0.0015	0.0050		mg/L	1	3/17/2017 7:14:28 AM	30658
Zinc	0.0087	0.0027	0.010	J	mg/L	1	3/17/2017 7:14:28 AM	30658
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.012	0.00069	0.0050	*	mg/L	5	3/9/2017 5:31:13 PM	B41296

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/7/2017 9:24:40 PM	C41216
Selenium	0.010	0.0042	0.020	J	mg/L	20	3/9/2017 5:36:21 PM	B41296
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.012	0.0011	0.0050	*	mg/L	5	3/14/2017 3:56:59 PM	30658
Lead	0.0019	0.00041	0.0025	J	mg/L	5	3/14/2017 3:56:59 PM	30658
Selenium	0.010	0.00094	0.0050		mg/L	5	3/14/2017 3:56:59 PM	30658
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:10:37 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	6.1	2.6	10	J	µg/L	1	3/9/2017 2:43:57 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 2:43:57 PM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Bis(2-ethylhexyl)phthalate	7.1	2.6	10	J	µg/L	1	3/9/2017 2:43:57 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Carbazole	20	2.3	10		µg/L	1	3/9/2017 2:43:57 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 2:43:57 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 2:43:57 PM	30544

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Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 2:43:57 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 2:43:57 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 2:43:57 PM	30544
2,4-Dimethylphenol	3.8	3.0	10	J	µg/L	1	3/9/2017 2:43:57 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 2:43:57 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 2:43:57 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Fluorene	6.1	2.7	10	J	µg/L	1	3/9/2017 2:43:57 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
1-Methylnaphthalene	120	2.9	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2-Methylnaphthalene	160	2.9	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2-Methylphenol	ND	2.5	10		µg/L	1	3/9/2017 2:43:57 PM	30544
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/9/2017 2:43:57 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 2:43:57 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Naphthalene	270	5.2	20		µg/L	2	3/10/2017 12:54:57 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 2:43:57 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 2:43:57 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 2:43:57 PM	30544
Phenanthrene	6.1	2.6	10	J	µg/L	1	3/9/2017 2:43:57 PM	30544
Phenol	5.2	2.0	10	J	µg/L	1	3/9/2017 2:43:57 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 2:43:57 PM	30544

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 2:43:57 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 2:43:57 PM	30544
Surr: 2-Fluorophenol	37.8	0	15-98.1		%Rec	1	3/9/2017 2:43:57 PM	30544
Surr: Phenol-d5	23.8	0	15-80.7		%Rec	1	3/9/2017 2:43:57 PM	30544
Surr: 2,4,6-Tribromophenol	57.3	0	15-112		%Rec	1	3/9/2017 2:43:57 PM	30544
Surr: Nitrobenzene-d5	68.3	0	27.2-90.7		%Rec	1	3/9/2017 2:43:57 PM	30544
Surr: 2-Fluorobiphenyl	69.6	0	23.3-85.6		%Rec	1	3/9/2017 2:43:57 PM	30544
Surr: 4-Terphenyl-d14	45.0	0	27.6-107		%Rec	1	3/9/2017 2:43:57 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	980	4.8	50		µg/L	50	3/7/2017 11:26:03 PM	W41205
Toluene	15	0.45	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Ethylbenzene	680	5.6	50		µg/L	50	3/7/2017 11:26:03 PM	W41205
Methyl tert-butyl ether (MTBE)	2500	7.4	50		µg/L	50	3/7/2017 11:26:03 PM	W41205
1,2,4-Trimethylbenzene	490	0.52	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,3,5-Trimethylbenzene	88	0.58	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2-Dichloroethane (EDC)	2.5	0.58	5.0	J	µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Naphthalene	370	0.42	10		µg/L	5	3/7/2017 11:54:46 PM	W41205
1-Methylnaphthalene	200	0.80	20		µg/L	5	3/7/2017 11:54:46 PM	W41205
2-Methylnaphthalene	200	0.76	20		µg/L	5	3/7/2017 11:54:46 PM	W41205
Acetone	ND	4.4	50		µg/L	5	3/7/2017 11:54:46 PM	W41205
Bromobenzene	ND	0.70	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Bromodichloromethane	ND	0.88	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Bromoform	ND	1.1	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Bromomethane	ND	3.9	15		µg/L	5	3/7/2017 11:54:46 PM	W41205
2-Butanone	ND	5.7	50		µg/L	5	3/7/2017 11:54:46 PM	W41205
Carbon disulfide	ND	3.0	50		µg/L	5	3/7/2017 11:54:46 PM	W41205
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Chlorobenzene	ND	0.53	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Chloroethane	ND	1.2	10		µg/L	5	3/7/2017 11:54:46 PM	W41205
Chloroform	ND	0.44	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Chloromethane	ND	1.1	15		µg/L	5	3/7/2017 11:54:46 PM	W41205
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
cis-1,2-DCE	4.8	1.0	5.0	J	µg/L	5	3/7/2017 11:54:46 PM	W41205
cis-1,3-Dichloropropene	ND	0.50	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	3/7/2017 11:54:46 PM	W41205
Dibromochloromethane	ND	0.39	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.60	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2-Dichlorobenzene	ND	0.60	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Dichlorodifluoromethane	ND	1.6	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,1-Dichloroethane	4.6	0.52	5.0	J	µg/L	5	3/7/2017 11:54:46 PM	W41205
1,1-Dichloroethene	7.5	0.40	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
2,2-Dichloropropane	ND	0.60	10		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Hexachlorobutadiene	ND	1.9	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
2-Hexanone	ND	3.3	50		µg/L	5	3/7/2017 11:54:46 PM	W41205
Isopropylbenzene	23	0.49	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
4-Isopropyltoluene	3.7	0.70	5.0	J	µg/L	5	3/7/2017 11:54:46 PM	W41205
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	3/7/2017 11:54:46 PM	W41205
Methylene Chloride	ND	0.54	15		µg/L	5	3/7/2017 11:54:46 PM	W41205
n-Butylbenzene	5.9	0.80	15	J	µg/L	5	3/7/2017 11:54:46 PM	W41205
n-Propylbenzene	60	0.66	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
sec-Butylbenzene	5.2	0.51	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Styrene	0.86	0.78	5.0	J	µg/L	5	3/7/2017 11:54:46 PM	W41205
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	3/7/2017 11:54:46 PM	W41205
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
trans-1,3-Dichloropropene	ND	0.45	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Trichloroethene (TCE)	ND	0.88	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	3/7/2017 11:54:46 PM	W41205
Vinyl chloride	ND	0.89	5.0		µg/L	5	3/7/2017 11:54:46 PM	W41205
Xylenes, Total	880	1.6	7.5		µg/L	5	3/7/2017 11:54:46 PM	W41205
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	5	3/7/2017 11:54:46 PM	W41205
Surr: 4-Bromofluorobenzene	87.5	0	70-130		%Rec	5	3/7/2017 11:54:46 PM	W41205
Surr: Dibromofluoromethane	110	0	70-130		%Rec	5	3/7/2017 11:54:46 PM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-4
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:30:00 AM
Lab ID: 1703193-002
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	97.4	0	70-130		%Rec	5	3/7/2017 11:54:46 PM	W41205

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:46:00 AM
Lab ID: 1703193-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.7	0.36	1.0		mg/L	1	3/7/2017 4:43:17 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 4:43:17 AM	30527
Surr: DNOP	137	0	98.8-141		%Rec	1	3/7/2017 4:43:17 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	27	1.2	2.5		mg/L	50	3/6/2017 8:26:26 PM	G41160
Surr: BFB	93.9	0	52.3-138		%Rec	50	3/6/2017 8:26:26 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.25	0.50		mg/L	5	3/15/2017 11:49:45 PM	A41411
Chloride	650	12	25		mg/L	50	3/16/2017 12:02:10 AM	A41411
Bromide	2.7	0.61	2.0		mg/L	20	3/14/2017 12:16:59 AM	A41350
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 12:04:35 AM	A41350
Sulfate	3.4	0.096	0.50		mg/L	1	3/14/2017 12:04:35 AM	A41350
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 2:21:04 AM	A41350
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.2	0.0085	0.020	*	mg/L	10	3/20/2017 8:55:22 PM	A41513
Cadmium	ND	0.0010	0.0020		mg/L	1	3/17/2017 5:25:35 PM	A41488
Calcium	130	5.0	10		mg/L	10	3/20/2017 8:55:22 PM	A41513
Chromium	ND	0.0010	0.0060		mg/L	1	3/17/2017 5:25:35 PM	A41488
Copper	ND	0.0032	0.0060		mg/L	1	3/17/2017 5:25:35 PM	A41488
Iron	5.1	0.20	0.20	*	mg/L	10	3/20/2017 8:55:22 PM	A41513
Magnesium	36	0.50	1.0		mg/L	1	3/17/2017 5:25:35 PM	A41488
Manganese	3.0	0.0038	0.020	*	mg/L	10	3/20/2017 8:55:22 PM	A41513
Potassium	1.1	0.50	1.0		mg/L	1	3/17/2017 5:25:35 PM	A41488
Silver	0.0014	0.00088	0.0050	J	mg/L	1	3/17/2017 5:25:35 PM	A41488
Sodium	690	5.0	10		mg/L	10	3/20/2017 8:55:22 PM	A41513
Zinc	0.031	0.0011	0.010		mg/L	1	3/17/2017 5:25:35 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	2.3	0.0040	0.010	*	mg/L	5	3/17/2017 10:12:36 AM	30658
Cadmium	ND	0.0015	0.0020		mg/L	1	3/17/2017 7:16:06 AM	30658
Chromium	ND	0.0027	0.0060		mg/L	1	3/17/2017 7:16:06 AM	30658
Copper	ND	0.0030	0.0060		mg/L	1	3/17/2017 7:16:06 AM	30658
Iron	6.7	0.20	0.20	*	mg/L	10	3/17/2017 10:14:35 AM	30658
Manganese	3.1	0.0014	0.010	*	mg/L	5	3/17/2017 10:12:36 AM	30658
Silver	ND	0.0015	0.0050		mg/L	1	3/17/2017 7:16:06 AM	30658
Zinc	0.0038	0.0027	0.010	J	mg/L	1	3/17/2017 7:16:06 AM	30658
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.018	0.00014	0.0010	*	mg/L	1	3/7/2017 9:29:49 PM	C41216

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:46:00 AM
Lab ID: 1703193-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/7/2017 9:29:49 PM	C41216
Selenium	0.0035	0.00021	0.0010		mg/L	1	3/7/2017 9:29:49 PM	C41216
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.019	0.0011	0.0050	*	mg/L	5	3/14/2017 4:00:00 PM	30658
Lead	0.00063	0.00041	0.0025	J	mg/L	5	3/14/2017 4:00:00 PM	30658
Selenium	0.0037	0.00094	0.0050	J	mg/L	5	3/14/2017 4:00:00 PM	30658
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:12:39 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Benzoic acid	11	2.6	20	J	µg/L	1	3/9/2017 3:12:19 PM	30544
Benzyl alcohol	ND	3.0	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Bis(2-ethylhexyl)phthalate	7.6	2.6	10	J	µg/L	1	3/9/2017 3:12:19 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Carbazole	ND	2.3	10		µg/L	1	3/9/2017 3:12:19 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 3:12:19 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 3:12:19 PM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:46:00 AM
Lab ID: 1703193-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 3:12:19 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 3:12:19 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 3:12:19 PM	30544
2,4-Dimethylphenol	13	3.0	10		µg/L	1	3/9/2017 3:12:19 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 3:12:19 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 3:12:19 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
1-Methylnaphthalene	9.2	2.9	10	J	µg/L	1	3/9/2017 3:12:19 PM	30544
2-Methylnaphthalene	6.9	2.9	10	J	µg/L	1	3/9/2017 3:12:19 PM	30544
2-Methylphenol	40	2.5	10		µg/L	1	3/9/2017 3:12:19 PM	30544
3+4-Methylphenol	31	2.3	10		µg/L	1	3/9/2017 3:12:19 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 3:12:19 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Naphthalene	24	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 3:12:19 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 3:12:19 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 3:12:19 PM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Phenol	15	2.0	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 3:12:19 PM	30544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:46:00 AM
Lab ID: 1703193-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 3:12:19 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 3:12:19 PM	30544
Surr: 2-Fluorophenol	21.6	0	15-98.1		%Rec	1	3/9/2017 3:12:19 PM	30544
Surr: Phenol-d5	14.4	0	15-80.7	S	%Rec	1	3/9/2017 3:12:19 PM	30544
Surr: 2,4,6-Tribromophenol	41.2	0	15-112		%Rec	1	3/9/2017 3:12:19 PM	30544
Surr: Nitrobenzene-d5	58.3	0	27.2-90.7		%Rec	1	3/9/2017 3:12:19 PM	30544
Surr: 2-Fluorobiphenyl	50.8	0	23.3-85.6		%Rec	1	3/9/2017 3:12:19 PM	30544
Surr: 4-Terphenyl-d14	29.6	0	27.6-107		%Rec	1	3/9/2017 3:12:19 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	3900	19	200		µg/L	200	3/8/2017 12:23:40 AM	W41205
Toluene	3400	18	200		µg/L	200	3/8/2017 12:23:40 AM	W41205
Ethylbenzene	590	2.2	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Methyl tert-butyl ether (MTBE)	65	3.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2,4-Trimethylbenzene	330	2.1	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,3,5-Trimethylbenzene	58	2.3	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2-Dichloroethane (EDC)	ND	2.3	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Naphthalene	55	1.7	40		µg/L	20	3/8/2017 12:52:06 AM	W41205
1-Methylnaphthalene	18	3.2	80	J	µg/L	20	3/8/2017 12:52:06 AM	W41205
2-Methylnaphthalene	14	3.0	80	J	µg/L	20	3/8/2017 12:52:06 AM	W41205
Acetone	ND	18	200		µg/L	20	3/8/2017 12:52:06 AM	W41205
Bromobenzene	ND	2.8	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Bromodichloromethane	ND	3.5	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Bromoform	ND	4.2	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Bromomethane	ND	16	60		µg/L	20	3/8/2017 12:52:06 AM	W41205
2-Butanone	ND	23	200		µg/L	20	3/8/2017 12:52:06 AM	W41205
Carbon disulfide	ND	12	200		µg/L	20	3/8/2017 12:52:06 AM	W41205
Carbon Tetrachloride	ND	2.2	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Chlorobenzene	ND	2.1	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Chloroethane	ND	4.7	40		µg/L	20	3/8/2017 12:52:06 AM	W41205
Chloroform	ND	1.8	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Chloromethane	ND	4.3	60		µg/L	20	3/8/2017 12:52:06 AM	W41205
2-Chlorotoluene	ND	8.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
4-Chlorotoluene	ND	8.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
cis-1,2-DCE	ND	4.1	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
cis-1,3-Dichloropropene	ND	2.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	3/8/2017 12:52:06 AM	W41205
Dibromochloromethane	ND	1.6	20		µg/L	20	3/8/2017 12:52:06 AM	W41205

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:46:00 AM
Lab ID: 1703193-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	2.4	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2-Dichlorobenzene	ND	2.4	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,3-Dichlorobenzene	ND	2.9	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Dichlorodifluoromethane	ND	6.5	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,1-Dichloroethane	55	2.1	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,1-Dichloroethene	ND	1.6	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2-Dichloropropane	ND	2.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,3-Dichloropropane	ND	3.1	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
2,2-Dichloropropane	ND	2.4	40		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,1-Dichloropropene	ND	2.7	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Hexachlorobutadiene	ND	7.4	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
2-Hexanone	21	13	200	J	µg/L	20	3/8/2017 12:52:06 AM	W41205
Isopropylbenzene	23	2.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
4-Isopropyltoluene	ND	2.8	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
4-Methyl-2-pentanone	ND	14	200		µg/L	20	3/8/2017 12:52:06 AM	W41205
Methylene Chloride	ND	2.2	60		µg/L	20	3/8/2017 12:52:06 AM	W41205
n-Butylbenzene	4.3	3.2	60	J	µg/L	20	3/8/2017 12:52:06 AM	W41205
n-Propylbenzene	67	2.6	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
sec-Butylbenzene	14	2.0	20	J	µg/L	20	3/8/2017 12:52:06 AM	W41205
Styrene	ND	3.1	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
tert-Butylbenzene	ND	2.1	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,1,1,2-Tetrachloroethane	ND	2.2	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	3/8/2017 12:52:06 AM	W41205
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
trans-1,2-DCE	ND	3.7	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
trans-1,3-Dichloropropene	ND	1.8	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2,4-Trichlorobenzene	ND	2.7	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,1,1-Trichloroethane	ND	1.5	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Trichloroethene (TCE)	ND	3.5	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Trichlorofluoromethane	ND	3.7	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	3/8/2017 12:52:06 AM	W41205
Vinyl chloride	54	3.6	20		µg/L	20	3/8/2017 12:52:06 AM	W41205
Xylenes, Total	1600	6.5	30		µg/L	20	3/8/2017 12:52:06 AM	W41205
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	20	3/8/2017 12:52:06 AM	W41205
Surr: 4-Bromofluorobenzene	85.8	0	70-130		%Rec	20	3/8/2017 12:52:06 AM	W41205
Surr: Dibromofluoromethane	112	0	70-130		%Rec	20	3/8/2017 12:52:06 AM	W41205

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 11:46:00 AM
Lab ID: 1703193-003
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	97.7	0	70-130		%Rec	20	3/8/2017 12:52:06 AM	W41205

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 12:12:00 PM
Lab ID: 1703193-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.3	0.36	1.0		mg/L	1	3/7/2017 5:05:00 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 5:05:00 AM	30527
Surr: DNOP	136	0	98.8-141		%Rec	1	3/7/2017 5:05:00 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	110	5.0	10		mg/L	200	3/6/2017 8:49:45 PM	G41160
Surr: BFB	93.4	0	52.3-138		%Rec	200	3/6/2017 8:49:45 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.35	0.050	0.10		mg/L	1	3/17/2017 9:57:57 AM	R41459
Chloride	350	5.0	10		mg/L	20	3/14/2017 1:06:37 AM	A41350
Bromide	1.3	0.031	0.10		mg/L	1	3/14/2017 12:54:12 AM	A41350
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 12:54:12 AM	A41350
Sulfate	0.30	0.096	0.50	J	mg/L	1	3/14/2017 12:54:12 AM	A41350
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 2:33:29 AM	A41350
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	4.8	0.0043	0.010	*	mg/L	5	3/16/2017 11:15:12 AM	B41404
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 11:13:33 AM	B41404
Calcium	180	2.5	5.0		mg/L	5	3/16/2017 11:15:12 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 11:13:33 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 11:13:33 AM	B41404
Iron	13	0.40	0.40	*	mg/L	20	3/17/2017 5:34:57 PM	A41488
Magnesium	41	0.50	1.0		mg/L	1	3/16/2017 11:13:33 AM	B41404
Manganese	3.4	0.0019	0.010	*	mg/L	5	3/16/2017 11:15:12 AM	B41404
Potassium	0.61	0.50	1.0	J	mg/L	1	3/16/2017 11:13:33 AM	B41404
Silver	0.00090	0.00088	0.0050	J	mg/L	1	3/16/2017 11:13:33 AM	B41404
Sodium	260	2.5	5.0		mg/L	5	3/16/2017 11:15:12 AM	B41404
Zinc	0.020	0.0011	0.010		mg/L	1	3/17/2017 5:33:19 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	4.7	0.0040	0.010	*	mg/L	5	3/17/2017 10:16:30 AM	30658
Cadmium	ND	0.0015	0.0020		mg/L	1	3/17/2017 7:17:46 AM	30658
Chromium	ND	0.0027	0.0060		mg/L	1	3/17/2017 7:17:46 AM	30658
Copper	ND	0.0030	0.0060		mg/L	1	3/17/2017 7:17:46 AM	30658
Iron	15	0.40	0.40	*	mg/L	20	3/17/2017 10:18:16 AM	30658
Manganese	3.5	0.0014	0.010	*	mg/L	5	3/17/2017 10:16:30 AM	30658
Silver	ND	0.0015	0.0050		mg/L	1	3/17/2017 7:17:46 AM	30658
Zinc	0.0091	0.0027	0.010	J	mg/L	1	3/17/2017 7:17:46 AM	30658
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.011	0.00014	0.0010	*	mg/L	1	3/7/2017 9:34:57 PM	C41216

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 12:12:00 PM
Lab ID: 1703193-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00032	0.00017	0.00050	J	mg/L	1	3/7/2017 9:34:57 PM	C41216
Selenium	0.0039	0.00021	0.0010		mg/L	1	3/7/2017 9:34:57 PM	C41216
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.014	0.00021	0.0010	*	mg/L	1	3/14/2017 2:24:28 PM	30658
Lead	0.0051	0.00041	0.0025		mg/L	5	3/14/2017 4:03:00 PM	30658
Selenium	0.0047	0.00094	0.0050	J	mg/L	5	3/14/2017 4:03:00 PM	30658
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:18:50 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Aniline	6.7	2.4	10	J	µg/L	1	3/9/2017 3:41:08 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 3:41:08 PM	30544
Benzyl alcohol	4.5	3.0	10	J	µg/L	1	3/9/2017 3:41:08 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Bis(2-ethylhexyl)phthalate	6.7	2.6	10	J	µg/L	1	3/9/2017 3:41:08 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Carbazole	3.2	2.3	10	J	µg/L	1	3/9/2017 3:41:08 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 3:41:08 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 3:41:08 PM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 12:12:00 PM
Lab ID: 1703193-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 3:41:08 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 3:41:08 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 3:41:08 PM	30544
2,4-Dimethylphenol	31	3.0	10		µg/L	1	3/9/2017 3:41:08 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 3:41:08 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 3:41:08 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
1-Methylnaphthalene	37	2.9	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2-Methylnaphthalene	49	2.9	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2-Methylphenol	83	2.5	10		µg/L	1	3/9/2017 3:41:08 PM	30544
3+4-Methylphenol	130	2.3	10		µg/L	1	3/9/2017 3:41:08 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 3:41:08 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Naphthalene	120	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 3:41:08 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 3:41:08 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 3:41:08 PM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Phenol	50	2.0	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 3:41:08 PM	30544

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 12:12:00 PM
Lab ID: 1703193-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 3:41:08 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 3:41:08 PM	30544
Surr: 2-Fluorophenol	11.6	0	15-98.1	S	%Rec	1	3/9/2017 3:41:08 PM	30544
Surr: Phenol-d5	14.4	0	15-80.7	S	%Rec	1	3/9/2017 3:41:08 PM	30544
Surr: 2,4,6-Tribromophenol	26.1	0	15-112		%Rec	1	3/9/2017 3:41:08 PM	30544
Surr: Nitrobenzene-d5	59.1	0	27.2-90.7		%Rec	1	3/9/2017 3:41:08 PM	30544
Surr: 2-Fluorobiphenyl	52.5	0	23.3-85.6		%Rec	1	3/9/2017 3:41:08 PM	30544
Surr: 4-Terphenyl-d14	28.9	0	27.6-107		%Rec	1	3/9/2017 3:41:08 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	18000	96	1000		µg/L	1000	3/8/2017 1:20:50 AM	W41205
Toluene	21000	89	1000		µg/L	1000	3/8/2017 1:20:50 AM	W41205
Ethylbenzene	1600	11	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Methyl tert-butyl ether (MTBE)	28	15	100	J	µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2,4-Trimethylbenzene	980	10	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,3,5-Trimethylbenzene	220	12	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2-Dichloroethane (EDC)	ND	12	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Naphthalene	230	8.3	200		µg/L	100	3/8/2017 1:49:15 AM	W41205
1-Methylnaphthalene	64	16	400	J	µg/L	100	3/8/2017 1:49:15 AM	W41205
2-Methylnaphthalene	66	15	400	J	µg/L	100	3/8/2017 1:49:15 AM	W41205
Acetone	ND	88	1000		µg/L	100	3/8/2017 1:49:15 AM	W41205
Bromobenzene	ND	14	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Bromodichloromethane	ND	18	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Bromoform	ND	21	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Bromomethane	ND	78	300		µg/L	100	3/8/2017 1:49:15 AM	W41205
2-Butanone	ND	110	1000		µg/L	100	3/8/2017 1:49:15 AM	W41205
Carbon disulfide	ND	60	1000		µg/L	100	3/8/2017 1:49:15 AM	W41205
Carbon Tetrachloride	ND	11	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Chlorobenzene	ND	11	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Chloroethane	ND	23	200		µg/L	100	3/8/2017 1:49:15 AM	W41205
Chloroform	ND	8.9	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Chloromethane	ND	21	300		µg/L	100	3/8/2017 1:49:15 AM	W41205
2-Chlorotoluene	ND	40	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
4-Chlorotoluene	ND	40	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
cis-1,2-DCE	43	20	100	J	µg/L	100	3/8/2017 1:49:15 AM	W41205
cis-1,3-Dichloropropene	ND	10	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	3/8/2017 1:49:15 AM	W41205
Dibromochloromethane	ND	7.8	100		µg/L	100	3/8/2017 1:49:15 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 12:12:00 PM
Lab ID: 1703193-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	12	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2-Dichlorobenzene	ND	12	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,3-Dichlorobenzene	ND	14	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,4-Dichlorobenzene	ND	40	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Dichlorodifluoromethane	ND	32	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,1-Dichloroethane	ND	10	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,1-Dichloroethene	ND	8.1	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2-Dichloropropane	ND	10	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,3-Dichloropropane	ND	16	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
2,2-Dichloropropane	ND	12	200		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,1-Dichloropropene	ND	13	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Hexachlorobutadiene	ND	37	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
2-Hexanone	ND	66	1000		µg/L	100	3/8/2017 1:49:15 AM	W41205
Isopropylbenzene	40	9.8	100	J	µg/L	100	3/8/2017 1:49:15 AM	W41205
4-Isopropyltoluene	ND	14	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
4-Methyl-2-pentanone	84	71	1000	J	µg/L	100	3/8/2017 1:49:15 AM	W41205
Methylene Chloride	ND	11	300		µg/L	100	3/8/2017 1:49:15 AM	W41205
n-Butylbenzene	ND	16	300		µg/L	100	3/8/2017 1:49:15 AM	W41205
n-Propylbenzene	110	13	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
sec-Butylbenzene	33	10	100	J	µg/L	100	3/8/2017 1:49:15 AM	W41205
Styrene	ND	16	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
tert-Butylbenzene	ND	10	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,1,1,2-Tetrachloroethane	ND	11	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	3/8/2017 1:49:15 AM	W41205
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
trans-1,2-DCE	ND	18	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
trans-1,3-Dichloropropene	ND	8.9	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2,3-Trichlorobenzene	ND	11	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2,4-Trichlorobenzene	ND	13	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,1,2-Trichloroethane	ND	14	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Trichloroethene (TCE)	ND	18	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Trichlorofluoromethane	ND	18	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
1,2,3-Trichloropropane	ND	39	200		µg/L	100	3/8/2017 1:49:15 AM	W41205
Vinyl chloride	ND	18	100		µg/L	100	3/8/2017 1:49:15 AM	W41205
Xylenes, Total	7800	32	150		µg/L	100	3/8/2017 1:49:15 AM	W41205
Surr: 1,2-Dichloroethane-d4	111	0	70-130		%Rec	100	3/8/2017 1:49:15 AM	W41205
Surr: 4-Bromofluorobenzene	86.2	0	70-130		%Rec	100	3/8/2017 1:49:15 AM	W41205
Surr: Dibromofluoromethane	113	0	70-130		%Rec	100	3/8/2017 1:49:15 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 12:12:00 PM
Lab ID: 1703193-004
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	96.0	0	70-130		%Rec	100	3/8/2017 1:49:15 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 1:10:00 PM
Lab ID: 1703193-005 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.8	0.36	1.0		mg/L	1	3/7/2017 5:26:30 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 5:26:30 AM	30527
Surr: DNOP	135	0	98.8-141		%Rec	1	3/7/2017 5:26:30 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	140	5.0	10		mg/L	200	3/6/2017 9:13:13 PM	G41160
Surr: BFB	97.5	0	52.3-138		%Rec	200	3/6/2017 9:13:13 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	1.0	2.0		mg/L	20	3/16/2017 12:51:49 AM	A41411
Chloride	3400	120	250		mg/L	500	3/16/2017 1:04:14 AM	A41411
Bromide	6.4	0.61	2.0		mg/L	20	3/14/2017 1:31:26 AM	A41350
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	3/14/2017 1:19:01 AM	A41350
Sulfate	1.0	0.48	2.5	J	mg/L	5	3/14/2017 1:19:01 AM	A41350
Nitrate+Nitrite as N	ND	0.26	2.0		mg/L	10	3/16/2017 1:29:04 AM	A41411
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	28	0.043	0.10	*	mg/L	50	3/17/2017 5:38:41 PM	A41488
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 11:16:59 AM	B41404
Calcium	780	25	50		mg/L	50	3/17/2017 5:38:41 PM	A41488
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 11:16:59 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 11:16:59 AM	B41404
Iron	45	1.0	1.0	*	mg/L	50	3/17/2017 5:38:41 PM	A41488
Magnesium	210	2.5	5.0		mg/L	5	3/16/2017 11:18:51 AM	B41404
Manganese	9.5	0.019	0.10	*	mg/L	50	3/17/2017 5:38:41 PM	A41488
Potassium	2.8	0.50	1.0		mg/L	1	3/16/2017 11:16:59 AM	B41404
Silver	0.0066	0.00088	0.0050		mg/L	1	3/16/2017 11:16:59 AM	B41404
Sodium	1600	25	50		mg/L	50	3/17/2017 5:38:41 PM	A41488
Zinc	0.019	0.0011	0.010		mg/L	1	3/17/2017 5:36:53 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	29	0.040	0.10	*	mg/L	50	3/17/2017 10:29:47 AM	30658
Cadmium	ND	0.0015	0.0020		mg/L	1	3/17/2017 7:19:24 AM	30658
Chromium	ND	0.0027	0.0060		mg/L	1	3/17/2017 7:19:24 AM	30658
Copper	ND	0.0030	0.0060		mg/L	1	3/17/2017 7:19:24 AM	30658
Iron	49	1.0	1.0	*	mg/L	50	3/17/2017 10:29:47 AM	30658
Manganese	9.6	0.0027	0.020	*	mg/L	10	3/17/2017 10:20:20 AM	30658
Silver	ND	0.0015	0.0050		mg/L	1	3/17/2017 7:19:24 AM	30658
Zinc	0.027	0.0027	0.010		mg/L	1	3/17/2017 7:19:24 AM	30658
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.00069	0.0050	J	mg/L	5	3/9/2017 5:41:30 PM	B41296

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 1:10:00 PM
Lab ID: 1703193-005
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	3/9/2017 5:41:30 PM	B41296
Selenium	0.0086	0.0021	0.010	J	mg/L	10	3/9/2017 5:46:38 PM	B41296
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0045	0.0011	0.0050	J	mg/L	5	3/14/2017 4:06:01 PM	30658
Lead	0.0097	0.00081	0.0050		mg/L	10	3/14/2017 4:09:02 PM	30658
Selenium	0.0058	0.0019	0.010	J	mg/L	10	3/14/2017 4:09:02 PM	30658
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:20:53 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Aniline	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Benzoic acid	21	2.6	20		µg/L	1	3/9/2017 4:09:52 PM	30544
Benzyl alcohol	4.9	3.0	10	J	µg/L	1	3/9/2017 4:09:52 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Bis(2-ethylhexyl)phthalate	7.6	2.6	10	J	µg/L	1	3/9/2017 4:09:52 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Carbazole	3.2	2.3	10	J	µg/L	1	3/9/2017 4:09:52 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 4:09:52 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 4:09:52 PM	30544

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 1:10:00 PM
Lab ID: 1703193-005 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 4:09:52 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 4:09:52 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 4:09:52 PM	30544
2,4-Dimethylphenol	55	3.0	10		µg/L	1	3/9/2017 4:09:52 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 4:09:52 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 4:09:52 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
1-Methylnaphthalene	16	2.9	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2-Methylnaphthalene	17	2.9	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2-Methylphenol	280	13	50		µg/L	5	3/10/2017 12:26:45 PM	30544
3+4-Methylphenol	290	11	50		µg/L	5	3/10/2017 12:26:45 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 4:09:52 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Naphthalene	60	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 4:09:52 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 4:09:52 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 4:09:52 PM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Phenol	ND	2.0	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 4:09:52 PM	30544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 1:10:00 PM
Lab ID: 1703193-005
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 4:09:52 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 4:09:52 PM	30544
Surr: 2-Fluorophenol	20.5	0	15-98.1		%Rec	1	3/9/2017 4:09:52 PM	30544
Surr: Phenol-d5	27.8	0	15-80.7		%Rec	1	3/9/2017 4:09:52 PM	30544
Surr: 2,4,6-Tribromophenol	55.5	0	15-112		%Rec	1	3/9/2017 4:09:52 PM	30544
Surr: Nitrobenzene-d5	79.2	0	27.2-90.7		%Rec	1	3/9/2017 4:09:52 PM	30544
Surr: 2-Fluorobiphenyl	63.3	0	23.3-85.6		%Rec	1	3/9/2017 4:09:52 PM	30544
Surr: 4-Terphenyl-d14	29.6	0	27.6-107		%Rec	1	3/9/2017 4:09:52 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	24000	96	1000		µg/L	1000	3/8/2017 2:17:54 AM	W41205
Toluene	17000	89	1000		µg/L	1000	3/8/2017 2:17:54 AM	W41205
Ethylbenzene	2100	11	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Methyl tert-butyl ether (MTBE)	160	15	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2,4-Trimethylbenzene	750	10	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,3,5-Trimethylbenzene	210	12	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2-Dichloroethane (EDC)	ND	12	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Naphthalene	78	8.3	200	J	µg/L	100	3/8/2017 2:46:19 AM	W41205
1-Methylnaphthalene	ND	16	400		µg/L	100	3/8/2017 2:46:19 AM	W41205
2-Methylnaphthalene	32	15	400	J	µg/L	100	3/8/2017 2:46:19 AM	W41205
Acetone	ND	88	1000		µg/L	100	3/8/2017 2:46:19 AM	W41205
Bromobenzene	ND	14	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Bromodichloromethane	ND	18	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Bromoform	ND	21	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Bromomethane	ND	78	300		µg/L	100	3/8/2017 2:46:19 AM	W41205
2-Butanone	ND	110	1000		µg/L	100	3/8/2017 2:46:19 AM	W41205
Carbon disulfide	ND	60	1000		µg/L	100	3/8/2017 2:46:19 AM	W41205
Carbon Tetrachloride	ND	11	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Chlorobenzene	ND	11	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Chloroethane	ND	23	200		µg/L	100	3/8/2017 2:46:19 AM	W41205
Chloroform	ND	8.9	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Chloromethane	ND	21	300		µg/L	100	3/8/2017 2:46:19 AM	W41205
2-Chlorotoluene	ND	40	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
4-Chlorotoluene	ND	40	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
cis-1,2-DCE	ND	20	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
cis-1,3-Dichloropropene	ND	10	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	3/8/2017 2:46:19 AM	W41205
Dibromochloromethane	ND	7.8	100		µg/L	100	3/8/2017 2:46:19 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 1:10:00 PM
Lab ID: 1703193-005 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	12	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2-Dichlorobenzene	ND	12	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,3-Dichlorobenzene	ND	14	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,4-Dichlorobenzene	ND	40	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Dichlorodifluoromethane	ND	32	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,1-Dichloroethane	42	10	100	J	µg/L	100	3/8/2017 2:46:19 AM	W41205
1,1-Dichloroethene	ND	8.1	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2-Dichloropropane	ND	10	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,3-Dichloropropane	ND	16	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
2,2-Dichloropropane	ND	12	200		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,1-Dichloropropene	ND	13	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Hexachlorobutadiene	ND	37	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
2-Hexanone	ND	66	1000		µg/L	100	3/8/2017 2:46:19 AM	W41205
Isopropylbenzene	110	9.8	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
4-Isopropyltoluene	ND	14	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	3/8/2017 2:46:19 AM	W41205
Methylene Chloride	ND	11	300		µg/L	100	3/8/2017 2:46:19 AM	W41205
n-Butylbenzene	ND	16	300		µg/L	100	3/8/2017 2:46:19 AM	W41205
n-Propylbenzene	160	13	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
sec-Butylbenzene	39	10	100	J	µg/L	100	3/8/2017 2:46:19 AM	W41205
Styrene	ND	16	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
tert-Butylbenzene	ND	10	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,1,1,2-Tetrachloroethane	ND	11	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	3/8/2017 2:46:19 AM	W41205
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
trans-1,2-DCE	ND	18	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
trans-1,3-Dichloropropene	ND	8.9	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2,3-Trichlorobenzene	ND	11	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2,4-Trichlorobenzene	ND	13	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,1,2-Trichloroethane	ND	14	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Trichloroethene (TCE)	ND	18	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
Trichlorofluoromethane	ND	18	100		µg/L	100	3/8/2017 2:46:19 AM	W41205
1,2,3-Trichloropropane	ND	39	200		µg/L	100	3/8/2017 2:46:19 AM	W41205
Vinyl chloride	45	18	100	J	µg/L	100	3/8/2017 2:46:19 AM	W41205
Xylenes, Total	7700	32	150		µg/L	100	3/8/2017 2:46:19 AM	W41205
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	100	3/8/2017 2:46:19 AM	W41205
Surr: 4-Bromofluorobenzene	85.4	0	70-130		%Rec	100	3/8/2017 2:46:19 AM	W41205
Surr: Dibromofluoromethane	106	0	70-130		%Rec	100	3/8/2017 2:46:19 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017 1:10:00 PM
Lab ID: 1703193-005 **Matrix:** AQUEOUS **Received Date:** 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	95.4	0	70-130		%Rec	100	3/8/2017 2:46:19 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date:
Lab ID: 1703193-006
Matrix: TRIP BLANK
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.096	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Toluene	0.090	0.089	1.0	J	µg/L	1	3/7/2017 7:07:26 PM	W41205
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Naphthalene	ND	0.083	2.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Acetone	6.1	0.88	10	J	µg/L	1	3/7/2017 7:07:26 PM	W41205
Bromobenzene	ND	0.14	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Bromoform	ND	0.21	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Bromomethane	ND	0.78	3.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
2-Butanone	ND	1.1	10		µg/L	1	3/7/2017 7:07:26 PM	W41205
Carbon disulfide	ND	0.60	10		µg/L	1	3/7/2017 7:07:26 PM	W41205
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Chloroethane	ND	0.23	2.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Chloroform	ND	0.089	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Chloromethane	ND	0.21	3.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Dibromomethane	ND	0.12	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/7/2017 7:07:26 PM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 1ST QTR MKTF Wells
Collection Date:
Lab ID: 1703193-006
Matrix: TRIP BLANK
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
2-Hexanone	ND	0.66	10		µg/L	1	3/7/2017 7:07:26 PM	W41205
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/7/2017 7:07:26 PM	W41205
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Styrene	ND	0.16	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/7/2017 7:07:26 PM	W41205
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/7/2017 7:07:26 PM	W41205
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	3/7/2017 7:07:26 PM	W41205
Surr: 4-Bromofluorobenzene	82.0	0	70-130		%Rec	1	3/7/2017 7:07:26 PM	W41205
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	3/7/2017 7:07:26 PM	W41205
Surr: Toluene-d8	93.5	0	70-130		%Rec	1	3/7/2017 7:07:26 PM	W41205

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017
Lab ID: 1703193-007
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.6	0.36	1.0		mg/L	1	3/7/2017 5:48:10 AM	30527
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/7/2017 5:48:10 AM	30527
Surr: DNOP	134	0	98.8-141		%Rec	1	3/7/2017 5:48:10 AM	30527
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	120	5.0	10		mg/L	200	3/6/2017 9:36:36 PM	G41160
Surr: BFB	92.0	0	52.3-138		%Rec	200	3/6/2017 9:36:36 PM	G41160
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	1.2	0.050	0.10		mg/L	1	3/17/2017 10:10:22 AM	R41459
Chloride	360	5.0	10		mg/L	20	3/14/2017 1:56:15 AM	A41350
Bromide	1.1	0.031	0.10		mg/L	1	3/14/2017 1:43:50 AM	A41350
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/14/2017 1:43:50 AM	A41350
Sulfate	0.23	0.096	0.50	J	mg/L	1	3/14/2017 1:43:50 AM	A41350
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/14/2017 3:35:34 AM	A41350
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **MED**	
Barium	4.4	0.0043	0.010	*	mg/L	5	3/16/2017 11:22:10 AM	B41404
Cadmium	ND	0.0010	0.0020		mg/L	1	3/16/2017 11:20:30 AM	B41404
Calcium	170	2.5	5.0		mg/L	5	3/16/2017 11:22:10 AM	B41404
Chromium	ND	0.0010	0.0060		mg/L	1	3/16/2017 11:20:30 AM	B41404
Copper	ND	0.0032	0.0060		mg/L	1	3/16/2017 11:20:30 AM	B41404
Iron	11	0.40	0.40	*	mg/L	20	3/17/2017 5:44:18 PM	A41488
Magnesium	40	0.50	1.0		mg/L	1	3/16/2017 11:20:30 AM	B41404
Manganese	3.2	0.0019	0.010	*	mg/L	5	3/16/2017 11:22:10 AM	B41404
Potassium	0.64	0.50	1.0	J	mg/L	1	3/16/2017 11:20:30 AM	B41404
Silver	ND	0.00088	0.0050		mg/L	1	3/16/2017 11:20:30 AM	B41404
Sodium	250	2.5	5.0		mg/L	5	3/16/2017 11:22:10 AM	B41404
Zinc	0.020	0.0011	0.010		mg/L	1	3/17/2017 5:42:39 PM	A41488
EPA METHOD 200.7: TOTAL METALS							Analyst: **MED**	
Barium	4.7	0.0040	0.010	*	mg/L	5	3/17/2017 10:34:03 AM	30658
Cadmium	ND	0.0015	0.0020		mg/L	1	3/17/2017 7:21:13 AM	30658
Chromium	ND	0.0027	0.0060		mg/L	1	3/17/2017 7:21:13 AM	30658
Copper	ND	0.0030	0.0060		mg/L	1	3/17/2017 7:21:13 AM	30658
Iron	15	0.40	0.40	*	mg/L	20	3/17/2017 10:35:49 AM	30658
Manganese	3.4	0.0014	0.010	*	mg/L	5	3/17/2017 10:34:03 AM	30658
Silver	ND	0.0015	0.0050		mg/L	1	3/17/2017 7:21:13 AM	30658
Zinc	0.011	0.0027	0.010		mg/L	1	3/17/2017 7:21:13 AM	30658
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.012	0.00069	0.0050	*	mg/L	5	3/9/2017 5:51:47 PM	B41296

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EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/7/2017 9:45:14 PM	C41216
Selenium	0.0049	0.0011	0.0050	J	mg/L	5	3/9/2017 5:51:47 PM	B41296
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.013	0.0011	0.0050	*	mg/L	5	3/14/2017 4:18:06 PM	30658
Lead	0.0061	0.00041	0.0025		mg/L	5	3/14/2017 4:18:06 PM	30658
Selenium	0.0034	0.0019	0.010	J	mg/L	10	3/14/2017 4:21:07 PM	30658
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	3/17/2017 4:22:56 PM	30737
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Acenaphthylene	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Aniline	5.7	2.4	10	J	µg/L	1	3/9/2017 4:38:34 PM	30544
Anthracene	ND	2.5	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Azobenzene	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Benzoic acid	ND	2.6	20		µg/L	1	3/9/2017 4:38:34 PM	30544
Benzyl alcohol	4.1	3.0	10	J	µg/L	1	3/9/2017 4:38:34 PM	30544
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Bis(2-ethylhexyl)phthalate	6.9	2.6	10	J	µg/L	1	3/9/2017 4:38:34 PM	30544
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Carbazole	3.3	2.3	10	J	µg/L	1	3/9/2017 4:38:34 PM	30544
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
4-Chloroaniline	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2-Chlorophenol	ND	2.2	10		µg/L	1	3/9/2017 4:38:34 PM	30544
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Chrysene	ND	2.8	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Di-n-octyl phthalate	ND	2.0	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Dibenzofuran	ND	2.5	10		µg/L	1	3/9/2017 4:38:34 PM	30544

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 4:38:34 PM	30544
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/9/2017 4:38:34 PM	30544
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Diethyl phthalate	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/9/2017 4:38:34 PM	30544
2,4-Dimethylphenol	28	3.0	10		µg/L	1	3/9/2017 4:38:34 PM	30544
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/9/2017 4:38:34 PM	30544
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/9/2017 4:38:34 PM	30544
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Fluoranthene	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Fluorene	ND	2.7	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Hexachloroethane	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Isophorone	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
1-Methylnaphthalene	40	2.9	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2-Methylnaphthalene	56	2.9	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2-Methylphenol	80	2.5	10		µg/L	1	3/9/2017 4:38:34 PM	30544
3+4-Methylphenol	140	2.3	10		µg/L	1	3/9/2017 4:38:34 PM	30544
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/9/2017 4:38:34 PM	30544
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Naphthalene	130	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2-Nitroaniline	ND	2.8	10		µg/L	1	3/9/2017 4:38:34 PM	30544
3-Nitroaniline	ND	2.9	10		µg/L	1	3/9/2017 4:38:34 PM	30544
4-Nitroaniline	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Nitrobenzene	ND	2.8	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2-Nitrophenol	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
4-Nitrophenol	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Pentachlorophenol	ND	2.3	20		µg/L	1	3/9/2017 4:38:34 PM	30544
Phenanthrene	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Phenol	58	2.0	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Pyrene	ND	3.1	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Pyridine	ND	2.2	10		µg/L	1	3/9/2017 4:38:34 PM	30544

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/9/2017 4:38:34 PM	30544
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/9/2017 4:38:34 PM	30544
Surr: 2-Fluorophenol	22.4	0	15-98.1		%Rec	1	3/9/2017 4:38:34 PM	30544
Surr: Phenol-d5	18.3	0	15-80.7		%Rec	1	3/9/2017 4:38:34 PM	30544
Surr: 2,4,6-Tribromophenol	51.3	0	15-112		%Rec	1	3/9/2017 4:38:34 PM	30544
Surr: Nitrobenzene-d5	69.7	0	27.2-90.7		%Rec	1	3/9/2017 4:38:34 PM	30544
Surr: 2-Fluorobiphenyl	60.4	0	23.3-85.6		%Rec	1	3/9/2017 4:38:34 PM	30544
Surr: 4-Terphenyl-d14	31.5	0	27.6-107		%Rec	1	3/9/2017 4:38:34 PM	30544
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	18000	96	1000		µg/L	1000	3/8/2017 3:15:16 AM	W41205
Toluene	20000	89	1000		µg/L	1000	3/8/2017 3:15:16 AM	W41205
Ethylbenzene	1600	11	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Methyl tert-butyl ether (MTBE)	28	15	100	J	µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2,4-Trimethylbenzene	940	10	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,3,5-Trimethylbenzene	210	12	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2-Dichloroethane (EDC)	ND	12	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Naphthalene	210	8.3	200		µg/L	100	3/8/2017 3:43:48 AM	W41205
1-Methylnaphthalene	62	16	400	J	µg/L	100	3/8/2017 3:43:48 AM	W41205
2-Methylnaphthalene	61	15	400	J	µg/L	100	3/8/2017 3:43:48 AM	W41205
Acetone	ND	88	1000		µg/L	100	3/8/2017 3:43:48 AM	W41205
Bromobenzene	ND	14	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Bromodichloromethane	ND	18	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Bromoform	ND	21	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Bromomethane	ND	78	300		µg/L	100	3/8/2017 3:43:48 AM	W41205
2-Butanone	ND	110	1000		µg/L	100	3/8/2017 3:43:48 AM	W41205
Carbon disulfide	ND	60	1000		µg/L	100	3/8/2017 3:43:48 AM	W41205
Carbon Tetrachloride	ND	11	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Chlorobenzene	ND	11	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Chloroethane	ND	23	200		µg/L	100	3/8/2017 3:43:48 AM	W41205
Chloroform	ND	8.9	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Chloromethane	ND	21	300		µg/L	100	3/8/2017 3:43:48 AM	W41205
2-Chlorotoluene	ND	40	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
4-Chlorotoluene	ND	40	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
cis-1,2-DCE	43	20	100	J	µg/L	100	3/8/2017 3:43:48 AM	W41205
cis-1,3-Dichloropropene	ND	10	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	3/8/2017 3:43:48 AM	W41205
Dibromochloromethane	ND	7.8	100		µg/L	100	3/8/2017 3:43:48 AM	W41205

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	12	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2-Dichlorobenzene	ND	12	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,3-Dichlorobenzene	ND	14	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,4-Dichlorobenzene	ND	40	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Dichlorodifluoromethane	ND	32	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,1-Dichloroethane	ND	10	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,1-Dichloroethene	ND	8.1	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2-Dichloropropane	ND	10	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,3-Dichloropropane	ND	16	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
2,2-Dichloropropane	ND	12	200		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,1-Dichloropropene	ND	13	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Hexachlorobutadiene	ND	37	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
2-Hexanone	ND	66	1000		µg/L	100	3/8/2017 3:43:48 AM	W41205
Isopropylbenzene	40	9.8	100	J	µg/L	100	3/8/2017 3:43:48 AM	W41205
4-Isopropyltoluene	ND	14	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
4-Methyl-2-pentanone	85	71	1000	J	µg/L	100	3/8/2017 3:43:48 AM	W41205
Methylene Chloride	ND	11	300		µg/L	100	3/8/2017 3:43:48 AM	W41205
n-Butylbenzene	ND	16	300		µg/L	100	3/8/2017 3:43:48 AM	W41205
n-Propylbenzene	120	13	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
sec-Butylbenzene	32	10	100	J	µg/L	100	3/8/2017 3:43:48 AM	W41205
Styrene	ND	16	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
tert-Butylbenzene	ND	10	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,1,1,2-Tetrachloroethane	ND	11	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	3/8/2017 3:43:48 AM	W41205
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
trans-1,2-DCE	ND	18	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
trans-1,3-Dichloropropene	ND	8.9	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2,3-Trichlorobenzene	ND	11	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2,4-Trichlorobenzene	ND	13	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,1,2-Trichloroethane	ND	14	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Trichloroethene (TCE)	ND	18	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Trichlorofluoromethane	ND	18	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
1,2,3-Trichloropropane	ND	39	200		µg/L	100	3/8/2017 3:43:48 AM	W41205
Vinyl chloride	ND	18	100		µg/L	100	3/8/2017 3:43:48 AM	W41205
Xylenes, Total	7700	32	150		µg/L	100	3/8/2017 3:43:48 AM	W41205
Surr: 1,2-Dichloroethane-d4	114	0	70-130		%Rec	100	3/8/2017 3:43:48 AM	W41205
Surr: 4-Bromofluorobenzene	90.0	0	70-130		%Rec	100	3/8/2017 3:43:48 AM	W41205
Surr: Dibromofluoromethane	118	0	70-130		%Rec	100	3/8/2017 3:43:48 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1ST QTR MKTF Wells
Collection Date: 3/2/2017
Lab ID: 1703193-007
Matrix: AQUEOUS
Received Date: 3/3/2017 4:06:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	96.3	0	70-130		%Rec	100	3/8/2017 3:43:48 AM	W41205

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41404**	RunNo: **41404**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1297894** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	0.0054	0.0060								J
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41404**	RunNo: **41404**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1297895** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Calcium	52	1.0	50.00	0	103	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.49	0.0060	0.5000	0	98.0	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Potassium	50	1.0	50.00	0	99.5	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	50	1.0	50.00	0	101	85	115			

Sample ID **1703193-002FMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-4**	Batch ID: **B41404**	RunNo: **41404**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1298475** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	99.2	70	130			
Chromium	0.50	0.0060	0.5000	0	100	70	130			
Copper	0.48	0.0060	0.5000	0	96.7	70	130			
Magnesium	77	1.0	50.00	28.54	96.1	70	130			
Potassium	49	1.0	50.00	0	98.9	70	130			
Silver	0.097	0.0050	0.1000	0	96.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**1703193-002FMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Dissolved Metals**
Client ID:	**MKTF-4**	Batch ID:	**B41404**	RunNo:	**41404**
Prep Date:		Analysis Date:	**3/16/2017**	SeqNo:	**1298476** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	99.2	70	130	0.00605	20	
Chromium	0.50	0.0060	0.5000	0	99.9	70	130	0.459	20	
Copper	0.48	0.0060	0.5000	0	96.5	70	130	0.205	20	
Magnesium	77	1.0	50.00	28.54	96.4	70	130	0.198	20	
Potassium	50	1.0	50.00	0	99.7	70	130	0.828	20	
Silver	0.096	0.0050	0.1000	0	95.7	70	130	1.05	20	

Sample ID	**1703193-002FMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Dissolved Metals**
Client ID:	**MKTF-4**	Batch ID:	**B41404**	RunNo:	**41404**
Prep Date:		Analysis Date:	**3/16/2017**	SeqNo:	**1299903** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	380	5.0	250.0	123.5	104	70	130			
Manganese	3.9	0.010	2.500	1.435	96.9	70	130			

Sample ID	**1703193-002FMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Dissolved Metals**
Client ID:	**MKTF-4**	Batch ID:	**B41404**	RunNo:	**41404**
Prep Date:		Analysis Date:	**3/16/2017**	SeqNo:	**1299904** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	380	5.0	250.0	123.5	101	70	130	1.96	20	
Manganese	3.8	0.010	2.500	1.435	94.8	70	130	1.32	20	

Sample ID	**MB-A**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**
Client ID:	**PBW**	Batch ID:	**A41488**	RunNo:	**41488**
Prep Date:		Analysis Date:	**3/17/2017**	SeqNo:	**1300638** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41488**	RunNo: **41488**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300641** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.9	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	96.5	85	115			
Copper	0.47	0.0060	0.5000	0	94.9	85	115			
Iron	0.47	0.020	0.5000	0	94.5	85	115			
Magnesium	50	1.0	50.00	0	99.6	85	115			
Manganese	0.46	0.0020	0.5000	0	92.9	85	115			
Potassium	49	1.0	50.00	0	97.5	85	115			
Silver	0.095	0.0050	0.1000	0	94.8	85	115			
Sodium	49	1.0	50.00	0	97.9	85	115			
Zinc	0.47	0.010	0.5000	0	94.6	85	115			

Sample ID **1703193-002FMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-4**	Batch ID: **A41488**	RunNo: **41488**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300672** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.51	0.010	0.5000	0.02624	97.0	70	130			

Sample ID **1703193-002FMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-4**	Batch ID: **A41488**	RunNo: **41488**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300673** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.52	0.010	0.5000	0.02624	98.9	70	130	1.85	20	

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41513**	RunNo: **41513**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301756** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.4	85	115			
Calcium	47	1.0	50.00	0	94.3	85	115			
Iron	0.47	0.020	0.5000	0	94.8	85	115			
Manganese	0.47	0.0020	0.5000	0	93.4	85	115			
Sodium	50	1.0	50.00	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41513**	RunNo: **41513**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301808** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **MB-30658**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **30658**	RunNo: **41449**
Prep Date: **3/13/2017**	Analysis Date: **3/17/2017**	SeqNo: **1299135** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCS-30658**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **30658**	RunNo: **41449**
Prep Date: **3/13/2017**	Analysis Date: **3/17/2017**	SeqNo: **1299136** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.2	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.9	85	115			
Chromium	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.48	0.0060	0.5000	0	95.2	85	115			
Iron	0.49	0.020	0.5000	0	98.9	85	115			
Manganese	0.48	0.0020	0.5000	0	95.7	85	115			
Silver	0.099	0.0050	0.1000	0	98.5	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41216**	RunNo: **41216**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1291492** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.2	85	115			
Lead	0.012	0.00050	0.01250	0	96.8	85	115			
Selenium	0.024	0.0010	0.02500	0	95.6	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C41216**	RunNo: **41216**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1291497** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41296**	RunNo: **41296**
Prep Date:	Analysis Date: **3/9/2017**	SeqNo: **1293971** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.2	85	115			
Lead	0.012	0.00050	0.01250	0	96.8	85	115			
Selenium	0.026	0.0010	0.02500	0	102	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41296**	RunNo: **41296**
Prep Date:	Analysis Date: **3/9/2017**	SeqNo: **1293973** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**MB-30658**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30658**	RunNo:	**41380**					
Prep Date:	**3/13/2017**	Analysis Date:	**3/14/2017**	SeqNo:	**1297154**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-30658**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30658**	RunNo:	**41380**					
Prep Date:	**3/13/2017**	Analysis Date:	**3/14/2017**	SeqNo:	**1297157**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.4	85	115			
Lead	0.012	0.00050	0.01250	0	98.9	85	115			
Selenium	0.024	0.0010	0.02500	0	96.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID	**MB-30737**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30737**	RunNo:	**41489**					
Prep Date:	**3/16/2017**	Analysis Date:	**3/17/2017**	SeqNo:	**1300796**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00015	0.00020								J

Sample ID	**LCS-30737**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30737**	RunNo:	**41489**					
Prep Date:	**3/16/2017**	Analysis Date:	**3/17/2017**	SeqNo:	**1300797**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**
28-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST QTR MKTF Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **A41350**	RunNo: **41350**							
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295807**	Units: **mg/L**						

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.27	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A41350**	RunNo: **41350**							
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295808**	Units: **mg/L**						

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.6	90	110			
Bromide	2.6	0.10	2.500	0	103	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	101	90	110			
Sulfate	10	0.50	10.00	0	101	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **A41411**	RunNo: **41411**							
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1298417**	Units: **mg/L**						

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A41411**	RunNo: **41411**							
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1298418**	Units: **mg/L**						

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.9	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R41459**	RunNo: **41459**							
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1299888**	Units: **mg/L**						

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**
28-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1ST QTR MKTF Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41459**	RunNo: **41459**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1299889** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0	109	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **LCS-30527**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **30527**	RunNo: **41156**
Prep Date: **3/6/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289827** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	109	82.8	146			
Surr: DNOP	0.59		0.5000		118	98.8	141			

Sample ID **MB-30527**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **30527**	RunNo: **41156**
Prep Date: **3/6/2017**	Analysis Date: **3/6/2017**	SeqNo: **1289828** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		124	98.8	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G41160**	RunNo: **41160**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289717** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.7	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G41160**	RunNo: **41160**
Prep Date:	Analysis Date: **3/6/2017**	SeqNo: **1289718** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.49	0.050	0.5000	0	97.6	79.1	123			
Surr: BFB	20		20.00		101	52.3	138			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G41160**	RunNo: **41189**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290721** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		91.6	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G41160**	RunNo: **41189**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290722** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	90.1	79.1	123			
Surr: BFB	20		20.00		99.1	52.3	138			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290733** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290733** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		116	70	130			
Surr: 4-Bromofluorobenzene	8.8		10.00		87.6	70	130			
Surr: Dibromofluoromethane	12		10.00		120	70	130			
Surr: Toluene-d8	9.7		10.00		96.7	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290734** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	0	126	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W41205**	RunNo: **41205**
Prep Date:	Analysis Date: **3/7/2017**	SeqNo: **1290734** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	24	1.0	20.00	0	120	70	130			
Trichloroethene (TCE)	22	1.0	20.00	0	111	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		120	70	130			
Surr: 4-Bromofluorobenzene	8.6		10.00		86.3	70	130			
Surr: Dibromofluoromethane	11		10.00		113	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **lcs-30544**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293431** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	83	10	100.0	0	82.9	42.9	100			
4-Chloro-3-methylphenol	160	10	200.0	0	77.5	36.2	110			
2-Chlorophenol	180	10	200.0	0	88.0	33.4	97.8			
1,4-Dichlorobenzene	70	10	100.0	0	70.1	32.8	79.3			
2,4-Dinitrotoluene	74	10	100.0	0	73.7	34.9	107			
N-Nitrosodi-n-propylamine	80	10	100.0	0	80.1	30.7	111			
4-Nitrophenol	94	10	200.0	0	47.0	15	91.9			
Pentachlorophenol	130	20	200.0	0	66.4	33.3	93.5			
Phenol	94	10	200.0	0	47.2	20.9	86.4			
Pyrene	78	10	100.0	0	78.0	45.6	111			
1,2,4-Trichlorobenzene	74	10	100.0	0	73.8	38.7	88.2			
Surr: 2-Fluorophenol	100		200.0		50.1	15	98.1			
Surr: Phenol-d5	69		200.0		34.5	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		72.1	15	112			
Surr: Nitrobenzene-d5	78		100.0		78.5	27.2	90.7			
Surr: 2-Fluorobiphenyl	76		100.0		76.4	23.3	85.6			
Surr: 4-Terphenyl-d14	63		100.0		62.6	27.6	107			

Sample ID **lcsd-30544**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293432** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	81	10	100.0	0	80.9	42.9	100	2.47	37.4	
4-Chloro-3-methylphenol	120	10	200.0	0	58.2	36.2	110	28.5	26.8	R
2-Chlorophenol	100	10	200.0	0	50.5	33.4	97.8	54.2	30.3	R
1,4-Dichlorobenzene	52	10	100.0	0	52.2	32.8	79.3	29.3	32	
2,4-Dinitrotoluene	66	10	100.0	0	65.6	34.9	107	11.6	36.7	
N-Nitrosodi-n-propylamine	85	10	100.0	0	84.9	30.7	111	5.75	29.9	
4-Nitrophenol	57	10	200.0	0	28.4	15	91.9	49.3	28.8	R
Pentachlorophenol	93	20	200.0	0	46.7	33.3	93.5	34.8	38.2	
Phenol	70	10	200.0	0	35.2	20.9	86.4	29.2	39.8	
Pyrene	83	10	100.0	0	82.6	45.6	111	5.68	28.3	
1,2,4-Trichlorobenzene	60	10	100.0	0	59.6	38.7	88.2	21.2	39.8	
Surr: 2-Fluorophenol	55		200.0		27.7	15	98.1	0	0	
Surr: Phenol-d5	51		200.0		25.6	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	90		200.0		45.2	15	112	0	0	
Surr: Nitrobenzene-d5	75		100.0		74.9	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	64		100.0		63.8	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **lcsd-30544**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293432** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	42		100.0		42.3	27.6	107	0	0	

Sample ID **mb-30544**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.6	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	7.5	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	2.7	10								J
Di-n-octyl phthalate	3.6	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **mb-30544**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **mb-30544**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30544**	RunNo: **41286**
Prep Date: **3/6/2017**	Analysis Date: **3/9/2017**	SeqNo: **1293433** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		60.3	15	98.1			
Surr: Phenol-d5	85		200.0		42.3	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		80.7	15	112			
Surr: Nitrobenzene-d5	85		100.0		85.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	84		100.0		83.6	23.3	85.6			
Surr: 4-Terphenyl-d14	70		100.0		70.0	27.6	107			

Sample ID **lcs-30648**	SampType: **LCS4**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BatchQC**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1297861** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	51		100.0		50.7	15	98.1			
Surr: Phenol-d5	55		100.0		54.6	15	80.7			
Surr: 2,4,6-Tribromophenol	76		100.0		75.8	15	112			
Surr: Nitrobenzene-d5	52		100.0		51.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	64		100.0		64.3	23.3	85.6			
Surr: 4-Terphenyl-d14	100		100.0		104	27.6	107			

Sample ID **lcsr-30648**	SampType: **LCSD4**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BatchQC**	Batch ID: **30648**	RunNo: **41398**
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1297862** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	49		100.0		48.8	15	98.1	0		
Surr: Phenol-d5	53		100.0		52.6	15	80.7	0		
Surr: 2,4,6-Tribromophenol	77		100.0		77.1	15	112	0		
Surr: Nitrobenzene-d5	53		100.0		52.7	27.2	90.7	0		
Surr: 2-Fluorobiphenyl	60		100.0		59.8	23.3	85.6	0		
Surr: 4-Terphenyl-d14	87		100.0		87.2	27.6	107	0		

Sample ID **mb-30648**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1297863** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	210		200.0		106	15	98.1			S
Surr: Phenol-d5	200		200.0		102	15	80.7			S
Surr: 2,4,6-Tribromophenol	200		200.0		101	15	112			
Surr: Nitrobenzene-d5	95		100.0		95.0	27.2	90.7			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703193**

28-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1ST QTR MKTF Wells

Sample ID **mb-30648**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1297863** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	120		100.0		116	23.3	85.6			S
Surr: 4-Terphenyl-d14	89		100.0		88.7	27.6	107			

Sample ID **lcs-30648**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1298726** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	51		100.0		50.7	15	98.1			
Surr: Phenol-d5	55		100.0		54.6	15	80.7			
Surr: 2,4,6-Tribromophenol	76		100.0		75.8	15	112			
Surr: Nitrobenzene-d5	52		100.0		51.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	64		100.0		64.3	23.3	85.6			
Surr: 4-Terphenyl-d14	100		100.0		104	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1703193 RcptNo: 1

Received by/date: AJ 03/03/17

Logged By: **Lindsay Mangin** 3/3/2017 4:06:00 PM

Completed By: **Lindsay Mangin** 3/6/2017 9:12:03 AM

Reviewed By: AJS 03/06/17

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☑ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☑ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
8. Are samples (except VOA and ONG) properly preserved? ~~Yes~~ ☑ No ☑ SRC
9. Was preservative added to bottles? Yes ☑ ~~No~~ ☑ SRC NA ☐
10. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☑
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
14. Is it clear what analyses were requested? Yes ☑ No ☐
15. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 15 (2 or >12 unless noted)
Adjusted? yes
Checked by: SRC

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks: For metals analysis: Added 1 mL HNO_3 to -005 for acceptable pH. Held for 24 hrs prior to analysis. 03/06/17 @ 1015 SRC.
18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

X Standard ☐ Rush_____

Project Name:

2017 1ST QTR - MKTF WELLS

Project #:

Project Manager:

C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703193	8260+MTBE	8015D(DRO/MRO/GRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	MAJOR CATIONS/ANIONS		METHOD 8011 - EDB							Air Bubbles (Y or N)
							Analysis Request														
3/2/2017	700	AQUEOUS	FIELD BLANK	3-40ML VOAS	HCL	-001	X														
3/2/2017	1130	AQUEOUS	MKTF-4	MISC	MISC	-002	X	X	X	X	X	X									
3/2/2017	1146	AQUEOUS	MKTF-11	MISC	MISC	-003	X	X	X	X	X	X									
3/2/2017	1212	AQUEOUS	MKTF-10	MISC	MISC	-004	X	X	X	X	X	X									
3/2/2017	1310	AQUEOUS	MKTF-15	MISC	MISC	-005	X	X	X	X	X	X									
3/2/2017		AQUEOUS	TRIP BLANK	MISC	MISC	-006	X														
3/2/2017		AQUEOUS	DUPLICATE	MISC	MISC	-007	X	X	X	X	X	X									

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/2/2017	1600			3/3/17	1606
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 29, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017 1st QTR-MKTF Wells OrderNo.: 1703435

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 12 sample(s) on 3/8/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 7:00:00 AM
Lab ID: 1703435-001 **Matrix:** AQUEOUS **Received Date:** 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Toluene	0.26	0.089	1.0	J	µg/L	1	3/10/2017 11:48:00 AM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2,4-Trimethylbenzene	0.20	0.10	1.0	J	µg/L	1	3/10/2017 11:48:00 AM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Acetone	5.4	0.88	10	J	µg/L	1	3/10/2017 11:48:00 AM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 11:48:00 AM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 11:48:00 AM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 11:48:00 AM	R41285

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 7:00:00 AM
Lab ID: 1703435-001
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 11:48:00 AM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 11:48:00 AM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 11:48:00 AM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 11:48:00 AM	R41285
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	3/10/2017 11:48:00 AM	R41285
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	3/10/2017 11:48:00 AM	R41285
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	3/10/2017 11:48:00 AM	R41285
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/10/2017 11:48:00 AM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 12:15:00 PM
Lab ID: 1703435-002
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/20/2017 12:40:01 PM	30777
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 6:36:05 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 6:36:05 PM	30633
Surr: DNOP	127	0	98.8-141		%Rec	1	3/13/2017 6:36:05 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.19	0.025	0.050		mg/L	1	3/13/2017 3:04:37 PM	G41332
Surr: BFB	98.4	0	52.3-138		%Rec	1	3/13/2017 3:04:37 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.050	0.10		mg/L	1	3/20/2017 6:13:29 PM	R41533
Chloride	1100	25	50		mg/L	100	3/21/2017 6:04:53 PM	R41545
Bromide	1.4	0.031	0.10		mg/L	1	3/20/2017 6:13:29 PM	R41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 6:13:29 PM	R41533
Sulfate	87	1.9	10		mg/L	20	3/20/2017 6:25:54 PM	R41533
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/21/2017 12:25:45 AM	R41533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.17	0.00085	0.0020		mg/L	1	3/23/2017 3:02:32 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:02:32 PM	A41614
Calcium	230	2.5	5.0		mg/L	5	3/23/2017 2:20:39 PM	A41614
Chromium	ND	0.0010	0.0060		mg/L	1	3/23/2017 3:02:32 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:02:32 PM	A41614
Iron	ND	0.020	0.020		mg/L	1	3/23/2017 3:02:32 PM	A41614
Magnesium	46	0.50	1.0		mg/L	1	3/23/2017 3:02:32 PM	A41614
Manganese	0.022	0.00038	0.0020		mg/L	1	3/23/2017 3:02:32 PM	A41614
Potassium	1.3	0.50	1.0		mg/L	1	3/23/2017 3:02:32 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:02:32 PM	A41614
Sodium	610	5.0	10		mg/L	10	3/23/2017 3:38:06 PM	A41614
Zinc	0.018	0.0011	0.010		mg/L	1	3/23/2017 3:02:32 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.25	0.00079	0.0020		mg/L	1	3/20/2017 7:14:54 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:14:54 PM	30673
Chromium	0.0027	0.0027	0.0060	J	mg/L	1	3/20/2017 7:14:54 PM	30673
Copper	ND	0.0030	0.0060		mg/L	1	3/22/2017 3:22:10 PM	30673
Iron	3.8	0.20	0.20	*	mg/L	10	3/20/2017 7:16:34 PM	30673
Manganese	0.19	0.00027	0.0020	*	mg/L	1	3/20/2017 7:14:54 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:14:54 PM	30673
Zinc	0.013	0.0027	0.010		mg/L	1	3/22/2017 3:22:10 PM	30673

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Lab ID: 1703435-002
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0026	0.00069	0.0050	J	mg/L	5	3/15/2017 5:04:33 PM	B41387
Lead	ND	0.00017	0.00050		mg/L	1	3/13/2017 5:23:20 PM	B41355
Selenium	0.0078	0.0011	0.0050		mg/L	5	3/15/2017 5:04:33 PM	B41387
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0049	0.0011	0.0050	J	mg/L	5	3/16/2017 2:42:10 PM	30673
Lead	0.0050	0.00041	0.0025		mg/L	5	3/16/2017 2:42:10 PM	30673
Selenium	0.011	0.00094	0.0050		mg/L	5	3/16/2017 2:42:10 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:00:01 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Benzoic acid	6.8	2.6	20	J	µg/L	1	3/15/2017 7:34:12 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Bis(2-ethylhexyl)phthalate	7.2	2.6	10	J	µg/L	1	3/15/2017 7:34:12 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 7:34:12 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 7:34:12 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/15/2017 7:34:12 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648

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Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 7:34:12 PM	30648
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 7:34:12 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 7:34:12 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 7:34:12 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 7:34:12 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 7:34:12 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 7:34:12 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 7:34:12 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 7:34:12 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 7:34:12 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 7:34:12 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 7:34:12 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 7:34:12 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 7:34:12 PM	30648

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 7:34:12 PM	30648
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 7:34:12 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 7:34:12 PM	30648
Surr: 2-Fluorophenol	42.4	0	15-98.1		%Rec	1	3/15/2017 7:34:12 PM	30648
Surr: Phenol-d5	33.1	0	15-80.7		%Rec	1	3/15/2017 7:34:12 PM	30648
Surr: 2,4,6-Tribromophenol	58.6	0	15-112		%Rec	1	3/15/2017 7:34:12 PM	30648
Surr: Nitrobenzene-d5	85.8	0	27.2-90.7		%Rec	1	3/15/2017 7:34:12 PM	30648
Surr: 2-Fluorobiphenyl	75.5	0	23.3-85.6		%Rec	1	3/15/2017 7:34:12 PM	30648
Surr: 4-Terphenyl-d14	31.1	0	27.6-107		%Rec	1	3/15/2017 7:34:12 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.62	0.096	1.0	J	µg/L	1	3/10/2017 1:00:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Methyl tert-butyl ether (MTBE)	74	0.15	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2-Dichloroethane (EDC)	20	0.12	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Acetone	2.6	0.88	10	J	µg/L	1	3/10/2017 1:00:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 1:00:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 1:00:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Chloroform	0.45	0.089	1.0	J	µg/L	1	3/10/2017 1:00:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
cis-1,2-DCE	1.8	0.20	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 1:00:00 PM	R41285

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,1-Dichloroethane	35	0.10	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,1-Dichloroethene	70	0.081	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 1:00:00 PM	R41285
Isopropylbenzene	1.0	0.098	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 1:00:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
n-Butylbenzene	0.27	0.16	3.0	J	µg/L	1	3/10/2017 1:00:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
sec-Butylbenzene	0.35	0.10	1.0	J	µg/L	1	3/10/2017 1:00:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,1,1-Trichloroethane	4.7	0.073	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,1,2-Trichloroethane	2.2	0.14	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Trichloroethene (TCE)	4.1	0.18	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 1:00:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 1:00:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	95.3	0	70-130		%Rec	1	3/10/2017 1:00:00 PM	R41285
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	3/10/2017 1:00:00 PM	R41285

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 12:15:00 PM
Lab ID: 1703435-002
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	3/10/2017 1:00:00 PM	R41285
Surr: Toluene-d8	102	0	70-130		%Rec	1	3/10/2017 1:00:00 PM	R41285

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 1:11:00 PM
Lab ID: 1703435-003
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 7:42:11 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 7:42:11 PM	30633
Surr: DNOP	128	0	98.8-141		%Rec	1	3/13/2017 7:42:11 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/13/2017 7:22:49 PM	G41332
Surr: BFB	88.2	0	52.3-138		%Rec	1	3/13/2017 7:22:49 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.050	0.10		mg/L	1	3/20/2017 6:38:19 PM	R41533
Chloride	4200	120	250		mg/L	500	3/21/2017 6:17:18 PM	R41545
Bromide	0.28	0.031	0.10		mg/L	1	3/20/2017 6:38:19 PM	R41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 6:38:19 PM	R41533
Sulfate	500	1.9	10		mg/L	20	3/20/2017 6:50:43 PM	R41533
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	3/22/2017 5:26:18 PM	R41580
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.097	0.00085	0.0020		mg/L	1	3/23/2017 3:04:28 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:04:28 PM	A41614
Calcium	370	2.5	5.0		mg/L	5	3/23/2017 2:22:40 PM	A41614
Chromium	ND	0.0010	0.0060		mg/L	1	3/23/2017 3:04:28 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:04:28 PM	A41614
Iron	ND	0.020	0.020		mg/L	1	3/23/2017 3:04:28 PM	A41614
Magnesium	69	0.50	1.0		mg/L	1	3/23/2017 3:04:28 PM	A41614
Manganese	0.040	0.00038	0.0020		mg/L	1	3/23/2017 3:04:28 PM	A41614
Potassium	6.8	0.50	1.0		mg/L	1	3/23/2017 3:04:28 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:04:28 PM	A41614
Sodium	2600	25	50		mg/L	50	3/23/2017 3:40:02 PM	A41614
Zinc	0.020	0.0011	0.010		mg/L	1	3/23/2017 3:04:28 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.22	0.00079	0.0020		mg/L	1	3/20/2017 7:18:29 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:18:29 PM	30673
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 7:18:29 PM	30673
Copper	ND	0.0030	0.0060		mg/L	1	3/22/2017 3:23:33 PM	30673
Iron	5.3	0.20	0.20	*	mg/L	10	3/20/2017 7:20:08 PM	30673
Manganese	0.20	0.00027	0.0020	*	mg/L	1	3/20/2017 7:18:29 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:18:29 PM	30673
Zinc	0.018	0.0027	0.010		mg/L	1	3/22/2017 3:23:33 PM	30673
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0029	0.0014	0.010	J	mg/L	10	3/15/2017 5:13:43 PM	B41387

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 1:11:00 PM
Lab ID: 1703435-003
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	3/15/2017 5:10:40 PM	B41387
Selenium	0.010	0.0042	0.020	J	mg/L	20	3/15/2017 5:16:46 PM	B41387
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0047	0.0011	0.0050	J	mg/L	5	3/16/2017 2:48:12 PM	30673
Lead	0.0081	0.00041	0.0025		mg/L	5	3/16/2017 2:48:12 PM	30673
Selenium	0.012	0.00094	0.0050		mg/L	5	3/16/2017 2:48:12 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:02:03 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Benzoic acid	10	2.6	20	J	µg/L	1	3/15/2017 8:02:29 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Bis(2-ethylhexyl)phthalate	7.6	2.6	10	J	µg/L	1	3/15/2017 8:02:29 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 8:02:29 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 8:02:29 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Di-n-octyl phthalate	3.6	2.0	10	J	µg/L	1	3/15/2017 8:02:29 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 8:02:29 PM	30648

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 1:11:00 PM
Lab ID: 1703435-003
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 8:02:29 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 8:02:29 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 8:02:29 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 8:02:29 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 8:02:29 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 8:02:29 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 8:02:29 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 8:02:29 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 8:02:29 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 8:02:29 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 8:02:29 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 8:02:29 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 8:02:29 PM	30648

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 1:11:00 PM
Lab ID: 1703435-003
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 8:02:29 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 8:02:29 PM	30648
Surr: 2-Fluorophenol	41.5	0	15-98.1		%Rec	1	3/15/2017 8:02:29 PM	30648
Surr: Phenol-d5	30.9	0	15-80.7		%Rec	1	3/15/2017 8:02:29 PM	30648
Surr: 2,4,6-Tribromophenol	64.7	0	15-112		%Rec	1	3/15/2017 8:02:29 PM	30648
Surr: Nitrobenzene-d5	81.9	0	27.2-90.7		%Rec	1	3/15/2017 8:02:29 PM	30648
Surr: 2-Fluorobiphenyl	73.2	0	23.3-85.6		%Rec	1	3/15/2017 8:02:29 PM	30648
Surr: 4-Terphenyl-d14	26.2	0	27.6-107	S	%Rec	1	3/15/2017 8:02:29 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Methyl tert-butyl ether (MTBE)	0.41	0.15	1.0	J	µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Acetone	2.3	0.88	10	J	µg/L	1	3/10/2017 1:48:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 1:48:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 1:48:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 1:11:00 PM
Lab ID: 1703435-003
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,1-Dichloroethane	0.62	0.10	1.0	J	µg/L	1	3/10/2017 1:48:00 PM	R41285
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 1:48:00 PM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 1:48:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 1:48:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 1:48:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	108	0	70-130		%Rec	1	3/10/2017 1:48:00 PM	R41285
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	1	3/10/2017 1:48:00 PM	R41285
Surr: Dibromofluoromethane	112	0	70-130		%Rec	1	3/10/2017 1:48:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 1:11:00 PM
Lab ID: 1703435-003
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	103	0	70-130		%Rec	1	3/10/2017 1:48:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 2:00:00 PM
Lab ID: 1703435-004
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	79	0.36	1.0		mg/L	1	3/13/2017 8:04:02 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 8:04:02 PM	30633
Surr: DNOP	137	0	98.8-141		%Rec	1	3/13/2017 8:04:02 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.14	0.025	0.050		mg/L	1	3/13/2017 7:46:18 PM	G41332
Surr: BFB	97.9	0	52.3-138		%Rec	1	3/13/2017 7:46:18 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.68	0.25	0.50		mg/L	5	3/20/2017 7:27:56 PM	R41533
Chloride	820	25	50		mg/L	100	3/21/2017 6:29:43 PM	R41545
Bromide	1.5	0.15	0.50		mg/L	5	3/20/2017 7:27:56 PM	R41533
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	3/20/2017 7:27:56 PM	R41533
Sulfate	110	0.48	2.5		mg/L	5	3/20/2017 7:27:56 PM	R41533
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/21/2017 12:50:35 AM	R41533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.079	0.00085	0.0020		mg/L	1	3/23/2017 3:06:16 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:06:16 PM	A41614
Calcium	19	0.50	1.0		mg/L	1	3/23/2017 3:06:16 PM	A41614
Chromium	ND	0.0010	0.0060		mg/L	1	3/23/2017 3:06:16 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:06:16 PM	A41614
Iron	0.061	0.020	0.020		mg/L	1	3/23/2017 3:06:16 PM	A41614
Magnesium	2.6	0.50	1.0		mg/L	1	3/23/2017 3:06:16 PM	A41614
Manganese	0.23	0.00038	0.0020	*	mg/L	1	3/23/2017 3:06:16 PM	A41614
Potassium	1.4	0.50	1.0		mg/L	1	3/23/2017 3:06:16 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:06:16 PM	A41614
Sodium	700	5.0	10		mg/L	10	3/23/2017 3:41:56 PM	A41614
Zinc	0.015	0.0011	0.010		mg/L	1	3/23/2017 3:06:16 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00079	0.0020		mg/L	1	3/20/2017 7:22:01 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:22:01 PM	30673
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 7:22:01 PM	30673
Copper	0.0050	0.0030	0.0060	J	mg/L	1	3/22/2017 3:24:59 PM	30673
Iron	1.2	0.10	0.10	*	mg/L	5	3/20/2017 7:24:01 PM	30673
Manganese	0.26	0.00027	0.0020	*	mg/L	1	3/20/2017 7:22:01 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:22:01 PM	30673
Zinc	0.0060	0.0027	0.010	J	mg/L	1	3/22/2017 3:24:59 PM	30673
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.0028	0.020	J	mg/L	20	3/15/2017 5:29:03 PM	B41387

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 2:00:00 PM
Lab ID: 1703435-004
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/13/2017 5:29:27 PM	B41355
Selenium	0.0086	0.0042	0.020	J	mg/L	20	3/15/2017 5:29:03 PM	B41387
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0089	0.0042	0.020	J	mg/L	20	3/16/2017 2:57:14 PM	30673
Lead	0.0023	0.00041	0.0025	J	mg/L	5	3/16/2017 2:54:13 PM	30673
Selenium	0.012	0.00094	0.0050		mg/L	5	3/16/2017 2:54:13 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:04:06 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Benzo(b)fluoranthene	3.5	2.9	10	J	µg/L	1	3/15/2017 8:30:39 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Benzoic acid	ND	2.6	20		µg/L	1	3/15/2017 8:30:39 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Bis(2-ethylhexyl)phthalate	9.6	2.6	10	J	µg/L	1	3/15/2017 8:30:39 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 8:30:39 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 8:30:39 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Di-n-octyl phthalate	4.4	2.0	10	J	µg/L	1	3/15/2017 8:30:39 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 8:30:39 PM	30648

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Collection Date: 3/7/2017 2:00:00 PM
Lab ID: 1703435-004
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 8:30:39 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 8:30:39 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Dimethyl phthalate	22	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 8:30:39 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 8:30:39 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 8:30:39 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 8:30:39 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Indeno(1,2,3-cd)pyrene	3.3	3.0	10	J	µg/L	1	3/15/2017 8:30:39 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
1-Methylnaphthalene	150	2.9	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 8:30:39 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 8:30:39 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 8:30:39 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Naphthalene	14	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 8:30:39 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 8:30:39 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 8:30:39 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 8:30:39 PM	30648

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 2:00:00 PM
Lab ID: 1703435-004
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 8:30:39 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 8:30:39 PM	30648
Surr: 2-Fluorophenol	30.9	0	15-98.1		%Rec	1	3/15/2017 8:30:39 PM	30648
Surr: Phenol-d5	22.6	0	15-80.7		%Rec	1	3/15/2017 8:30:39 PM	30648
Surr: 2,4,6-Tribromophenol	1.79	0	15-112	S	%Rec	1	3/15/2017 8:30:39 PM	30648
Surr: Nitrobenzene-d5	82.6	0	27.2-90.7		%Rec	1	3/15/2017 8:30:39 PM	30648
Surr: 2-Fluorobiphenyl	55.2	0	23.3-85.6		%Rec	1	3/15/2017 8:30:39 PM	30648
Surr: 4-Terphenyl-d14	51.6	0	27.6-107		%Rec	1	3/15/2017 8:30:39 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4.9	0.096	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Toluene	0.44	0.089	1.0	J	µg/L	1	3/10/2017 2:12:00 PM	R41285
Ethylbenzene	1.1	0.11	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Methyl tert-butyl ether (MTBE)	1.1	0.15	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2,4-Trimethylbenzene	4.0	0.10	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,3,5-Trimethylbenzene	3.4	0.12	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2-Dichloroethane (EDC)	1.3	0.12	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Naphthalene	24	0.083	2.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1-Methylnaphthalene	19	0.16	4.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
2-Methylnaphthalene	7.3	0.15	4.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Acetone	28	0.88	10		µg/L	1	3/10/2017 2:12:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
2-Butanone	9.0	1.1	10	J	µg/L	1	3/10/2017 2:12:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 2:12:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-42
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 2:00:00 PM
Lab ID: 1703435-004
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 2:12:00 PM	R41285
Isopropylbenzene	0.34	0.098	1.0	J	µg/L	1	3/10/2017 2:12:00 PM	R41285
4-Isopropyltoluene	3.1	0.14	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
4-Methyl-2-pentanone	2.2	0.71	10	J	µg/L	1	3/10/2017 2:12:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
n-Propylbenzene	0.28	0.13	1.0	J	µg/L	1	3/10/2017 2:12:00 PM	R41285
sec-Butylbenzene	0.20	0.10	1.0	J	µg/L	1	3/10/2017 2:12:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 2:12:00 PM	R41285
Xylenes, Total	24	0.32	1.5		µg/L	1	3/10/2017 2:12:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	97.9	0	70-130		%Rec	1	3/10/2017 2:12:00 PM	R41285
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	3/10/2017 2:12:00 PM	R41285
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	3/10/2017 2:12:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 2:00:00 PM
Lab ID: 1703435-004
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	115	0	70-130		%Rec	1	3/10/2017 2:12:00 PM	R41285

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Client Sample ID: MKTF-32
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 4:15:00 PM
Lab ID: 1703435-005
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 8:25:51 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 8:25:51 PM	30633
Surr: DNOP	127	0	98.8-141		%Rec	1	3/13/2017 8:25:51 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.92	0.025	0.050		mg/L	1	3/13/2017 8:09:45 PM	G41332
Surr: BFB	90.1	0	52.3-138		%Rec	1	3/13/2017 8:09:45 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.17	0.050	0.10		mg/L	1	3/20/2017 8:17:35 PM	A41533
Chloride	400	12	25		mg/L	50	3/21/2017 6:42:08 PM	R41545
Bromide	1.1	0.031	0.10		mg/L	1	3/20/2017 8:17:35 PM	A41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 8:17:35 PM	A41533
Sulfate	91	1.9	10		mg/L	20	3/20/2017 8:29:59 PM	A41533
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/21/2017 1:02:59 AM	R41533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.043	0.00085	0.0020		mg/L	1	3/23/2017 3:08:10 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:08:10 PM	A41614
Calcium	27	0.50	1.0		mg/L	1	3/23/2017 3:08:10 PM	A41614
Chromium	ND	0.0010	0.0060		mg/L	1	3/23/2017 3:08:10 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:08:10 PM	A41614
Iron	ND	0.020	0.020		mg/L	1	3/23/2017 3:08:10 PM	A41614
Magnesium	5.5	0.50	1.0		mg/L	1	3/23/2017 3:08:10 PM	A41614
Manganese	0.065	0.00038	0.0020	*	mg/L	1	3/23/2017 3:08:10 PM	A41614
Potassium	0.52	0.50	1.0	J	mg/L	1	3/23/2017 3:08:10 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:08:10 PM	A41614
Sodium	580	5.0	10		mg/L	10	3/23/2017 3:43:50 PM	A41614
Zinc	0.029	0.0011	0.010		mg/L	1	3/23/2017 3:08:10 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.055	0.00079	0.0020		mg/L	1	3/20/2017 7:32:41 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:32:41 PM	30673
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 7:32:41 PM	30673
Copper	ND	0.0030	0.0060		mg/L	1	3/22/2017 3:26:23 PM	30673
Iron	0.51	0.020	0.020	*	mg/L	1	3/20/2017 7:32:41 PM	30673
Manganese	0.080	0.00027	0.0020	*	mg/L	1	3/20/2017 7:32:41 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:32:41 PM	30673
Zinc	0.0030	0.0027	0.010	J	mg/L	1	3/22/2017 3:26:23 PM	30673
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0039	0.00014	0.0010		mg/L	1	3/13/2017 5:32:30 PM	B41355

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 4:15:00 PM
Lab ID: 1703435-005
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/13/2017 5:32:30 PM	B41355
Selenium	0.0059	0.00021	0.0010		mg/L	1	3/13/2017 5:32:30 PM	B41355
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0046	0.0021	0.010	J	mg/L	10	3/16/2017 3:03:15 PM	30673
Lead	0.00083	0.00041	0.0025	J	mg/L	5	3/16/2017 3:00:14 PM	30673
Selenium	0.0091	0.00094	0.0050		mg/L	5	3/16/2017 3:00:14 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:10:22 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Benzoic acid	26	2.6	20		µg/L	1	3/15/2017 8:58:49 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Bis(2-ethylhexyl)phthalate	7.7	2.6	10	J	µg/L	1	3/15/2017 8:58:49 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 8:58:49 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 8:58:49 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Di-n-butyl phthalate	2.5	2.4	10	J	µg/L	1	3/15/2017 8:58:49 PM	30648
Di-n-octyl phthalate	4.0	2.0	10	J	µg/L	1	3/15/2017 8:58:49 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 8:58:49 PM	30648

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Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 8:58:49 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 8:58:49 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 8:58:49 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 8:58:49 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 8:58:49 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 8:58:49 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 8:58:49 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 8:58:49 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 8:58:49 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 8:58:49 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 8:58:49 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 8:58:49 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 8:58:49 PM	30648

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 4:15:00 PM
Lab ID: 1703435-005
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 8:58:49 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 8:58:49 PM	30648
Surr: 2-Fluorophenol	33.8	0	15-98.1		%Rec	1	3/15/2017 8:58:49 PM	30648
Surr: Phenol-d5	26.4	0	15-80.7		%Rec	1	3/15/2017 8:58:49 PM	30648
Surr: 2,4,6-Tribromophenol	57.7	0	15-112		%Rec	1	3/15/2017 8:58:49 PM	30648
Surr: Nitrobenzene-d5	80.0	0	27.2-90.7		%Rec	1	3/15/2017 8:58:49 PM	30648
Surr: 2-Fluorobiphenyl	69.1	0	23.3-85.6		%Rec	1	3/15/2017 8:58:49 PM	30648
Surr: 4-Terphenyl-d14	32.0	0	27.6-107		%Rec	1	3/15/2017 8:58:49 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.45	0.096	1.0	J	µg/L	1	3/10/2017 3:00:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Methyl tert-butyl ether (MTBE)	660	1.5	10		µg/L	10	3/10/2017 2:36:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2-Dichloroethane (EDC)	18	0.12	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Acetone	2.4	0.88	10	J	µg/L	1	3/10/2017 3:00:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 3:00:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 3:00:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
cis-1,2-DCE	1.9	0.20	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 4:15:00 PM
Lab ID: 1703435-005
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,1-Dichloroethane	18	0.10	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,1-Dichloroethene	35	0.081	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 3:00:00 PM	R41285
Isopropylbenzene	0.22	0.098	1.0	J	µg/L	1	3/10/2017 3:00:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 3:00:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
sec-Butylbenzene	0.81	0.10	1.0	J	µg/L	1	3/10/2017 3:00:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,1,1-Trichloroethane	0.58	0.073	1.0	J	µg/L	1	3/10/2017 3:00:00 PM	R41285
1,1,2-Trichloroethane	1.4	0.14	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Trichloroethene (TCE)	0.24	0.18	1.0	J	µg/L	1	3/10/2017 3:00:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 3:00:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 3:00:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	98.9	0	70-130		%Rec	1	3/10/2017 3:00:00 PM	R41285
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	3/10/2017 3:00:00 PM	R41285
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	3/10/2017 3:00:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 4:15:00 PM
Lab ID: 1703435-005
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/10/2017 3:00:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:21:00 PM
Lab ID: 1703435-006
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/20/2017 12:55:21 PM	30777
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 8:47:46 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 8:47:46 PM	30633
Surr: DNOP	133	0	98.8-141		%Rec	1	3/13/2017 8:47:46 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/13/2017 8:33:09 PM	G41332
Surr: BFB	88.1	0	52.3-138		%Rec	1	3/13/2017 8:33:09 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.32	0.050	0.10		mg/L	1	3/20/2017 8:42:23 PM	A41533
Chloride	800	25	50		mg/L	100	3/21/2017 6:54:32 PM	R41545
Bromide	2.2	0.031	0.10		mg/L	1	3/20/2017 8:42:23 PM	A41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 8:42:23 PM	A41533
Sulfate	64	1.9	10		mg/L	20	3/20/2017 8:54:47 PM	A41533
Nitrate+Nitrite as N	3.9	0.13	1.0		mg/L	5	3/21/2017 1:15:24 AM	R41533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.056	0.00085	0.0020		mg/L	1	3/23/2017 3:10:13 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:10:13 PM	A41614
Calcium	13	0.50	1.0		mg/L	1	3/23/2017 3:10:13 PM	A41614
Chromium	0.0020	0.0010	0.0060	J	mg/L	1	3/23/2017 3:10:13 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:10:13 PM	A41614
Iron	ND	0.020	0.020		mg/L	1	3/23/2017 3:10:13 PM	A41614
Magnesium	1.8	0.50	1.0		mg/L	1	3/23/2017 3:10:13 PM	A41614
Manganese	0.0016	0.00038	0.0020	J	mg/L	1	3/23/2017 3:10:13 PM	A41614
Potassium	1.6	0.50	1.0		mg/L	1	3/23/2017 3:10:13 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:10:13 PM	A41614
Sodium	620	5.0	10		mg/L	10	3/23/2017 3:45:44 PM	A41614
Zinc	0.015	0.0011	0.010		mg/L	1	3/23/2017 3:10:13 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.12	0.00079	0.0020		mg/L	1	3/20/2017 7:34:45 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:34:45 PM	30673
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 7:34:45 PM	30673
Copper	ND	0.0030	0.0060		mg/L	1	3/22/2017 3:27:56 PM	30673
Iron	2.1	0.10	0.10	*	mg/L	5	3/20/2017 7:36:24 PM	30673
Manganese	0.10	0.00027	0.0020	*	mg/L	1	3/20/2017 7:34:45 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:34:45 PM	30673
Zinc	0.0084	0.0027	0.010	J	mg/L	1	3/22/2017 3:27:56 PM	30673

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:21:00 PM
Lab ID: 1703435-006
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0055	0.0014	0.010	J	mg/L	10	3/15/2017 5:32:07 PM	B41387
Lead	ND	0.00017	0.00050		mg/L	1	3/13/2017 5:35:34 PM	B41355
Selenium	0.049	0.0021	0.010		mg/L	10	3/15/2017 5:32:07 PM	B41387
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0081	0.0021	0.010	J	mg/L	10	3/16/2017 3:15:20 PM	30673
Lead	0.0032	0.00041	0.0025		mg/L	5	3/16/2017 3:06:15 PM	30673
Selenium	0.047	0.00094	0.0050		mg/L	5	3/16/2017 3:06:15 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:12:26 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Benzoic acid	8.2	2.6	20	J	µg/L	1	3/15/2017 9:26:56 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Bis(2-ethylhexyl)phthalate	7.7	2.6	10	J	µg/L	1	3/15/2017 9:26:56 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 9:26:56 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 9:26:56 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Di-n-butyl phthalate	2.5	2.4	10	J	µg/L	1	3/15/2017 9:26:56 PM	30648
Di-n-octyl phthalate	4.2	2.0	10	J	µg/L	1	3/15/2017 9:26:56 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:21:00 PM
Lab ID: 1703435-006
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 9:26:56 PM	30648
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 9:26:56 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 9:26:56 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 9:26:56 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 9:26:56 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 9:26:56 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 9:26:56 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 9:26:56 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 9:26:56 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 9:26:56 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 9:26:56 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 9:26:56 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 9:26:56 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 9:26:56 PM	30648

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:21:00 PM
Lab ID: 1703435-006
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 9:26:56 PM	30648
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 9:26:56 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 9:26:56 PM	30648
Surr: 2-Fluorophenol	34.6	0	15-98.1		%Rec	1	3/15/2017 9:26:56 PM	30648
Surr: Phenol-d5	28.0	0	15-80.7		%Rec	1	3/15/2017 9:26:56 PM	30648
Surr: 2,4,6-Tribromophenol	56.0	0	15-112		%Rec	1	3/15/2017 9:26:56 PM	30648
Surr: Nitrobenzene-d5	88.7	0	27.2-90.7		%Rec	1	3/15/2017 9:26:56 PM	30648
Surr: 2-Fluorobiphenyl	81.8	0	23.3-85.6		%Rec	1	3/15/2017 9:26:56 PM	30648
Surr: 4-Terphenyl-d14	33.3	0	27.6-107		%Rec	1	3/15/2017 9:26:56 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Methyl tert-butyl ether (MTBE)	1.2	0.15	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2-Dichloroethane (EDC)	2.6	0.12	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Acetone	1.0	0.88	10	J	µg/L	1	3/10/2017 3:24:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 3:24:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 3:24:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 3:24:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:21:00 PM
Lab ID: 1703435-006
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,1-Dichloroethane	3.6	0.10	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,1-Dichloroethene	5.3	0.081	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 3:24:00 PM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 3:24:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,1,2-Trichloroethane	0.52	0.14	1.0	J	µg/L	1	3/10/2017 3:24:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 3:24:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 3:24:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	99.0	0	70-130		%Rec	1	3/10/2017 3:24:00 PM	R41285
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	3/10/2017 3:24:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:21:00 PM
Lab ID: 1703435-006
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	3/10/2017 3:24:00 PM	R41285
Surr: Toluene-d8	109	0	70-130		%Rec	1	3/10/2017 3:24:00 PM	R41285

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:30:00 PM
Lab ID: 1703435-007
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/20/2017 1:10:46 PM	30777
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 9:09:32 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 9:09:32 PM	30633
Surr: DNOP	134	0	98.8-141		%Rec	1	3/13/2017 9:09:32 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/13/2017 8:56:32 PM	G41332
Surr: BFB	88.2	0	52.3-138		%Rec	1	3/13/2017 8:56:32 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.32	0.050	0.10		mg/L	1	3/20/2017 9:07:12 PM	A41533
Chloride	770	25	50		mg/L	100	3/21/2017 7:06:57 PM	R41545
Bromide	2.2	0.031	0.10		mg/L	1	3/20/2017 9:07:12 PM	A41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 9:07:12 PM	A41533
Sulfate	64	1.9	10		mg/L	20	3/20/2017 9:19:36 PM	A41533
Nitrate+Nitrite as N	4.1	0.13	1.0		mg/L	5	3/21/2017 1:27:49 AM	R41533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.056	0.00085	0.0020		mg/L	1	3/23/2017 3:12:07 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:12:07 PM	A41614
Calcium	12	0.50	1.0		mg/L	1	3/23/2017 3:12:07 PM	A41614
Chromium	0.0021	0.0010	0.0060	J	mg/L	1	3/23/2017 3:12:07 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:12:07 PM	A41614
Iron	ND	0.020	0.020		mg/L	1	3/23/2017 3:12:07 PM	A41614
Magnesium	1.7	0.50	1.0		mg/L	1	3/23/2017 3:12:07 PM	A41614
Manganese	0.0010	0.00038	0.0020	J	mg/L	1	3/23/2017 3:12:07 PM	A41614
Potassium	1.6	0.50	1.0		mg/L	1	3/23/2017 3:12:07 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:12:07 PM	A41614
Sodium	630	5.0	10		mg/L	10	3/23/2017 3:47:37 PM	A41614
Zinc	0.019	0.0011	0.010		mg/L	1	3/23/2017 3:12:07 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.13	0.00079	0.0020		mg/L	1	3/20/2017 7:38:39 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:38:39 PM	30673
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 7:38:39 PM	30673
Copper	ND	0.0030	0.0060		mg/L	1	3/22/2017 3:29:33 PM	30673
Iron	3.2	0.10	0.10	*	mg/L	5	3/20/2017 7:40:20 PM	30673
Manganese	0.12	0.00027	0.0020	*	mg/L	1	3/20/2017 7:38:39 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:38:39 PM	30673
Zinc	0.011	0.0027	0.010		mg/L	1	3/22/2017 3:29:33 PM	30673

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Client Sample ID: DUPLICATE
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:30:00 PM
Lab ID: 1703435-007
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0053	0.0014	0.010	J	mg/L	10	3/15/2017 5:38:14 PM	B41387
Lead	ND	0.00017	0.00050		mg/L	1	3/13/2017 5:44:48 PM	B41355
Selenium	0.047	0.0021	0.010		mg/L	10	3/15/2017 5:38:14 PM	B41387
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0079	0.0021	0.010	J	mg/L	10	3/16/2017 3:24:22 PM	30673
Lead	0.0044	0.00041	0.0025		mg/L	5	3/16/2017 3:21:21 PM	30673
Selenium	0.051	0.00094	0.0050	*	mg/L	5	3/16/2017 3:21:21 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:14:30 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Benz(a)anthracene	3.2	2.6	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Benzo(a)pyrene	3.2	2.7	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Benzo(b)fluoranthene	4.1	2.9	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Benzoic acid	6.3	2.6	20	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Bis(2-ethylhexyl)phthalate	8.2	2.6	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Butyl benzyl phthalate	2.6	2.5	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 9:54:58 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 9:54:58 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Chrysene	5.3	2.8	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Di-n-butyl phthalate	3.3	2.4	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Di-n-octyl phthalate	4.7	2.0	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 9:54:58 PM	30648

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Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 9:54:58 PM	30648
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 9:54:58 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 9:54:58 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 9:54:58 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 9:54:58 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 9:54:58 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 9:54:58 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Indeno(1,2,3-cd)pyrene	3.6	3.0	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 9:54:58 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 9:54:58 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 9:54:58 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 9:54:58 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 9:54:58 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 9:54:58 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Pyrene	3.4	3.1	10	J	µg/L	1	3/15/2017 9:54:58 PM	30648

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 9:54:58 PM	30648
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 9:54:58 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 9:54:58 PM	30648
Surr: 2-Fluorophenol	24.9	0	15-98.1		%Rec	1	3/15/2017 9:54:58 PM	30648
Surr: Phenol-d5	20.2	0	15-80.7		%Rec	1	3/15/2017 9:54:58 PM	30648
Surr: 2,4,6-Tribromophenol	44.8	0	15-112		%Rec	1	3/15/2017 9:54:58 PM	30648
Surr: Nitrobenzene-d5	65.4	0	27.2-90.7		%Rec	1	3/15/2017 9:54:58 PM	30648
Surr: 2-Fluorobiphenyl	67.8	0	23.3-85.6		%Rec	1	3/15/2017 9:54:58 PM	30648
Surr: 4-Terphenyl-d14	31.2	0	27.6-107		%Rec	1	3/15/2017 9:54:58 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Methyl tert-butyl ether (MTBE)	1.0	0.15	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2-Dichloroethane (EDC)	2.7	0.12	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Acetone	1.9	0.88	10	J	µg/L	1	3/10/2017 3:47:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 3:47:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 3:47:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 3:47:00 PM	R41285

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,1-Dichloroethane	3.4	0.10	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,1-Dichloroethene	5.5	0.081	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 3:47:00 PM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 3:47:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,1,2-Trichloroethane	0.64	0.14	1.0	J	µg/L	1	3/10/2017 3:47:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 3:47:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 3:47:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	98.7	0	70-130		%Rec	1	3/10/2017 3:47:00 PM	R41285
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	3/10/2017 3:47:00 PM	R41285

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/7/2017 3:30:00 PM
Lab ID: 1703435-007
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	3/10/2017 3:47:00 PM	R41285
Surr: Toluene-d8	115	0	70-130		%Rec	1	3/10/2017 3:47:00 PM	R41285

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR-MKTF Wells
Collection Date:
Lab ID: 1703435-008
Matrix: TRIP BLANK
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Acetone	2.9	0.88	10	J	µg/L	1	3/10/2017 4:11:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 4:11:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 4:11:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 4:11:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR-MKTF Wells
Collection Date:
Lab ID: 1703435-008
Matrix: TRIP BLANK
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 4:11:00 PM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 4:11:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 4:11:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 4:11:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	98.2	0	70-130		%Rec	1	3/10/2017 4:11:00 PM	R41285
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	3/10/2017 4:11:00 PM	R41285
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	3/10/2017 4:11:00 PM	R41285
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/10/2017 4:11:00 PM	R41285

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 9:14:00 AM
Lab ID: 1703435-009
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 9:31:23 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 9:31:23 PM	30633
Surr: DNOP	130	0	98.8-141		%Rec	1	3/13/2017 9:31:23 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/13/2017 9:19:54 PM	G41332
Surr: BFB	88.4	0	52.3-138		%Rec	1	3/13/2017 9:19:54 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	1.0	2.0		mg/L	20	3/20/2017 10:34:04 PM	A41533
Chloride	13000	500	1000		mg/L	2000	3/21/2017 7:19:22 PM	R41545
Bromide	10	0.61	2.0		mg/L	20	3/20/2017 10:34:04 PM	A41533
Phosphorus, Orthophosphate (As P)	ND	5.0	10	H	mg/L	20	3/20/2017 10:34:04 PM	A41533
Sulfate	1000	190	1000		mg/L	2000	3/21/2017 7:19:22 PM	R41545
Nitrate+Nitrite as N	25	1.3	10	*	mg/L	50	3/22/2017 5:38:43 PM	R41580
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.068	0.0043	0.010		mg/L	5	3/23/2017 2:32:13 PM	A41614
Cadmium	ND	0.0050	0.010		mg/L	5	3/23/2017 2:32:13 PM	A41614
Calcium	3000	25	50		mg/L	50	3/23/2017 3:52:32 PM	A41614
Chromium	ND	0.0051	0.030		mg/L	5	3/23/2017 2:32:13 PM	A41614
Copper	ND	0.016	0.030		mg/L	5	3/23/2017 2:32:13 PM	A41614
Iron	ND	0.10	0.10		mg/L	5	3/23/2017 2:32:13 PM	A41614
Magnesium	490	2.5	5.0		mg/L	5	3/23/2017 2:32:13 PM	A41614
Manganese	11	0.019	0.10	*	mg/L	50	3/23/2017 3:52:32 PM	A41614
Potassium	7.8	2.5	5.0		mg/L	5	3/23/2017 2:32:13 PM	A41614
Silver	ND	0.0044	0.025		mg/L	5	3/23/2017 2:32:13 PM	A41614
Sodium	6200	50	100		mg/L	100	3/23/2017 3:54:18 PM	A41614
Zinc	0.037	0.0057	0.050	J	mg/L	5	3/23/2017 2:32:13 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.12	0.0040	0.010		mg/L	5	3/20/2017 7:44:12 PM	30673
Cadmium	ND	0.0074	0.010		mg/L	5	3/20/2017 7:44:12 PM	30673
Chromium	ND	0.013	0.030		mg/L	5	3/20/2017 7:44:12 PM	30673
Copper	ND	0.015	0.030		mg/L	5	3/22/2017 3:31:13 PM	30673
Iron	2.6	0.10	0.10	*	mg/L	5	3/20/2017 7:44:12 PM	30673
Manganese	11	0.0055	0.040	*	mg/L	20	3/20/2017 7:46:15 PM	30673
Silver	ND	0.0077	0.025		mg/L	5	3/20/2017 7:44:12 PM	30673
Zinc	0.016	0.013	0.050	J	mg/L	5	3/22/2017 3:31:13 PM	30673
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.017	0.014	0.10	J*	mg/L	100	3/15/2017 5:50:27 PM	B41387

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 9:14:00 AM
Lab ID: 1703435-009
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.0034	0.010		mg/L	20	3/15/2017 5:47:24 PM	B41387
Selenium	0.059	0.021	0.10	J*	mg/L	100	3/15/2017 5:50:27 PM	B41387
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.033	0.011	0.050	J*	mg/L	50	3/16/2017 3:36:24 PM	30673
Lead	ND	0.0041	0.025		mg/L	50	3/16/2017 3:36:24 PM	30673
Selenium	0.082	0.0094	0.050	*	mg/L	50	3/16/2017 3:36:24 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:16:35 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Benzoic acid	6.3	2.6	20	J	µg/L	1	3/15/2017 10:22:52 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Bis(2-ethylhexyl)phthalate	7.1	2.6	10	J	µg/L	1	3/15/2017 10:22:52 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 10:22:52 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 10:22:52 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Di-n-butyl phthalate	2.6	2.4	10	J	µg/L	1	3/15/2017 10:22:52 PM	30648
Di-n-octyl phthalate	3.4	2.0	10	J	µg/L	1	3/15/2017 10:22:52 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 10:22:52 PM	30648

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 9:14:00 AM
Lab ID: 1703435-009
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 10:22:52 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 10:22:52 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 10:22:52 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 10:22:52 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 10:22:52 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 10:22:52 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 10:22:52 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 10:22:52 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 10:22:52 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 10:22:52 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 10:22:52 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 10:22:52 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 10:22:52 PM	30648

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 9:14:00 AM
Lab ID: 1703435-009
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 10:22:52 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 10:22:52 PM	30648
Surr: 2-Fluorophenol	27.8	0	15-98.1		%Rec	1	3/15/2017 10:22:52 PM	30648
Surr: Phenol-d5	28.2	0	15-80.7		%Rec	1	3/15/2017 10:22:52 PM	30648
Surr: 2,4,6-Tribromophenol	29.9	0	15-112		%Rec	1	3/15/2017 10:22:52 PM	30648
Surr: Nitrobenzene-d5	76.0	0	27.2-90.7		%Rec	1	3/15/2017 10:22:52 PM	30648
Surr: 2-Fluorobiphenyl	60.6	0	23.3-85.6		%Rec	1	3/15/2017 10:22:52 PM	30648
Surr: 4-Terphenyl-d14	18.0	0	27.6-107	S	%Rec	1	3/15/2017 10:22:52 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Acetone	3.7	0.88	10	J	µg/L	1	3/10/2017 4:35:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 4:35:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 4:35:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Chloroform	0.16	0.089	1.0	J	µg/L	1	3/10/2017 4:35:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 9:14:00 AM
Lab ID: 1703435-009
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 4:35:00 PM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 4:35:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 4:35:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 4:35:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	98.8	0	70-130		%Rec	1	3/10/2017 4:35:00 PM	R41285
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	3/10/2017 4:35:00 PM	R41285
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	3/10/2017 4:35:00 PM	R41285

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 9:14:00 AM
Lab ID: 1703435-009
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	103	0	70-130		%Rec	1	3/10/2017 4:35:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 10:17:00 AM
Lab ID: 1703435-010
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 9:53:04 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 9:53:04 PM	30633
Surr: DNOP	136	0	98.8-141		%Rec	1	3/13/2017 9:53:04 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/13/2017 9:43:16 PM	G41332
Surr: BFB	88.3	0	52.3-138		%Rec	1	3/13/2017 9:43:16 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.050	0.10		mg/L	1	3/20/2017 10:46:29 PM	A41533
Chloride	3500	120	250		mg/L	500	3/21/2017 7:31:46 PM	R41545
Bromide	ND	0.61	2.0		mg/L	20	3/20/2017 10:58:54 PM	A41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 10:46:29 PM	A41533
Sulfate	59	1.9	10		mg/L	20	3/20/2017 10:58:54 PM	A41533
Nitrate+Nitrite as N	26	0.52	4.0	*	mg/L	20	3/22/2017 5:51:08 PM	R41580
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.96	0.00085	0.0020		mg/L	1	3/23/2017 3:24:04 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:24:04 PM	A41614
Calcium	370	2.5	5.0		mg/L	5	3/23/2017 2:42:02 PM	A41614
Chromium	0.032	0.0010	0.0060		mg/L	1	3/23/2017 3:24:04 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:24:04 PM	A41614
Iron	ND	0.020	0.020		mg/L	1	3/23/2017 3:24:04 PM	A41614
Magnesium	11	0.50	1.0		mg/L	1	3/23/2017 3:24:04 PM	A41614
Manganese	0.0082	0.00038	0.0020		mg/L	1	3/23/2017 3:24:04 PM	A41614
Potassium	6.8	0.50	1.0		mg/L	1	3/23/2017 3:24:04 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:24:04 PM	A41614
Sodium	2200	25	50		mg/L	50	3/23/2017 3:56:25 PM	A41614
Zinc	0.023	0.0011	0.010		mg/L	1	3/23/2017 3:24:04 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.97	0.00079	0.0020		mg/L	1	3/20/2017 7:48:28 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:48:28 PM	30673
Chromium	0.038	0.0027	0.0060		mg/L	1	3/20/2017 7:48:28 PM	30673
Copper	ND	0.0030	0.0060		mg/L	1	3/22/2017 3:32:39 PM	30673
Iron	3.1	0.20	0.20	*	mg/L	10	3/20/2017 7:50:57 PM	30673
Manganese	0.080	0.00027	0.0020	*	mg/L	1	3/20/2017 7:48:28 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:48:28 PM	30673
Zinc	0.013	0.0027	0.010		mg/L	1	3/22/2017 3:32:39 PM	30673
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0043	0.00069	0.0050	J	mg/L	5	3/15/2017 5:59:40 PM	B41387

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 10:17:00 AM
Lab ID: 1703435-010
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	3/15/2017 5:59:40 PM	B41387
Selenium	0.017	0.0011	0.0050		mg/L	5	3/15/2017 5:59:40 PM	B41387
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.012	0.0042	0.020	J*	mg/L	20	3/16/2017 3:48:32 PM	30673
Lead	0.0042	0.0016	0.010	J	mg/L	20	3/16/2017 3:48:32 PM	30673
Selenium	0.025	0.0037	0.020		mg/L	20	3/16/2017 3:48:32 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:18:40 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Benzoic acid	6.2	2.6	20	J	µg/L	1	3/15/2017 10:50:49 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Bis(2-ethylhexyl)phthalate	8.0	2.6	10	J	µg/L	1	3/15/2017 10:50:49 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 10:50:49 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 10:50:49 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Di-n-butyl phthalate	2.6	2.4	10	J	µg/L	1	3/15/2017 10:50:49 PM	30648
Di-n-octyl phthalate	3.6	2.0	10	J	µg/L	1	3/15/2017 10:50:49 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 10:50:49 PM	30648

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 10:17:00 AM
Lab ID: 1703435-010
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 10:50:49 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 10:50:49 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 10:50:49 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 10:50:49 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 10:50:49 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 10:50:49 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 10:50:49 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 10:50:49 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 10:50:49 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 10:50:49 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 10:50:49 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 10:50:49 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 10:50:49 PM	30648

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 10:17:00 AM
Lab ID: 1703435-010
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 10:50:49 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 10:50:49 PM	30648
Surr: 2-Fluorophenol	32.1	0	15-98.1		%Rec	1	3/15/2017 10:50:49 PM	30648
Surr: Phenol-d5	25.0	0	15-80.7		%Rec	1	3/15/2017 10:50:49 PM	30648
Surr: 2,4,6-Tribromophenol	52.1	0	15-112		%Rec	1	3/15/2017 10:50:49 PM	30648
Surr: Nitrobenzene-d5	78.8	0	27.2-90.7		%Rec	1	3/15/2017 10:50:49 PM	30648
Surr: 2-Fluorobiphenyl	69.9	0	23.3-85.6		%Rec	1	3/15/2017 10:50:49 PM	30648
Surr: 4-Terphenyl-d14	25.2	0	27.6-107	S	%Rec	1	3/15/2017 10:50:49 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Acetone	1.7	0.88	10	J	µg/L	1	3/10/2017 4:59:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 4:59:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 4:59:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 10:17:00 AM
Lab ID: 1703435-010
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 4:59:00 PM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 4:59:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 4:59:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 4:59:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	95.1	0	70-130		%Rec	1	3/10/2017 4:59:00 PM	R41285
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	3/10/2017 4:59:00 PM	R41285
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	3/10/2017 4:59:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 10:17:00 AM
Lab ID: 1703435-010
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	102	0	70-130		%Rec	1	3/10/2017 4:59:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 1:15:00 PM
Lab ID: 1703435-011
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/13/2017 10:14:54 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 10:14:54 PM	30633
Surr: DNOP	136	0	98.8-141		%Rec	1	3/13/2017 10:14:54 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.30	0.025	0.050		mg/L	1	3/13/2017 10:06:36 PM	G41332
Surr: BFB	85.3	0	52.3-138		%Rec	1	3/13/2017 10:06:36 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.22	0.050	0.10		mg/L	1	3/20/2017 11:11:18 PM	A41533
Chloride	96	5.0	10		mg/L	20	3/20/2017 11:23:42 PM	A41533
Bromide	0.47	0.031	0.10		mg/L	1	3/20/2017 11:11:18 PM	A41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 11:11:18 PM	A41533
Sulfate	330	1.9	10		mg/L	20	3/20/2017 11:23:42 PM	A41533
Nitrate+Nitrite as N	0.19	0.13	1.0	J	mg/L	5	3/21/2017 2:05:02 AM	R41533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	0.040	0.00085	0.0020		mg/L	1	3/23/2017 3:26:04 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:26:04 PM	A41614
Calcium	82	0.50	1.0		mg/L	1	3/23/2017 3:26:04 PM	A41614
Chromium	ND	0.0010	0.0060		mg/L	1	3/23/2017 3:26:04 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:26:04 PM	A41614
Iron	0.032	0.020	0.020		mg/L	1	3/23/2017 3:26:04 PM	A41614
Magnesium	18	0.50	1.0		mg/L	1	3/23/2017 3:26:04 PM	A41614
Manganese	0.20	0.00038	0.0020	*	mg/L	1	3/23/2017 3:26:04 PM	A41614
Potassium	0.89	0.50	1.0	J	mg/L	1	3/23/2017 3:26:04 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:26:04 PM	A41614
Sodium	300	2.5	5.0		mg/L	5	3/23/2017 2:43:59 PM	A41614
Zinc	0.029	0.0011	0.010		mg/L	1	3/23/2017 3:26:04 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.13	0.00079	0.0020		mg/L	1	3/20/2017 7:59:11 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 7:59:11 PM	30673
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 7:59:11 PM	30673
Copper	ND	0.0030	0.0060		mg/L	1	3/22/2017 3:37:52 PM	30673
Iron	3.6	0.10	0.10	*	mg/L	5	3/22/2017 4:51:39 PM	30673
Manganese	0.41	0.00027	0.0020	*	mg/L	1	3/20/2017 7:59:11 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 7:59:11 PM	30673
Zinc	0.0067	0.0027	0.010	J	mg/L	1	3/22/2017 3:37:52 PM	30673
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0014	0.00069	0.0050	J	mg/L	5	3/15/2017 6:08:50 PM	B41387

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 1:15:00 PM
Lab ID: 1703435-011
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00025	0.00017	0.00050	J	mg/L	1	3/13/2017 5:53:58 PM	B41355
Selenium	0.0028	0.00021	0.0010		mg/L	1	3/13/2017 5:53:58 PM	B41355
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0024	0.0011	0.0050	J	mg/L	5	3/16/2017 3:51:32 PM	30673
Lead	0.0027	0.00041	0.0025		mg/L	5	3/16/2017 3:51:32 PM	30673
Selenium	0.0054	0.00094	0.0050		mg/L	5	3/16/2017 3:51:32 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:20:46 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Benzoic acid	7.7	2.6	20	J	µg/L	1	3/15/2017 11:18:41 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Bis(2-ethylhexyl)phthalate	8.3	2.6	10	J	µg/L	1	3/15/2017 11:18:41 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Carbazole	ND	2.3	10		µg/L	1	3/15/2017 11:18:41 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 11:18:41 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Di-n-octyl phthalate	3.7	2.0	10	J	µg/L	1	3/15/2017 11:18:41 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 11:18:41 PM	30648

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Lab ID: 1703435-011
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 11:18:41 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 11:18:41 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 11:18:41 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 11:18:41 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 11:18:41 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 11:18:41 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Fluorene	ND	2.7	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 11:18:41 PM	30648
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/15/2017 11:18:41 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 11:18:41 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Naphthalene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 11:18:41 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 11:18:41 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 11:18:41 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Phenol	ND	2.0	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 11:18:41 PM	30648

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Lab ID: 1703435-011
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 11:18:41 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 11:18:41 PM	30648
Surr: 2-Fluorophenol	25.6	0	15-98.1		%Rec	1	3/15/2017 11:18:41 PM	30648
Surr: Phenol-d5	21.4	0	15-80.7		%Rec	1	3/15/2017 11:18:41 PM	30648
Surr: 2,4,6-Tribromophenol	45.4	0	15-112		%Rec	1	3/15/2017 11:18:41 PM	30648
Surr: Nitrobenzene-d5	68.8	0	27.2-90.7		%Rec	1	3/15/2017 11:18:41 PM	30648
Surr: 2-Fluorobiphenyl	68.8	0	23.3-85.6		%Rec	1	3/15/2017 11:18:41 PM	30648
Surr: 4-Terphenyl-d14	21.9	0	27.6-107	S	%Rec	1	3/15/2017 11:18:41 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Toluene	ND	0.089	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Methyl tert-butyl ether (MTBE)	230	1.5	10		µg/L	10	3/10/2017 5:23:00 PM	R41285
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Naphthalene	ND	0.083	2.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Acetone	1.6	0.88	10	J	µg/L	1	3/10/2017 5:47:00 PM	R41285
Bromobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Bromoform	ND	0.21	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Bromomethane	ND	0.78	3.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
2-Butanone	ND	1.1	10		µg/L	1	3/10/2017 5:47:00 PM	R41285
Carbon disulfide	ND	0.60	10		µg/L	1	3/10/2017 5:47:00 PM	R41285
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Chloroethane	ND	0.23	2.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Chloroform	ND	0.089	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Chloromethane	ND	0.21	3.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285

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Lab ID: 1703435-011
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.12	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
2-Hexanone	ND	0.66	10		µg/L	1	3/10/2017 5:47:00 PM	R41285
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/10/2017 5:47:00 PM	R41285
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
sec-Butylbenzene	0.47	0.10	1.0	J	µg/L	1	3/10/2017 5:47:00 PM	R41285
Styrene	ND	0.16	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/10/2017 5:47:00 PM	R41285
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/10/2017 5:47:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	3/10/2017 5:47:00 PM	R41285
Surr: 4-Bromofluorobenzene	115	0	70-130		%Rec	1	3/10/2017 5:47:00 PM	R41285
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	3/10/2017 5:47:00 PM	R41285

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Lab ID: 1703435-011
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	97.2	0	70-130		%Rec	1	3/10/2017 5:47:00 PM	R41285

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 1:42:00 PM
Lab ID: 1703435-012
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.0	0.36	1.0		mg/L	1	3/13/2017 10:36:48 PM	30633
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/13/2017 10:36:48 PM	30633
Surr: DNOP	137	0	98.8-141		%Rec	1	3/13/2017 10:36:48 PM	30633
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	23	0.25	0.50		mg/L	10	3/13/2017 10:53:21 PM	G41332
Surr: BFB	103	0	52.3-138		%Rec	10	3/13/2017 10:53:21 PM	G41332
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.33	0.050	0.10		mg/L	1	3/20/2017 11:36:08 PM	A41533
Chloride	100	5.0	10		mg/L	20	3/20/2017 11:48:33 PM	A41533
Bromide	0.76	0.031	0.10		mg/L	1	3/20/2017 11:36:08 PM	A41533
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	3/20/2017 11:36:08 PM	A41533
Sulfate	2.0	0.096	0.50		mg/L	1	3/20/2017 11:36:08 PM	A41533
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	3/21/2017 2:54:40 AM	A41533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	1.4	0.0043	0.010		mg/L	5	3/23/2017 2:45:56 PM	A41614
Cadmium	ND	0.0010	0.0020		mg/L	1	3/23/2017 3:28:01 PM	A41614
Calcium	120	2.5	5.0		mg/L	5	3/23/2017 2:45:56 PM	A41614
Chromium	ND	0.0010	0.0060		mg/L	1	3/23/2017 3:28:01 PM	A41614
Copper	ND	0.0032	0.0060		mg/L	1	3/23/2017 3:28:01 PM	A41614
Iron	4.2	0.10	0.10	*	mg/L	5	3/23/2017 2:45:56 PM	A41614
Magnesium	25	0.50	1.0		mg/L	1	3/23/2017 3:28:01 PM	A41614
Manganese	2.3	0.0019	0.010	*	mg/L	5	3/23/2017 2:45:56 PM	A41614
Potassium	ND	0.50	1.0		mg/L	1	3/23/2017 3:28:01 PM	A41614
Silver	ND	0.00088	0.0050		mg/L	1	3/23/2017 3:28:01 PM	A41614
Sodium	250	2.5	5.0		mg/L	5	3/23/2017 2:45:56 PM	A41614
Zinc	0.025	0.0011	0.010		mg/L	1	3/23/2017 3:28:01 PM	A41614
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.0	0.0040	0.010	*	mg/L	5	3/20/2017 8:04:37 PM	30673
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 8:02:50 PM	30673
Chromium	0.010	0.0027	0.0060		mg/L	1	3/20/2017 8:02:50 PM	30673
Copper	0.015	0.0030	0.0060		mg/L	1	3/22/2017 3:39:28 PM	30673
Iron	17	0.40	0.40	*	mg/L	20	3/20/2017 8:06:25 PM	30673
Manganese	3.3	0.0014	0.010	*	mg/L	5	3/20/2017 8:04:37 PM	30673
Silver	ND	0.0015	0.0050		mg/L	1	3/20/2017 8:02:50 PM	30673
Zinc	0.032	0.0027	0.010		mg/L	1	3/22/2017 3:39:28 PM	30673
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0022	0.00014	0.0010		mg/L	1	3/13/2017 5:57:01 PM	B41355

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Lab ID: 1703435-012
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	3/13/2017 5:57:01 PM	B41355
Selenium	0.0042	0.00021	0.0010		mg/L	1	3/13/2017 5:57:01 PM	B41355
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0041	0.0011	0.0050	J	mg/L	5	3/16/2017 3:54:33 PM	30673
Lead	0.029	0.00041	0.0025	*	mg/L	5	3/16/2017 3:54:33 PM	30673
Selenium	0.0067	0.00094	0.0050		mg/L	5	3/16/2017 3:54:33 PM	30673
EPA METHOD 245.1: MERCURY							Analyst: **ELS**	
Mercury	ND	0.00020	0.00020		mg/L	1	3/22/2017 8:22:44 AM	30820
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Acenaphthylene	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Aniline	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Anthracene	ND	2.5	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Azobenzene	ND	2.7	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Benzoic acid	11	2.6	20	J	µg/L	1	3/15/2017 11:46:31 PM	30648
Benzyl alcohol	ND	3.0	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Bis(2-ethylhexyl)phthalate	6.8	2.6	10	J	µg/L	1	3/15/2017 11:46:31 PM	30648
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Carbazole	4.6	2.3	10	J	µg/L	1	3/15/2017 11:46:31 PM	30648
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
4-Chloroaniline	ND	2.7	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2-Chlorophenol	ND	2.2	10		µg/L	1	3/15/2017 11:46:31 PM	30648
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Chrysene	ND	2.8	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/15/2017 11:46:31 PM	30648
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Dibenzofuran	ND	2.5	10		µg/L	1	3/15/2017 11:46:31 PM	30648

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Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 11:46:31 PM	30648
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/15/2017 11:46:31 PM	30648
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Diethyl phthalate	ND	2.7	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/15/2017 11:46:31 PM	30648
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/15/2017 11:46:31 PM	30648
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/15/2017 11:46:31 PM	30648
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/15/2017 11:46:31 PM	30648
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Fluoranthene	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Fluorene	3.0	2.7	10	J	µg/L	1	3/15/2017 11:46:31 PM	30648
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Hexachloroethane	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Isophorone	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
1-Methylnaphthalene	44	2.9	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2-Methylnaphthalene	8.6	2.9	10	J	µg/L	1	3/15/2017 11:46:31 PM	30648
2-Methylphenol	ND	2.5	10		µg/L	1	3/15/2017 11:46:31 PM	30648
3+4-Methylphenol	2.5	2.3	10	J	µg/L	1	3/15/2017 11:46:31 PM	30648
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/15/2017 11:46:31 PM	30648
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Naphthalene	31	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2-Nitroaniline	ND	2.8	10		µg/L	1	3/15/2017 11:46:31 PM	30648
3-Nitroaniline	ND	2.9	10		µg/L	1	3/15/2017 11:46:31 PM	30648
4-Nitroaniline	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Nitrobenzene	ND	2.8	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2-Nitrophenol	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
4-Nitrophenol	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Pentachlorophenol	ND	2.3	20		µg/L	1	3/15/2017 11:46:31 PM	30648
Phenanthrene	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Phenol	9.5	2.0	10	J	µg/L	1	3/15/2017 11:46:31 PM	30648
Pyrene	ND	3.1	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Pyridine	ND	2.2	10		µg/L	1	3/15/2017 11:46:31 PM	30648

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Collection Date: 3/8/2017 1:42:00 PM
Lab ID: 1703435-012
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/15/2017 11:46:31 PM	30648
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/15/2017 11:46:31 PM	30648
Surr: 2-Fluorophenol	18.5	0	15-98.1		%Rec	1	3/15/2017 11:46:31 PM	30648
Surr: Phenol-d5	17.0	0	15-80.7		%Rec	1	3/15/2017 11:46:31 PM	30648
Surr: 2,4,6-Tribromophenol	35.4	0	15-112		%Rec	1	3/15/2017 11:46:31 PM	30648
Surr: Nitrobenzene-d5	48.1	0	27.2-90.7		%Rec	1	3/15/2017 11:46:31 PM	30648
Surr: 2-Fluorobiphenyl	47.7	0	23.3-85.6		%Rec	1	3/15/2017 11:46:31 PM	30648
Surr: 4-Terphenyl-d14	20.7	0	27.6-107	S	%Rec	1	3/15/2017 11:46:31 PM	30648
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	3500	9.6	100		µg/L	100	3/10/2017 6:10:00 PM	R41285
Toluene	30	0.89	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Ethylbenzene	420	1.1	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Methyl tert-butyl ether (MTBE)	6500	15	100		µg/L	100	3/10/2017 6:10:00 PM	R41285
1,2,4-Trimethylbenzene	12	1.0	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,3,5-Trimethylbenzene	2.2	1.2	10	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Naphthalene	70	0.83	20		µg/L	10	3/10/2017 6:34:00 PM	R41285
1-Methylnaphthalene	90	1.6	40		µg/L	10	3/10/2017 6:34:00 PM	R41285
2-Methylnaphthalene	16	1.5	40	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
Acetone	34	8.8	100	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
Bromobenzene	ND	1.4	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Bromodichloromethane	ND	1.8	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Bromoform	ND	2.1	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Bromomethane	ND	7.8	30		µg/L	10	3/10/2017 6:34:00 PM	R41285
2-Butanone	ND	11	100		µg/L	10	3/10/2017 6:34:00 PM	R41285
Carbon disulfide	ND	6.0	100		µg/L	10	3/10/2017 6:34:00 PM	R41285
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Chlorobenzene	ND	1.1	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Chloroethane	ND	2.3	20		µg/L	10	3/10/2017 6:34:00 PM	R41285
Chloroform	ND	0.89	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Chloromethane	ND	2.1	30		µg/L	10	3/10/2017 6:34:00 PM	R41285
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
4-Chlorotoluene	ND	4.0	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
cis-1,2-DCE	8.3	2.0	10	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
cis-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	3/10/2017 6:34:00 PM	R41285
Dibromochloromethane	ND	0.78	10		µg/L	10	3/10/2017 6:34:00 PM	R41285

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	1.2	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2-Dichlorobenzene	ND	1.2	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Dichlorodifluoromethane	ND	3.2	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,1-Dichloroethane	1.7	1.0	10	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
1,1-Dichloroethene	8.6	0.81	10	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2-Dichloropropane	ND	1.0	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
2,2-Dichloropropane	ND	1.2	20		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Hexachlorobutadiene	ND	3.7	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
2-Hexanone	ND	6.6	100		µg/L	10	3/10/2017 6:34:00 PM	R41285
Isopropylbenzene	19	0.98	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
4-Isopropyltoluene	3.2	1.4	10	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	3/10/2017 6:34:00 PM	R41285
Methylene Chloride	ND	1.1	30		µg/L	10	3/10/2017 6:34:00 PM	R41285
n-Butylbenzene	15	1.6	30	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
n-Propylbenzene	50	1.3	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
sec-Butylbenzene	7.6	1.0	10	J	µg/L	10	3/10/2017 6:34:00 PM	R41285
Styrene	ND	1.6	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
tert-Butylbenzene	ND	1.0	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	3/10/2017 6:34:00 PM	R41285
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
trans-1,2-DCE	ND	1.8	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
trans-1,3-Dichloropropene	ND	0.89	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Trichlorofluoromethane	ND	1.8	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	3/10/2017 6:34:00 PM	R41285
Vinyl chloride	ND	1.8	10		µg/L	10	3/10/2017 6:34:00 PM	R41285
Xylenes, Total	46	3.2	15		µg/L	10	3/10/2017 6:34:00 PM	R41285
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	10	3/10/2017 6:34:00 PM	R41285
Surr: 4-Bromofluorobenzene	113	0	70-130		%Rec	10	3/10/2017 6:34:00 PM	R41285
Surr: Dibromofluoromethane	107	0	70-130		%Rec	10	3/10/2017 6:34:00 PM	R41285

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/8/2017 1:42:00 PM
Lab ID: 1703435-012
Matrix: AQUEOUS
Received Date: 3/8/2017 4:42:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	109	0	70-130		%Rec	10	3/10/2017 6:34:00 PM	R41285

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41614**	RunNo: **41614**
Prep Date:	Analysis Date: **3/23/2017**	SeqNo: **1305495** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41614**	RunNo: **41614**
Prep Date:	Analysis Date: **3/23/2017**	SeqNo: **1305496** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	80.5	50	150			J
Cadmium	0.0016	0.0020	0.002000	0	78.0	50	150			J
Calcium	0.49	1.0	0.5000	0	97.6	50	150			J
Chromium	0.0059	0.0060	0.006000	0	98.8	50	150			J
Copper	0.0072	0.0060	0.006000	0	120	50	150			
Iron	0.018	0.020	0.02000	0	89.4	50	150			J
Magnesium	0.51	1.0	0.5000	0	102	50	150			J
Manganese	0.0019	0.0020	0.002000	0	96.5	50	150			J
Potassium	0.48	1.0	0.5000	0	96.4	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.4	50	150			J
Sodium	0.48	1.0	0.5000	0	95.8	50	150			J
Zinc	0.0047	0.010	0.005000	0	94.8	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41614**	RunNo: **41614**
Prep Date:	Analysis Date: **3/23/2017**	SeqNo: **1305497** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.2	85	115			
Cadmium	0.47	0.0020	0.5000	0	94.8	85	115			
Calcium	47	1.0	50.00	0	94.4	85	115			
Chromium	0.47	0.0060	0.5000	0	94.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41614**	RunNo: **41614**
Prep Date:	Analysis Date: **3/23/2017**	SeqNo: **1305497** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.46	0.0060	0.5000	0	92.3	85	115			
Iron	0.46	0.020	0.5000	0	91.1	85	115			
Magnesium	48	1.0	50.00	0	95.2	85	115			
Manganese	0.45	0.0020	0.5000	0	90.5	85	115			
Potassium	46	1.0	50.00	0	92.0	85	115			
Silver	0.097	0.0050	0.1000	0	96.6	85	115			
Sodium	47	1.0	50.00	0	93.8	85	115			
Zinc	0.46	0.010	0.5000	0	92.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MB-30673**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**30673**	RunNo:	**41513**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301687**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								

Sample ID	**LCSLL-30673**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**30673**	RunNo:	**41513**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301688**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0050	0.0050	0.005000	0	99.4	50	150			J

Sample ID	**LCS-30673**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**30673**	RunNo:	**41513**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301689**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	100	85	115			

Sample ID	**LCS-30673**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**30673**	RunNo:	**41567**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/21/2017**	SeqNo:	**1303611**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.48	0.0060	0.5000	0	95.6	85	115			
Zinc	0.46	0.010	0.5000	0	92.6	85	115			

Sample ID	**MB-30673**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**30673**	RunNo:	**41567**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/21/2017**	SeqNo:	**1303615**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41355**	RunNo: **41355**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295945** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.012	0.00050	0.01250	0	97.8	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B41355**	RunNo: **41355**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295946** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	100	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.9	50	150			J
Selenium	0.00098	0.0010	0.001000	0	98.2	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41355**	RunNo: **41355**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295947** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **1703435-010EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-44**	Batch ID: **B41387**	RunNo: **41387**
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1298205** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.004288	101	70	130			
Lead	0.065	0.0025	0.06250	0	104	70	130			
Selenium	0.13	0.0050	0.1250	0.01662	93.1	70	130			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41387**	RunNo: **41387**
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1298231** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.9	85	115			
Lead	0.012	0.00050	0.01250	0	95.3	85	115			
Selenium	0.025	0.0010	0.02500	0	99.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41387**	RunNo: **41387**
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1298235** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MB-30673**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30673**	RunNo:	**41380**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/14/2017**	SeqNo:	**1297155**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-30673**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30673**	RunNo:	**41380**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/14/2017**	SeqNo:	**1297158**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Lead	0.013	0.00050	0.01250	0	100	85	115			
Selenium	0.024	0.0010	0.02500	0	95.7	85	115			

Sample ID	**MSLCSLL-30673**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**30673**	RunNo:	**41380**					
Prep Date:	**3/14/2017**	Analysis Date:	**3/14/2017**	SeqNo:	**1297161**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	93.6	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.9	50	150			J
Selenium	0.00098	0.0010	0.001000	0	97.6	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MB-30820**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30820**	RunNo:	**41572**					
Prep Date:	**3/21/2017**	Analysis Date:	**3/22/2017**	SeqNo:	**1303878**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000092	0.00020								J

Sample ID	**LCS-30820**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30820**	RunNo:	**41572**					
Prep Date:	**3/21/2017**	Analysis Date:	**3/22/2017**	SeqNo:	**1303879**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41533**	RunNo: **41533**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1302424** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41533**	RunNo: **41533**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1302425** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.3	90	110			
Bromide	2.3	0.10	2.500	0	93.8	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.6	90	110			
Sulfate	9.3	0.50	10.00	0	93.0	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.6	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41533**	RunNo: **41533**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1302462** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41533**	RunNo: **41533**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1302463** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.7	0.50	5.000	0	94.1	90	110			
Bromide	2.4	0.10	2.500	0	95.7	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.6	90	110			
Sulfate	9.5	0.50	10.00	0	95.0	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.9	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R41545**	RunNo: **41545**							
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303801**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R41545**	RunNo: **41545**							
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303802**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	99.4	90	110			
Sulfate	10	0.50	10.00	0	101	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R41580**	RunNo: **41580**							
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304986**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R41580**	RunNo: **41580**							
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304987**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **MB-30777**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **30777**	RunNo: **41519**
Prep Date: **3/20/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301970** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID **LCS-30777**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **30777**	RunNo: **41519**
Prep Date: **3/20/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301971** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	106	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **1703435-002BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-31**	Batch ID: **30633**	RunNo: **41323**
Prep Date: **3/10/2017**	Analysis Date: **3/13/2017**	SeqNo: **1295338** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.0	1.0	5.000	0	120	87.2	145			
Surr: DNOP	0.60		0.5000		120	98.8	141			

Sample ID **LCS-30633**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **30633**	RunNo: **41323**
Prep Date: **3/10/2017**	Analysis Date: **3/13/2017**	SeqNo: **1295357** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	116	82.8	146			
Surr: DNOP	0.60		0.5000		120	98.8	141			

Sample ID **MB-30633**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **30633**	RunNo: **41323**
Prep Date: **3/10/2017**	Analysis Date: **3/13/2017**	SeqNo: **1295358** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		127	98.8	141			

Sample ID **1703435-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-31**	Batch ID: **30633**	RunNo: **41323**
Prep Date: **3/10/2017**	Analysis Date: **3/13/2017**	SeqNo: **1295359** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0	122	87.2	145	1.16	20	
Surr: DNOP	0.61		0.5000		121	98.8	141	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G41332**	RunNo: **41332**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295415** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		88.0	52.3	138			

Sample ID **2.5UG GRO LCSB**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G41332**	RunNo: **41332**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295416** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	93.0	79.1	123			
Surr: BFB	19		20.00		96.1	52.3	138			

Sample ID **1703435-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-31**	Batch ID: **G41332**	RunNo: **41332**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295429** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.64	0.050	0.5000	0.1864	90.0	64.8	129			
Surr: BFB	21		20.00		104	52.3	138			

Sample ID **1703435-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-31**	Batch ID: **G41332**	RunNo: **41332**
Prep Date:	Analysis Date: **3/13/2017**	SeqNo: **1295430** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.62	0.050	0.5000	0.1864	86.2	64.8	129	3.06	20	
Surr: BFB	21		20.00		104	52.3	138	0	0	

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R41285**	RunNo: **41285**
Prep Date:	Analysis Date: **3/10/2017**	SeqNo: **1294830** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	20	1.0	20.00	0	99.6	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	116	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41285**	RunNo: **41285**
Prep Date:	Analysis Date: **3/10/2017**	SeqNo: **1294833** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41285**	RunNo: **41285**
Prep Date:	Analysis Date: **3/10/2017**	SeqNo: **1294833** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41285**	RunNo: **41285**
Prep Date:	Analysis Date: **3/10/2017**	SeqNo: **1294833** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **1703435-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Field Blank**	Batch ID: **R41285**	RunNo: **41285**
Prep Date:	Analysis Date: **3/10/2017**	SeqNo: **1294836** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	22	1.0	20.00	0.2560	108	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			

Sample ID **1703435-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Field Blank**	Batch ID: **R41285**	RunNo: **41285**
Prep Date:	Analysis Date: **3/10/2017**	SeqNo: **1294837** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130	0.641	20	
Toluene	21	1.0	20.00	0.2560	103	70	130	4.68	20	
Chlorobenzene	20	1.0	20.00	0	101	70	130	4.33	20	
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130	8.19	20	
Trichloroethene (TCE)	20	1.0	20.00	0	98.9	70	130	1.31	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130	0	0	
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		110	70	130	0	0	
Surr: Toluene-d8	11		10.00		106	70	130	0	0	

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **lcs-30648**	SampType: **LCS4**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BatchQC**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1297861** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	74	5.0	100.0	0	74.2	56	94.6			
Acenaphthylene	71	5.0	100.0	0	70.6	55	95.1			
Aniline	54	5.0	100.0	0	54.4	26.4	112			
Anthracene	78	5.0	100.0	0	78.5	53.9	111			
Azobenzene	77	5.0	100.0	0	77.3	52.4	118			
Benz(a)anthracene	82	5.0	100.0	0	82.5	27.3	114			
Benzo(a)pyrene	90	5.0	100.0	0	89.6	53.8	108			
Benzo(b)fluoranthene	90	5.0	100.0	0	89.7	55.4	107			
Benzo(g,h,i)perylene	83	5.0	100.0	0	82.8	61.6	97.9			
Benzo(k)fluoranthene	89	5.0	100.0	0	89.3	50.4	104			
Benzoic acid	56	10	100.0	0	56.4	11.2	78.4			
Benzyl alcohol	57	5.0	100.0	0	57.4	47.5	107			
Bis(2-chloroethoxy)methane	54	5.0	100.0	0	53.7	50.1	108			
Bis(2-chloroethyl)ether	58	5.0	100.0	0	58.3	46.7	113			
Bis(2-chloroisopropyl)ether	63	5.0	100.0	0	62.6	38.1	116			
Bis(2-ethylhexyl)phthalate	88	5.0	100.0	0	87.6	42	122			B
4-Bromophenyl phenyl ether	78	5.0	100.0	0	78.2	57.2	110			
Butyl benzyl phthalate	89	5.0	100.0	0	89.2	56.2	106			
Carbazole	84	5.0	100.0	0	84.5	52.5	106			
4-Chloro-3-methylphenol	64	5.0	100.0	0	63.6	48.3	108			
4-Chloroaniline	56	5.0	100.0	0	56.2	41.7	108			
2-Chloronaphthalene	67	5.0	100.0	0	67.0	53.5	104			
2-Chlorophenol	55	5.0	100.0	0	54.8	38.5	107			
4-Chlorophenyl phenyl ether	72	5.0	100.0	0	72.2	44.5	107			
Chrysene	85	5.0	100.0	0	85.2	53.5	103			
Di-n-butyl phthalate	83	5.0	100.0	0	83.3	59.4	109			
Di-n-octyl phthalate	85	5.0	100.0	0	85.3	56.8	112			
Dibenz(a,h)anthracene	89	5.0	100.0	0	88.7	57.7	110			
Dibenzofuran	76	5.0	100.0	0	76.0	49	101			
1,2-Dichlorobenzene	52	5.0	100.0	0	52.0	34.1	101			
1,3-Dichlorobenzene	55	5.0	100.0	0	55.4	31.5	95.3			
1,4-Dichlorobenzene	56	5.0	100.0	0	55.7	34.5	94.9			
3,3´-Dichlorobenzidine	83	5.0	100.0	0	82.7	46.3	111			
Diethyl phthalate	88	5.0	100.0	0	88.4	61.2	95.3			
Dimethyl phthalate	81	5.0	100.0	0	80.9	62	97.6			
2,4-Dichlorophenol	56	10	100.0	0	55.9	40	109			
2,4-Dimethylphenol	55	5.0	100.0	0	54.7	43.8	116			
4,6-Dinitro-2-methylphenol	74	10	100.0	0	73.7	22.1	114			
2,4-Dinitrophenol	83	5.0	100.0	0	83.0	6.98	106			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **lcs-30648**	SampType: **LCS4**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BatchQC**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1297861** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	86	5.0	100.0	0	85.5	54.1	99.2			
2,6-Dinitrotoluene	86	5.0	100.0	0	85.7	58.7	92.7			
Fluoranthene	83	5.0	100.0	0	83.4	56.2	101			
Fluorene	78	5.0	100.0	0	77.7	57.2	93.1			
Hexachlorobenzene	76	5.0	100.0	0	75.5	56.4	106			
Hexachlorobutadiene	50	5.0	100.0	0	50.1	37.3	102			
Hexachlorocyclopentadiene	51	5.0	100.0	0	50.7	31.3	102			
Hexachloroethane	53	5.0	100.0	0	53.1	30.9	94.3			
Indeno(1,2,3-cd)pyrene	80	5.0	100.0	0	80.2	63.4	95.4			
Isophorone	56	5.0	100.0	0	56.0	54.7	106			
1-Methylnaphthalene	53	5.0	100.0	0	53.1	45.2	109			
2-Methylnaphthalene	54	5.0	100.0	0	53.9	43.8	112			
2-Methylphenol	57	5.0	100.0	0	56.9	45.3	107			
3+4-Methylphenol	53	5.0	100.0	0	53.2	38.6	105			
N-Nitrosodi-n-propylamine	56	5.0	100.0	0	56.5	44.4	109			
N-Nitrosodimethylamine	55	5.0	100.0	0	55.4	46.6	101			
N-Nitrosodiphenylamine	72	5.0	100.0	0	72.0	54.9	106			
Naphthalene	54	5.0	100.0	0	53.5	45.6	105			
2-Nitroaniline	83	5.0	100.0	0	83.0	60	93.8			
3-Nitroaniline	87	5.0	100.0	0	86.8	56.7	93.1			
4-Nitroaniline	88	5.0	100.0	0	88.3	49.6	99.1			
Nitrobenzene	53	5.0	100.0	0	52.8	48.6	107			
2-Nitrophenol	56	5.0	100.0	0	56.4	36	113			
4-Nitrophenol	84	5.0	100.0	0	84.5	23.6	72.2			S
Pentachlorophenol	75	5.0	100.0	0	75.1	17.7	115			
Phenanthrene	78	5.0	100.0	0	77.5	57	105			
Phenol	54	5.0	100.0	0	54.2	22.9	81.8			
Pyrene	90	5.0	100.0	0	90.3	52.2	103			
Pyridine	47	5.0	100.0	0	46.9	15.2	89.7			
1,2,4-Trichlorobenzene	51	5.0	100.0	0	50.7	43.2	103			
2,4,5-Trichlorophenol	76	5.0	100.0	0	75.7	33	109			
2,4,6-Trichlorophenol	73	5.0	100.0	0	73.1	27.4	110			
Surr: 2-Fluorophenol	51		100.0		50.7	15	98.1			
Surr: Phenol-d5	55		100.0		54.6	15	80.7			
Surr: 2,4,6-Tribromophenol	76		100.0		75.8	15	112			
Surr: Nitrobenzene-d5	52		100.0		51.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	64		100.0		64.3	23.3	85.6			
Surr: 4-Terphenyl-d14	100		100.0		104	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **lcsr-30648**	SampType: **LCSD4**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BatchQC**	Batch ID: **30648**	RunNo: **41398**
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1297862** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	71	5.0	100.0	0	70.6	56	94.6	4.90	20	
Acenaphthylene	66	5.0	100.0	0	66.1	55	95.1	6.59	20	
Aniline	54	5.0	100.0	0	53.7	26.4	112	1.18	20	
Anthracene	76	5.0	100.0	0	75.9	53.9	111	3.36	20	
Azobenzene	78	5.0	100.0	0	77.9	52.4	118	0.696	20	
Benz(a)anthracene	76	5.0	100.0	0	76.3	27.3	114	7.85	20	
Benzo(a)pyrene	100	5.0	100.0	0	100	53.8	108	11.3	20	
Benzo(b)fluoranthene	100	5.0	100.0	0	102	55.4	107	12.6	20	
Benzo(g,h,i)perylene	100	5.0	100.0	0	102	61.6	97.9	20.3	20	RS
Benzo(k)fluoranthene	100	5.0	100.0	0	103	50.4	104	14.5	20	
Benzoic acid	61	10	100.0	0	60.8	11.2	78.4	7.48	20	
Benzyl alcohol	58	5.0	100.0	0	58.4	47.5	107	1.76	20	
Bis(2-chloroethoxy)methane	56	5.0	100.0	0	56.5	50.1	108	4.96	20	
Bis(2-chloroethyl)ether	56	5.0	100.0	0	55.5	46.7	113	4.80	20	
Bis(2-chloroisopropyl)ether	63	5.0	100.0	0	62.9	38.1	116	0.430	20	
Bis(2-ethylhexyl)phthalate	83	5.0	100.0	0	82.5	42	122	5.96	20	B
4-Bromophenyl phenyl ether	76	5.0	100.0	0	76.4	57.2	110	2.39	20	
Butyl benzyl phthalate	86	5.0	100.0	0	85.7	56.2	106	3.92	20	
Carbazole	83	5.0	100.0	0	82.8	52.5	106	1.94	20	
4-Chloro-3-methylphenol	72	5.0	100.0	0	71.8	48.3	108	12.1	20	
4-Chloroaniline	59	5.0	100.0	0	59.1	41.7	108	5.02	20	
2-Chloronaphthalene	63	5.0	100.0	0	62.7	53.5	104	6.57	20	
2-Chlorophenol	54	5.0	100.0	0	53.6	38.5	107	2.14	20	
4-Chlorophenyl phenyl ether	72	5.0	100.0	0	71.8	44.5	107	0.556	20	
Chrysene	80	5.0	100.0	0	79.8	53.5	103	6.57	20	
Di-n-butyl phthalate	76	5.0	100.0	0	76.1	59.4	109	9.10	20	
Di-n-octyl phthalate	80	5.0	100.0	0	80.1	56.8	112	6.30	20	
Dibenz(a,h)anthracene	100	5.0	100.0	0	101	57.7	110	13.3	20	
Dibenzofuran	77	5.0	100.0	0	76.9	49	101	1.09	20	
1,2-Dichlorobenzene	51	5.0	100.0	0	50.8	34.1	101	2.37	20	
1,3-Dichlorobenzene	50	5.0	100.0	0	49.7	31.5	95.3	10.9	20	
1,4-Dichlorobenzene	53	5.0	100.0	0	52.6	34.5	94.9	5.67	20	
3,3´-Dichlorobenzidine	81	5.0	100.0	0	80.5	46.3	111	2.65	20	
Diethyl phthalate	80	5.0	100.0	0	79.8	61.2	95.3	10.1	20	
Dimethyl phthalate	75	5.0	100.0	0	74.7	62	97.6	7.97	20	
2,4-Dichlorophenol	60	10	100.0	0	59.8	40	109	6.70	20	
2,4-Dimethylphenol	51	5.0	100.0	0	51.4	43.8	116	6.18	20	
4,6-Dinitro-2-methylphenol	75	10	100.0	0	74.6	22.1	114	1.23	20	
2,4-Dinitrophenol	76	5.0	100.0	0	76.3	6.98	106	8.43	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **lcsr-30648**	SampType: **LCSD4**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BatchQC**	Batch ID: **30648**	RunNo: **41398**
Prep Date:	Analysis Date: **3/15/2017**	SeqNo: **1297862** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	79	5.0	100.0	0	78.9	54.1	99.2	8.05	20	
2,6-Dinitrotoluene	84	5.0	100.0	0	84.3	58.7	92.7	1.59	20	
Fluoranthene	82	5.0	100.0	0	82.2	56.2	101	1.46	20	
Fluorene	76	5.0	100.0	0	76.4	57.2	93.1	1.69	20	
Hexachlorobenzene	78	5.0	100.0	0	77.7	56.4	106	2.87	20	
Hexachlorobutadiene	51	5.0	100.0	0	51.1	37.3	102	1.90	20	
Hexachlorocyclopentadiene	53	5.0	100.0	0	52.9	31.3	102	4.25	20	
Hexachloroethane	51	5.0	100.0	0	51.1	30.9	94.3	3.90	20	
Indeno(1,2,3-cd)pyrene	95	5.0	100.0	0	95.1	63.4	95.4	17.1	20	
Isophorone	56	5.0	100.0	0	56.5	54.7	106	0.800	20	
1-Methylnaphthalene	58	5.0	100.0	0	58.4	45.2	109	9.63	20	
2-Methylnaphthalene	58	5.0	100.0	0	58.5	43.8	112	8.12	20	
2-Methylphenol	58	5.0	100.0	0	57.5	45.3	107	1.10	20	
3+4-Methylphenol	53	5.0	100.0	0	53.3	38.6	105	0.169	20	
N-Nitrosodi-n-propylamine	57	5.0	100.0	0	57.0	44.4	109	0.864	20	
N-Nitrosodimethylamine	54	5.0	100.0	0	53.9	46.6	101	2.69	20	
N-Nitrosodiphenylamine	73	5.0	100.0	0	72.8	54.9	106	1.17	20	
Naphthalene	52	5.0	100.0	0	51.7	45.6	105	3.46	20	
2-Nitroaniline	79	5.0	100.0	0	79.1	60	93.8	4.82	20	
3-Nitroaniline	81	5.0	100.0	0	80.6	56.7	93.1	7.49	20	
4-Nitroaniline	83	5.0	100.0	0	83.0	49.6	99.1	6.21	20	
Nitrobenzene	51	5.0	100.0	0	51.0	48.6	107	3.50	20	
2-Nitrophenol	56	5.0	100.0	0	56.5	36	113	0.213	20	
4-Nitrophenol	79	5.0	100.0	0	79.0	23.6	72.2	6.68	20	S
Pentachlorophenol	73	5.0	100.0	0	73.0	17.7	115	2.79	20	
Phenanthrene	75	5.0	100.0	0	75.4	57	105	2.76	20	
Phenol	54	5.0	100.0	0	54.4	22.9	81.8	0.461	20	
Pyrene	89	5.0	100.0	0	89.0	52.2	103	1.37	20	
Pyridine	48	5.0	100.0	0	47.9	15.2	89.7	2.07	20	
1,2,4-Trichlorobenzene	51	5.0	100.0	0	51.0	43.2	103	0.590	20	
2,4,5-Trichlorophenol	75	5.0	100.0	0	75.0	33	109	0.916	20	
2,4,6-Trichlorophenol	71	5.0	100.0	0	70.6	27.4	110	3.49	20	
Surr: 2-Fluorophenol	49		100.0		48.8	15	98.1	0		
Surr: Phenol-d5	53		100.0		52.6	15	80.7	0		
Surr: 2,4,6-Tribromophenol	77		100.0		77.1	15	112	0		
Surr: Nitrobenzene-d5	53		100.0		52.7	27.2	90.7	0		
Surr: 2-Fluorobiphenyl	60		100.0		59.8	23.3	85.6	0		
Surr: 4-Terphenyl-d14	87		100.0		87.2	27.6	107	0		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **mb-30648**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1297863** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	5.0								
Acenaphthylene	ND	5.0								
Aniline	ND	5.0								
Anthracene	ND	5.0								
Azobenzene	ND	5.0								
Benz(a)anthracene	ND	5.0								
Benzo(a)pyrene	ND	5.0								
Benzo(b)fluoranthene	ND	5.0								
Benzo(g,h,i)perylene	ND	5.0								
Benzo(k)fluoranthene	ND	5.0								
Benzoic acid	6.4	10								J
Benzyl alcohol	ND	5.0								
Bis(2-chloroethoxy)methane	ND	5.0								
Bis(2-chloroethyl)ether	ND	5.0								
Bis(2-chloroisopropyl)ether	ND	5.0								
Bis(2-ethylhexyl)phthalate	8.4	5.0								J
4-Bromophenyl phenyl ether	ND	5.0								
Butyl benzyl phthalate	ND	5.0								
Carbazole	ND	5.0								
4-Chloro-3-methylphenol	ND	5.0								
4-Chloroaniline	ND	5.0								
2-Chloronaphthalene	ND	5.0								
2-Chlorophenol	ND	5.0								
4-Chlorophenyl phenyl ether	ND	5.0								
Chrysene	ND	5.0								
Di-n-butyl phthalate	2.6	5.0								J
Di-n-octyl phthalate	3.5	5.0								J
Dibenz(a,h)anthracene	ND	5.0								
Dibenzofuran	ND	5.0								
1,2-Dichlorobenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
3,3´-Dichlorobenzidine	ND	5.0								
Diethyl phthalate	ND	5.0								
Dimethyl phthalate	ND	5.0								
2,4-Dichlorophenol	ND	10								
2,4-Dimethylphenol	ND	5.0								
4,6-Dinitro-2-methylphenol	ND	10								
2,4-Dinitrophenol	ND	5.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**
29-Mar-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **mb-30648**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1297863** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	5.0								
2,6-Dinitrotoluene	ND	5.0								
Fluoranthene	ND	5.0								
Fluorene	ND	5.0								
Hexachlorobenzene	ND	5.0								
Hexachlorobutadiene	ND	5.0								
Hexachlorocyclopentadiene	ND	5.0								
Hexachloroethane	ND	5.0								
Indeno(1,2,3-cd)pyrene	ND	5.0								
Isophorone	ND	5.0								
1-Methylnaphthalene	ND	5.0								
2-Methylnaphthalene	ND	5.0								
2-Methylphenol	ND	5.0								
3+4-Methylphenol	ND	5.0								
N-Nitrosodi-n-propylamine	ND	5.0								
N-Nitrosodimethylamine	ND	5.0								
N-Nitrosodiphenylamine	ND	5.0								
Naphthalene	ND	5.0								
2-Nitroaniline	ND	5.0								
3-Nitroaniline	ND	5.0								
4-Nitroaniline	ND	5.0								
Nitrobenzene	ND	5.0								
2-Nitrophenol	ND	5.0								
4-Nitrophenol	ND	5.0								
Pentachlorophenol	ND	5.0								
Phenanthrene	ND	5.0								
Phenol	ND	5.0								
Pyrene	ND	5.0								
Pyridine	ND	5.0								
1,2,4-Trichlorobenzene	ND	5.0								
2,4,5-Trichlorophenol	ND	5.0								
2,4,6-Trichlorophenol	ND	5.0								
Surr: 2-Fluorophenol	210		200.0		106	15	98.1			S
Surr: Phenol-d5	200		200.0		102	15	80.7			S
Surr: 2,4,6-Tribromophenol	200		200.0		101	15	112			
Surr: Nitrobenzene-d5	95		100.0		95.0	27.2	90.7			S
Surr: 2-Fluorobiphenyl	120		100.0		116	23.3	85.6			S
Surr: 4-Terphenyl-d14	89		100.0		88.7	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703435**

29-Mar-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **lcs-30648**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30648**	RunNo: **41398**
Prep Date: **3/13/2017**	Analysis Date: **3/15/2017**	SeqNo: **1298726** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	74	5.0	100.0	0	74.2	42.9	100			
4-Chloro-3-methylphenol	64	5.0	100.0	0	63.6	36.2	110			
2-Chlorophenol	55	5.0	100.0	0	54.8	33.4	97.8			
1,4-Dichlorobenzene	56	5.0	100.0	0	55.7	32.8	79.3			
2,4-Dinitrotoluene	86	5.0	100.0	0	85.5	34.9	107			
N-Nitrosodi-n-propylamine	56	5.0	100.0	0	56.5	30.7	111			
4-Nitrophenol	84	5.0	100.0	0	84.5	15	91.9			
Pentachlorophenol	75	10	100.0	0	75.1	33.3	93.5			
Phenol	54	5.0	100.0	0	54.2	20.9	86.4			
Pyrene	90	5.0	100.0	0	90.3	45.6	111			
1,2,4-Trichlorobenzene	51	5.0	100.0	0	50.7	38.7	88.2			
Surr: 2-Fluorophenol	51		100.0		50.7	15	98.1			
Surr: Phenol-d5	55		100.0		54.6	15	80.7			
Surr: 2,4,6-Tribromophenol	76		100.0		75.8	15	112			
Surr: Nitrobenzene-d5	52		100.0		51.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	64		100.0		64.3	23.3	85.6			
Surr: 4-Terphenyl-d14	100		100.0		104	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1703435** RcptNo: **1**

Received by/date: AG 03/08/17

Logged By: **Ashley Gallegos** 3/8/2017 4:42:00 PM AG

Completed By: **Ashley Gallegos** 3/8/2017 5:19:50 PM AG

Reviewed By: 03/10/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No	
9. Was preservative added to bottles?	Yes	No ✔	NA
10. VOA vials have zero headspace?	Yes ✔	No	No VOA Vials
11. Were any sample containers received broken?	Yes	No ✔	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH: 3 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted? No
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by: AG

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: _____ Date _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type)_____

Turn-Around Time:
X Standard ☐ Rush_____

Project Name:
2017 1ST QTR - MKTF WELLS

Project #:

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703435	8260+MTBE	8015D(DRO/MRO/GRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals Dissolved (Filtered)	MAJOR CATIONS/ANIONS		METHOD 8011 - EDB								Air Bubbles (Y or N)
3/7/2017	700	AQUEOUS	FIELD BLANK	3-40ML VOAS	HCL	-001	X															
3/7/2017	1215	AQUEOUS	MKTF-31	MISC	MISC	-002	X	X	X	X	X	X		X								
3/7/2017	1311	AQUEOUS	MKTF-40	MISC	MISC	-003	X	X	X	X	X	X										
3/7/2017	1400	AQUEOUS	MKTF-42	MISC	MISC	-004	X	X	X	X	X	X										
3/7/2017	1615	AQUEOUS	MKTF-32	MISC	MISC	-005	X	X	X	X	X	X										
3/7/2017	1521	AQUEOUS	MKTF-41	MISC	MISC	-006	X	X	X	X	X	X		X								
3/7/2017	1530	AQUEOUS	DUPLICATE	MISC	MISC	-007	X	X	X	X	X	X		X								
3/7/2017		AQUEOUS	TRIP BLANK	MISC	MISC	-008	X															
3/8/2017	914	AQUEOUS	MKTF-43	MISC	MISC	-009	X	X	X	X	X	X										
3/8/2017	1017	AQUEOUS	MKTF-44	MISC	MISC	-010	X	X	X	X	X	X										
3/8/2017	1315	AQUEOUS	MKTF-33	MISC	MISC	-011	X	X	X	X	X	X										
3/8/2017	1342	AQUEOUS	MKTF-22	MISC	MISC	-012	X	X	X	X	X	X										

Date	Time	Relinquished by:	Received by:	Date	Time	Remarks:
3/8/2017	1430		Eugene Vig	3/8/17	14:10	
3/8/17	1430			03/8/17	1642	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 1ST QTR - MKTF WELLS

Project #:

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☐ Yes ☐ No

Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Analysis Request: 8260+MTBE	8015D(DRO/MRO/GRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	MAJOR CATIONS/ANIONS		METHOD 8011 - EDB								Air Bubbles (Y or N)
3/7/2017	700	AQUEOUS	FIELD BLANK	3-40ML VOAS	HCL		X															
3/7/2017	1215	AQUEOUS	MKTF-31	MISC	MISC		X	X	X	X	X	X		X								
3/7/2017	1311	AQUEOUS	MKTF-40	MISC	MISC		X	X	X	X	X	X										
3/7/2017	1400	AQUEOUS	MKTF-42	MISC	MISC		X	X	X	X	X	X										
3/7/2017	1615	AQUEOUS	MKTF-32	MISC	MISC		X	X	X	X	X	X										
3/7/2017	1521	AQUEOUS	MKTF-41	MISC	MISC		X	X	X	X	X	X		X								
3/7/2017	1530	AQUEOUS	DUPLICATE	MISC	MISC		X	X	X	X	X	X		X								
3/7/2017		AQUEOUS	TRIP BLANK	MISC	MISC		X															

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
3/8/2017	1430			3/08/17	1410	
03/8/17	1430			3/8/17	1642	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any subcontracted data will be clearly notated on the analytical report.

OW-29	3/6/17	1115
MKTF-25	3/6/17	1408
MKTF-30	3/6/17	1005
MKTF-24	3/6/17	1445
MKTF-27	3/6/17	1155
MKTF-28	3/6/17	1514
Duplicate	3/6/17	1414

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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Website: www.hallenvironmental.com

April 04, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017 1st QTR-MKTF Wells OrderNo.: 1703833

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 3/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 7:00:00 AM
Lab ID: 1703833-001
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Toluene	0.27	0.089	1.0	J	µg/L	1	3/16/2017 10:02:00 PM	B41415
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Naphthalene	ND	0.083	2.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Acetone	5.1	0.88	10	J	µg/L	1	3/16/2017 10:02:00 PM	B41415
Bromobenzene	ND	0.14	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Bromoform	ND	0.21	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Bromomethane	ND	0.78	3.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
2-Butanone	ND	1.1	10		µg/L	1	3/16/2017 10:02:00 PM	B41415
Carbon disulfide	ND	0.60	10		µg/L	1	3/16/2017 10:02:00 PM	B41415
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Chloroethane	ND	0.23	2.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Chloroform	ND	0.089	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Chloromethane	ND	0.21	3.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Dibromomethane	ND	0.12	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/16/2017 10:02:00 PM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 7:00:00 AM
Lab ID: 1703833-001
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
2-Hexanone	ND	0.66	10		µg/L	1	3/16/2017 10:02:00 PM	B41415
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/16/2017 10:02:00 PM	B41415
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Styrene	ND	0.16	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/16/2017 10:02:00 PM	B41415
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/16/2017 10:02:00 PM	B41415
Surr: 1,2-Dichloroethane-d4	88.4	0	70-130		%Rec	1	3/16/2017 10:02:00 PM	B41415
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	3/16/2017 10:02:00 PM	B41415
Surr: Dibromofluoromethane	99.5	0	70-130		%Rec	1	3/16/2017 10:02:00 PM	B41415
Surr: Toluene-d8	105	0	70-130		%Rec	1	3/16/2017 10:02:00 PM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-9
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 11:10:00 AM
Lab ID: 1703833-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	3.9	0.36	1.0		mg/L	1	3/20/2017 2:19:24 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/20/2017 2:19:24 PM	30758
Surr: DNOP	99.1	0	98.8-141		%Rec	1	3/20/2017 2:19:24 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	12	0.25	0.50		mg/L	10	3/16/2017 1:14:20 PM	R41423
Surr: BFB	106	0	52.3-138		%Rec	10	3/16/2017 1:14:20 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.33	0.050	0.10		mg/L	1	3/20/2017 8:21:40 PM	A41501
Chloride	180	5.0	10		mg/L	20	3/17/2017 12:56:38 AM	R41453
Nitrogen, Nitrite (As N)	ND	0.019	0.10		mg/L	1	3/17/2017 12:44:13 AM	R41453
Bromide	2.4	0.61	2.0		mg/L	20	3/17/2017 12:56:38 AM	R41453
Nitrogen, Nitrate (As N)	0.040	0.022	0.10	J	mg/L	1	3/17/2017 12:44:13 AM	R41453
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/17/2017 12:44:13 AM	R41453
Sulfate	28	0.096	0.50		mg/L	1	3/17/2017 12:44:13 AM	R41453
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.57	0.00085	0.0020		mg/L	1	3/27/2017 2:50:27 PM	A41693
Cadmium	ND	0.0010	0.0020		mg/L	1	3/27/2017 2:50:27 PM	A41693
Calcium	140	2.5	5.0		mg/L	5	3/27/2017 8:08:30 PM	B41693
Chromium	ND	0.0010	0.0060		mg/L	1	3/27/2017 2:50:27 PM	A41693
Copper	ND	0.0032	0.0060		mg/L	1	3/27/2017 2:50:27 PM	A41693
Iron	2.1	0.10	0.10	*	mg/L	5	3/27/2017 8:08:30 PM	B41693
Magnesium	31	0.50	1.0		mg/L	1	3/27/2017 2:50:27 PM	A41693
Manganese	4.1	0.0019	0.010	*	mg/L	5	3/27/2017 8:08:30 PM	B41693
Potassium	ND	0.50	1.0		mg/L	1	3/27/2017 2:50:27 PM	A41693
Silver	ND	0.00088	0.0050		mg/L	1	3/27/2017 2:50:27 PM	A41693
Sodium	240	2.5	5.0		mg/L	5	3/27/2017 8:08:30 PM	B41693
Zinc	0.051	0.0011	0.010		mg/L	1	3/27/2017 2:50:27 PM	A41693
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.59	0.00079	0.0020		mg/L	1	3/20/2017 5:55:32 PM	30763
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 5:55:32 PM	30763
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 5:55:32 PM	30763
Copper	0.0065	0.0030	0.0060		mg/L	1	3/20/2017 5:55:32 PM	30763
Iron	5.2	1.0	1.0	*	mg/L	50	3/24/2017 6:26:35 PM	30763
Manganese	4.4	0.0014	0.010	*	mg/L	5	3/24/2017 1:29:48 PM	30763
Silver	ND	0.0015	0.0050		mg/L	1	3/28/2017 5:24:44 PM	30923
Zinc	0.0046	0.0027	0.010	J	mg/L	1	3/24/2017 1:11:13 PM	30763
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-9
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 11:10:00 AM
Lab ID: 1703833-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0035	0.00089	0.0050	J	mg/L	5	3/21/2017 6:16:05 PM	B41550
Lead	ND	0.00017	0.00050		mg/L	1	3/17/2017 6:11:58 PM	A41465
Selenium	0.0023	0.0019	0.0050	J	mg/L	5	3/22/2017 6:43:52 PM	C41594
Uranium	0.0033	0.000050	0.00050		mg/L	1	3/17/2017 6:11:58 PM	A41465
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0052	0.0011	0.0050		mg/L	5	3/20/2017 2:19:10 PM	30763
Lead	0.0043	0.000081	0.00050		mg/L	1	3/20/2017 1:24:34 PM	30763
Selenium	0.0072	0.00094	0.0050		mg/L	5	3/20/2017 2:19:10 PM	30763
Uranium	0.0036	0.00017	0.00050		mg/L	1	3/20/2017 1:24:34 PM	30763
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 9:59:51 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	4.0	2.6	10	J	µg/L	1	3/20/2017 4:38:58 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 4:38:58 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Bis(2-ethylhexyl)phthalate	7.3	2.6	10	J	µg/L	1	3/20/2017 4:38:58 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Carbazole	11	2.3	10		µg/L	1	3/20/2017 4:38:58 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 4:38:58 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-9
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 11:10:00 AM
Lab ID: 1703833-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.7	2.0	10	J	µg/L	1	3/20/2017 4:38:58 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 4:38:58 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 4:38:58 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 4:38:58 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 4:38:58 PM	30748
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/20/2017 4:38:58 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 4:38:58 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 4:38:58 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Fluorene	4.9	2.7	10	J	µg/L	1	3/20/2017 4:38:58 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
1-Methylnaphthalene	48	2.9	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2-Methylnaphthalene	4.7	2.9	10	J	µg/L	1	3/20/2017 4:38:58 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 4:38:58 PM	30748
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/20/2017 4:38:58 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 4:38:58 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Naphthalene	32	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 4:38:58 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 4:38:58 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 4:38:58 PM	30748
Phenanthrene	5.3	2.6	10	J	µg/L	1	3/20/2017 4:38:58 PM	30748

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-9
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 11:10:00 AM
Lab ID: 1703833-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	5.0	2.0	10	J	µg/L	1	3/20/2017 4:38:58 PM	30748
Pyrene	ND	3.1	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 4:38:58 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 4:38:58 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 4:38:58 PM	30748
Surr: 2-Fluorophenol	20.4	0	15-98.1		%Rec	1	3/20/2017 4:38:58 PM	30748
Surr: Phenol-d5	14.6	0	15-80.7	S	%Rec	1	3/20/2017 4:38:58 PM	30748
Surr: 2,4,6-Tribromophenol	35.3	0	15-112		%Rec	1	3/20/2017 4:38:58 PM	30748
Surr: Nitrobenzene-d5	59.2	0	27.2-90.7		%Rec	1	3/20/2017 4:38:58 PM	30748
Surr: 2-Fluorobiphenyl	44.9	0	23.3-85.6		%Rec	1	3/20/2017 4:38:58 PM	30748
Surr: 4-Terphenyl-d14	25.5	0	27.6-107	S	%Rec	1	3/20/2017 4:38:58 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	2400	9.6	100		µg/L	100	3/16/2017 10:25:00 PM	B41415
Toluene	32	0.89	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Ethylbenzene	300	1.1	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Methyl tert-butyl ether (MTBE)	610	1.5	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2,4-Trimethylbenzene	78	1.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,3,5-Trimethylbenzene	1.7	1.2	10	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Naphthalene	51	0.83	20		µg/L	10	3/16/2017 10:49:00 PM	B41415
1-Methylnaphthalene	80	1.6	40		µg/L	10	3/16/2017 10:49:00 PM	B41415
2-Methylnaphthalene	10	1.5	40	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
Acetone	13	8.8	100	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
Bromobenzene	ND	1.4	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Bromodichloromethane	ND	1.8	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Bromoform	ND	2.1	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Bromomethane	ND	7.8	30		µg/L	10	3/16/2017 10:49:00 PM	B41415
2-Butanone	ND	11	100		µg/L	10	3/16/2017 10:49:00 PM	B41415
Carbon disulfide	ND	6.0	100		µg/L	10	3/16/2017 10:49:00 PM	B41415
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Chlorobenzene	ND	1.1	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Chloroethane	ND	2.3	20		µg/L	10	3/16/2017 10:49:00 PM	B41415
Chloroform	ND	0.89	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Chloromethane	ND	2.1	30		µg/L	10	3/16/2017 10:49:00 PM	B41415
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
4-Chlorotoluene	ND	4.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
cis-1,2-DCE	20	2.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-9
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 11:10:00 AM
Lab ID: 1703833-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	3/16/2017 10:49:00 PM	B41415
Dibromochloromethane	ND	0.78	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Dibromomethane	ND	1.2	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2-Dichlorobenzene	ND	1.2	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Dichlorodifluoromethane	ND	3.2	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,1-Dichloroethane	19	1.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,1-Dichloroethene	21	0.81	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2-Dichloropropane	ND	1.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
2,2-Dichloropropane	ND	1.2	20		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Hexachlorobutadiene	ND	3.7	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
2-Hexanone	ND	6.6	100		µg/L	10	3/16/2017 10:49:00 PM	B41415
Isopropylbenzene	20	0.98	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
4-Isopropyltoluene	3.5	1.4	10	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	3/16/2017 10:49:00 PM	B41415
Methylene Chloride	ND	1.1	30		µg/L	10	3/16/2017 10:49:00 PM	B41415
n-Butylbenzene	10	1.6	30	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
n-Propylbenzene	38	1.3	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
sec-Butylbenzene	5.3	1.0	10	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
Styrene	ND	1.6	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
tert-Butylbenzene	ND	1.0	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	3/16/2017 10:49:00 PM	B41415
Tetrachloroethene (PCE)	3.3	1.5	10	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
trans-1,2-DCE	ND	1.8	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
trans-1,3-Dichloropropene	ND	0.89	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,1,1-Trichloroethane	20	0.73	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Trichloroethene (TCE)	5.4	1.8	10	J	µg/L	10	3/16/2017 10:49:00 PM	B41415
Trichlorofluoromethane	ND	1.8	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	3/16/2017 10:49:00 PM	B41415
Vinyl chloride	ND	1.8	10		µg/L	10	3/16/2017 10:49:00 PM	B41415
Xylenes, Total	83	3.2	15		µg/L	10	3/16/2017 10:49:00 PM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-9
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 11:10:00 AM
Lab ID: 1703833-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	88.4	0	70-130		%Rec	10	3/16/2017 10:49:00 PM	B41415
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	10	3/16/2017 10:49:00 PM	B41415
Surr: Dibromofluoromethane	100	0	70-130		%Rec	10	3/16/2017 10:49:00 PM	B41415
Surr: Toluene-d8	105	0	70-130		%Rec	10	3/16/2017 10:49:00 PM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:05:00 PM
Lab ID: 1703833-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	2.4	0.36	1.0		mg/L	1	3/20/2017 2:47:46 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/20/2017 2:47:46 PM	30758
Surr: DNOP	101	0	98.8-141		%Rec	1	3/20/2017 2:47:46 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.5	0.25	0.50		mg/L	10	3/16/2017 2:24:38 PM	R41423
Surr: BFB	97.8	0	52.3-138		%Rec	10	3/16/2017 2:24:38 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.73	0.050	0.10		mg/L	1	3/20/2017 8:34:05 PM	A41501
Chloride	61	5.0	10		mg/L	20	3/17/2017 1:21:27 AM	R41453
Nitrogen, Nitrite (As N)	ND	0.019	0.10		mg/L	1	3/17/2017 1:09:02 AM	R41453
Bromide	0.46	0.031	0.10		mg/L	1	3/17/2017 1:09:02 AM	R41453
Nitrogen, Nitrate (As N)	ND	0.022	0.10		mg/L	1	3/17/2017 1:09:02 AM	R41453
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/17/2017 1:09:02 AM	R41453
Sulfate	43	1.9	10		mg/L	20	3/17/2017 1:21:27 AM	R41453
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.76	0.00085	0.0020		mg/L	1	3/27/2017 2:52:06 PM	A41693
Cadmium	ND	0.0010	0.0020		mg/L	1	3/27/2017 2:52:06 PM	A41693
Calcium	97	2.5	5.0		mg/L	5	3/27/2017 8:10:26 PM	B41693
Chromium	ND	0.0010	0.0060		mg/L	1	3/27/2017 2:52:06 PM	A41693
Copper	ND	0.0032	0.0060		mg/L	1	3/27/2017 2:52:06 PM	A41693
Iron	1.3	0.10	0.10	*	mg/L	5	3/27/2017 8:10:26 PM	B41693
Magnesium	21	0.50	1.0		mg/L	1	3/27/2017 2:52:06 PM	A41693
Manganese	2.6	0.0019	0.010	*	mg/L	5	3/27/2017 8:10:26 PM	B41693
Potassium	0.68	0.50	1.0	J	mg/L	1	3/27/2017 2:52:06 PM	A41693
Silver	ND	0.00088	0.0050		mg/L	1	3/27/2017 2:52:06 PM	A41693
Sodium	220	2.5	5.0		mg/L	5	3/27/2017 8:10:26 PM	B41693
Zinc	0.023	0.0011	0.010		mg/L	1	3/27/2017 2:52:06 PM	A41693
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.76	0.00079	0.0020		mg/L	1	3/20/2017 5:57:33 PM	30763
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 5:57:33 PM	30763
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 5:57:33 PM	30763
Copper	0.0052	0.0030	0.0060	J	mg/L	1	3/20/2017 5:57:33 PM	30763
Iron	6.5	1.0	1.0	*	mg/L	50	3/24/2017 6:29:18 PM	30763
Manganese	2.8	0.0014	0.010	*	mg/L	5	3/24/2017 1:32:24 PM	30763
Silver	ND	0.0015	0.0050		mg/L	1	3/28/2017 5:28:18 PM	30923
Zinc	0.0059	0.0027	0.010	J	mg/L	1	3/24/2017 1:16:21 PM	30763
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:05:00 PM
Lab ID: 1703833-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0050	0.00018	0.0010		mg/L	1	3/17/2017 6:17:06 PM	A41465
Lead	ND	0.00017	0.00050		mg/L	1	3/17/2017 6:17:06 PM	A41465
Selenium	ND	0.0019	0.0050		mg/L	5	3/22/2017 6:46:55 PM	C41594
Uranium	0.0054	0.000050	0.00050		mg/L	1	3/17/2017 6:17:06 PM	A41465
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0078	0.00021	0.0010		mg/L	1	3/20/2017 1:33:36 PM	30763
Lead	0.0026	0.000081	0.00050		mg/L	1	3/20/2017 1:33:36 PM	30763
Selenium	0.0035	0.00094	0.0050	J	mg/L	5	3/20/2017 2:31:15 PM	30763
Uranium	0.0057	0.00017	0.00050		mg/L	1	3/20/2017 1:33:36 PM	30763
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:01:53 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 5:07:20 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Bis(2-ethylhexyl)phthalate	7.0	2.6	10	J	µg/L	1	3/20/2017 5:07:20 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Carbazole	ND	2.3	10		µg/L	1	3/20/2017 5:07:20 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 5:07:20 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/20/2017 5:07:20 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 5:07:20 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 5:07:20 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 5:07:20 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 5:07:20 PM	30748
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/20/2017 5:07:20 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 5:07:20 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 5:07:20 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Fluorene	ND	2.7	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 5:07:20 PM	30748
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/20/2017 5:07:20 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 5:07:20 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Naphthalene	4.9	2.6	10	J	µg/L	1	3/20/2017 5:07:20 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 5:07:20 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 5:07:20 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 5:07:20 PM	30748
Phenanthrene	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748

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Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	5.0	2.0	10	J	µg/L	1	3/20/2017 5:07:20 PM	30748
Pyrene	ND	3.1	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 5:07:20 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 5:07:20 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 5:07:20 PM	30748
Surr: 2-Fluorophenol	27.0	0	15-98.1		%Rec	1	3/20/2017 5:07:20 PM	30748
Surr: Phenol-d5	21.1	0	15-80.7		%Rec	1	3/20/2017 5:07:20 PM	30748
Surr: 2,4,6-Tribromophenol	48.1	0	15-112		%Rec	1	3/20/2017 5:07:20 PM	30748
Surr: Nitrobenzene-d5	57.0	0	27.2-90.7		%Rec	1	3/20/2017 5:07:20 PM	30748
Surr: 2-Fluorobiphenyl	49.1	0	23.3-85.6		%Rec	1	3/20/2017 5:07:20 PM	30748
Surr: 4-Terphenyl-d14	36.0	0	27.6-107		%Rec	1	3/20/2017 5:07:20 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	290	0.96	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Toluene	2.2	0.89	10	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
Ethylbenzene	230	1.1	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Methyl tert-butyl ether (MTBE)	280	1.5	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2,4-Trimethylbenzene	34	1.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,3,5-Trimethylbenzene	3.5	1.2	10	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Naphthalene	11	0.83	20	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
1-Methylnaphthalene	7.2	1.6	40	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
2-Methylnaphthalene	4.7	1.5	40	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
Acetone	18	8.8	100	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
Bromobenzene	ND	1.4	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Bromodichloromethane	ND	1.8	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Bromoform	ND	2.1	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Bromomethane	ND	7.8	30		µg/L	10	3/17/2017 12:46:00 AM	B41415
2-Butanone	ND	11	100		µg/L	10	3/17/2017 12:46:00 AM	B41415
Carbon disulfide	ND	6.0	100		µg/L	10	3/17/2017 12:46:00 AM	B41415
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Chlorobenzene	ND	1.1	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Chloroethane	ND	2.3	20		µg/L	10	3/17/2017 12:46:00 AM	B41415
Chloroform	ND	0.89	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Chloromethane	ND	2.1	30		µg/L	10	3/17/2017 12:46:00 AM	B41415
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
4-Chlorotoluene	ND	4.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
cis-1,2-DCE	ND	2.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	3/17/2017 12:46:00 AM	B41415
Dibromochloromethane	ND	0.78	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Dibromomethane	ND	1.2	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2-Dichlorobenzene	ND	1.2	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Dichlorodifluoromethane	ND	3.2	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,1-Dichloroethane	ND	1.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,1-Dichloroethene	ND	0.81	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2-Dichloropropane	ND	1.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
2,2-Dichloropropane	ND	1.2	20		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Hexachlorobutadiene	ND	3.7	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
2-Hexanone	ND	6.6	100		µg/L	10	3/17/2017 12:46:00 AM	B41415
Isopropylbenzene	10	0.98	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
4-Isopropyltoluene	2.2	1.4	10	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	3/17/2017 12:46:00 AM	B41415
Methylene Chloride	ND	1.1	30		µg/L	10	3/17/2017 12:46:00 AM	B41415
n-Butylbenzene	1.8	1.6	30	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
n-Propylbenzene	16	1.3	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
sec-Butylbenzene	2.2	1.0	10	J	µg/L	10	3/17/2017 12:46:00 AM	B41415
Styrene	ND	1.6	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
tert-Butylbenzene	ND	1.0	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	3/17/2017 12:46:00 AM	B41415
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
trans-1,2-DCE	ND	1.8	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.89	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Trichlorofluoromethane	ND	1.8	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	3/17/2017 12:46:00 AM	B41415
Vinyl chloride	ND	1.8	10		µg/L	10	3/17/2017 12:46:00 AM	B41415
Xylenes, Total	70	3.2	15		µg/L	10	3/17/2017 12:46:00 AM	B41415

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:05:00 PM
Lab ID: 1703833-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	87.9	0	70-130		%Rec	10	3/17/2017 12:46:00 AM	B41415
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	10	3/17/2017 12:46:00 AM	B41415
Surr: Dibromofluoromethane	99.3	0	70-130		%Rec	10	3/17/2017 12:46:00 AM	B41415
Surr: Toluene-d8	105	0	70-130		%Rec	10	3/17/2017 12:46:00 AM	B41415

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:35:00 PM
Lab ID: 1703833-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	14	0.36	1.0		mg/L	1	3/21/2017 3:49:04 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 3:49:04 PM	30758
Surr: DNOP	130	0	72.4-157		%Rec	1	3/21/2017 3:49:04 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	25	1.2	2.5		mg/L	50	3/16/2017 2:47:58 PM	R41423
Surr: BFB	92.4	0	52.3-138		%Rec	50	3/16/2017 2:47:58 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.098	0.050	0.10	J	mg/L	1	3/20/2017 8:46:29 PM	A41501
Chloride	130	5.0	10		mg/L	20	3/17/2017 1:46:16 AM	R41453
Nitrogen, Nitrite (As N)	ND	0.019	0.10		mg/L	1	3/17/2017 1:33:52 AM	R41453
Bromide	ND	0.031	0.10		mg/L	1	3/17/2017 1:33:52 AM	R41453
Nitrogen, Nitrate (As N)	ND	0.022	0.10		mg/L	1	3/17/2017 1:33:52 AM	R41453
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/17/2017 1:33:52 AM	R41453
Sulfate	0.52	0.096	0.50		mg/L	1	3/17/2017 1:33:52 AM	R41453
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.7	0.0043	0.010		mg/L	5	3/27/2017 8:12:22 PM	B41693
Cadmium	ND	0.0010	0.0020		mg/L	1	3/27/2017 3:00:17 PM	A41693
Calcium	140	2.5	5.0		mg/L	5	3/27/2017 8:12:22 PM	B41693
Chromium	ND	0.0010	0.0060		mg/L	1	3/27/2017 3:00:17 PM	A41693
Copper	ND	0.0032	0.0060		mg/L	1	3/27/2017 3:00:17 PM	A41693
Iron	9.0	0.20	0.20	*	mg/L	10	3/28/2017 3:33:47 PM	A41722
Magnesium	31	0.50	1.0		mg/L	1	3/27/2017 3:00:17 PM	A41693
Manganese	2.4	0.0019	0.010	*	mg/L	5	3/27/2017 8:12:22 PM	B41693
Potassium	0.87	0.50	1.0	J	mg/L	1	3/27/2017 3:00:17 PM	A41693
Silver	ND	0.00088	0.0050		mg/L	1	3/27/2017 3:00:17 PM	A41693
Sodium	270	2.5	5.0		mg/L	5	3/27/2017 8:12:22 PM	B41693
Zinc	0.031	0.0011	0.010		mg/L	1	3/27/2017 3:00:17 PM	A41693
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	2.3	0.0040	0.010	*	mg/L	5	3/24/2017 1:37:36 PM	30763
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 5:59:12 PM	30763
Chromium	0.0075	0.0027	0.0060		mg/L	1	3/20/2017 5:59:12 PM	30763
Copper	0.018	0.0030	0.0060		mg/L	1	3/20/2017 5:59:12 PM	30763
Iron	20	1.0	1.0	*	mg/L	50	3/24/2017 6:32:01 PM	30763
Manganese	3.3	0.0014	0.010	*	mg/L	5	3/24/2017 1:37:36 PM	30763
Silver	ND	0.0015	0.0050		mg/L	1	3/28/2017 5:31:52 PM	30923
Zinc	0.10	0.0027	0.010		mg/L	1	3/24/2017 1:35:05 PM	30763
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:35:00 PM
Lab ID: 1703833-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.015	0.0018	0.010	*	mg/L	10	3/21/2017 6:25:15 PM	B41550
Lead	0.0022	0.00017	0.00050		mg/L	1	3/17/2017 6:22:14 PM	A41465
Selenium	ND	0.0039	0.010		mg/L	10	3/22/2017 6:49:59 PM	C41594
Uranium	0.0021	0.000050	0.00050		mg/L	1	3/17/2017 6:22:14 PM	A41465
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.018	0.0011	0.0050	*	mg/L	5	3/20/2017 2:34:15 PM	30763
Lead	0.033	0.00041	0.0025	*	mg/L	5	3/20/2017 2:34:15 PM	30763
Selenium	0.012	0.0037	0.020	J	mg/L	20	3/20/2017 2:37:16 PM	30763
Uranium	0.0071	0.00017	0.00050		mg/L	1	3/20/2017 1:36:38 PM	30763
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:03:54 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	3.6	2.6	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 5:35:50 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Bis(2-ethylhexyl)phthalate	7.3	2.6	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Carbazole	4.6	2.3	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 5:35:50 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:35:00 PM
Lab ID: 1703833-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.4	2.0	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 5:35:50 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 5:35:50 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 5:35:50 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 5:35:50 PM	30748
2,4-Dimethylphenol	5.2	3.0	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 5:35:50 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 5:35:50 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Fluorene	3.9	2.7	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
1-Methylnaphthalene	88	2.9	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2-Methylnaphthalene	120	2.9	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 5:35:50 PM	30748
3+4-Methylphenol	2.4	2.3	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 5:35:50 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Naphthalene	210	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 5:35:50 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 5:35:50 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 5:35:50 PM	30748
Phenanthrene	3.1	2.6	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:35:00 PM
Lab ID: 1703833-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	7.9	2.0	10	J	µg/L	1	3/20/2017 5:35:50 PM	30748
Pyrene	ND	3.1	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 5:35:50 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 5:35:50 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 5:35:50 PM	30748
Surr: 2-Fluorophenol	20.8	0	15-98.1		%Rec	1	3/20/2017 5:35:50 PM	30748
Surr: Phenol-d5	15.8	0	15-80.7		%Rec	1	3/20/2017 5:35:50 PM	30748
Surr: 2,4,6-Tribromophenol	36.2	0	15-112		%Rec	1	3/20/2017 5:35:50 PM	30748
Surr: Nitrobenzene-d5	52.3	0	27.2-90.7		%Rec	1	3/20/2017 5:35:50 PM	30748
Surr: 2-Fluorobiphenyl	44.2	0	23.3-85.6		%Rec	1	3/20/2017 5:35:50 PM	30748
Surr: 4-Terphenyl-d14	28.5	0	27.6-107		%Rec	1	3/20/2017 5:35:50 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1800	1.9	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Toluene	9.8	1.8	20	J	µg/L	20	3/17/2017 2:19:00 AM	B41415
Ethylbenzene	600	2.2	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Methyl tert-butyl ether (MTBE)	9000	30	200		µg/L	200	3/17/2017 1:56:00 AM	B41415
1,2,4-Trimethylbenzene	660	2.1	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,3,5-Trimethylbenzene	98	2.3	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	2.3	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Naphthalene	430	1.7	40		µg/L	20	3/17/2017 2:19:00 AM	B41415
1-Methylnaphthalene	170	3.2	80		µg/L	20	3/17/2017 2:19:00 AM	B41415
2-Methylnaphthalene	200	3.0	80		µg/L	20	3/17/2017 2:19:00 AM	B41415
Acetone	ND	18	200		µg/L	20	3/17/2017 2:19:00 AM	B41415
Bromobenzene	ND	2.8	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Bromodichloromethane	ND	3.5	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Bromoform	ND	4.2	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Bromomethane	ND	16	60		µg/L	20	3/17/2017 2:19:00 AM	B41415
2-Butanone	ND	23	200		µg/L	20	3/17/2017 2:19:00 AM	B41415
Carbon disulfide	ND	12	200		µg/L	20	3/17/2017 2:19:00 AM	B41415
Carbon Tetrachloride	ND	2.2	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Chlorobenzene	ND	2.1	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Chloroethane	ND	4.7	40		µg/L	20	3/17/2017 2:19:00 AM	B41415
Chloroform	ND	1.8	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Chloromethane	ND	4.3	60		µg/L	20	3/17/2017 2:19:00 AM	B41415
2-Chlorotoluene	ND	8.0	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
4-Chlorotoluene	ND	8.0	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
cis-1,2-DCE	ND	4.1	20		µg/L	20	3/17/2017 2:19:00 AM	B41415

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 12:35:00 PM
Lab ID: 1703833-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	2.0	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	3/17/2017 2:19:00 AM	B41415
Dibromochloromethane	ND	1.6	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Dibromomethane	ND	2.4	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2-Dichlorobenzene	ND	2.4	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,3-Dichlorobenzene	ND	2.9	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Dichlorodifluoromethane	ND	6.5	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,1-Dichloroethane	ND	2.1	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,1-Dichloroethene	ND	1.6	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2-Dichloropropane	ND	2.0	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,3-Dichloropropane	ND	3.1	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
2,2-Dichloropropane	ND	2.4	40		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,1-Dichloropropene	ND	2.7	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Hexachlorobutadiene	ND	7.4	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
2-Hexanone	ND	13	200		µg/L	20	3/17/2017 2:19:00 AM	B41415
Isopropylbenzene	24	2.0	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
4-Isopropyltoluene	5.8	2.8	20	J	µg/L	20	3/17/2017 2:19:00 AM	B41415
4-Methyl-2-pentanone	ND	14	200		µg/L	20	3/17/2017 2:19:00 AM	B41415
Methylene Chloride	ND	2.2	60		µg/L	20	3/17/2017 2:19:00 AM	B41415
n-Butylbenzene	11	3.2	60	J	µg/L	20	3/17/2017 2:19:00 AM	B41415
n-Propylbenzene	54	2.6	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
sec-Butylbenzene	5.2	2.0	20	J	µg/L	20	3/17/2017 2:19:00 AM	B41415
Styrene	ND	3.1	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
tert-Butylbenzene	ND	2.1	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	2.2	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	3/17/2017 2:19:00 AM	B41415
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
trans-1,2-DCE	ND	3.7	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
trans-1,3-Dichloropropene	ND	1.8	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2,4-Trichlorobenzene	ND	2.7	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,1,1-Trichloroethane	ND	1.5	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Trichloroethene (TCE)	ND	3.5	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Trichlorofluoromethane	ND	3.7	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	3/17/2017 2:19:00 AM	B41415
Vinyl chloride	ND	3.6	20		µg/L	20	3/17/2017 2:19:00 AM	B41415
Xylenes, Total	920	6.5	30		µg/L	20	3/17/2017 2:19:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 3/15/2017 12:35:00 PM
Lab ID: 1703833-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	87.3	0	70-130		%Rec	20	3/17/2017 2:19:00 AM	B41415
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	20	3/17/2017 2:19:00 AM	B41415
Surr: Dibromofluoromethane	97.8	0	70-130		%Rec	20	3/17/2017 2:19:00 AM	B41415
Surr: Toluene-d8	104	0	70-130		%Rec	20	3/17/2017 2:19:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-13
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 1:43:00 PM
Lab ID: 1703833-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	48	0.36	1.0		mg/L	1	3/21/2017 4:11:18 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 4:11:18 PM	30758
Surr: DNOP	143	0	72.4-157		%Rec	1	3/21/2017 4:11:18 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	28	1.2	2.5		mg/L	50	3/16/2017 3:11:28 PM	R41423
Surr: BFB	95.2	0	52.3-138		%Rec	50	3/16/2017 3:11:28 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.27	0.050	0.10		mg/L	1	3/20/2017 9:23:44 PM	A41501
Chloride	120	5.0	10		mg/L	20	3/17/2017 2:11:05 AM	R41453
Nitrogen, Nitrite (As N)	ND	0.097	0.50		mg/L	5	3/17/2017 1:58:41 AM	R41453
Bromide	1.6	0.15	0.50		mg/L	5	3/17/2017 1:58:41 AM	R41453
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/17/2017 1:58:41 AM	R41453
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/17/2017 1:58:41 AM	R41453
Sulfate	ND	0.48	2.5		mg/L	5	3/17/2017 1:58:41 AM	R41453
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	4.7	0.0043	0.010	*	mg/L	5	3/27/2017 8:21:58 PM	B41693
Cadmium	ND	0.0010	0.0020		mg/L	1	3/27/2017 3:01:59 PM	A41693
Calcium	200	2.5	5.0		mg/L	5	3/27/2017 8:21:58 PM	B41693
Chromium	ND	0.0010	0.0060		mg/L	1	3/27/2017 3:01:59 PM	A41693
Copper	ND	0.0032	0.0060		mg/L	1	3/27/2017 3:01:59 PM	A41693
Iron	18	0.40	0.40	*	mg/L	20	3/28/2017 3:35:46 PM	A41722
Magnesium	38	0.50	1.0		mg/L	1	3/27/2017 3:01:59 PM	A41693
Manganese	3.9	0.0019	0.010	*	mg/L	5	3/27/2017 8:21:58 PM	B41693
Potassium	ND	0.50	1.0		mg/L	1	3/27/2017 3:01:59 PM	A41693
Silver	ND	0.00088	0.0050		mg/L	1	3/27/2017 3:01:59 PM	A41693
Sodium	160	2.5	5.0		mg/L	5	3/27/2017 8:21:58 PM	B41693
Zinc	0.034	0.0011	0.010		mg/L	1	3/27/2017 3:01:59 PM	A41693
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	5.0	0.0040	0.010	*	mg/L	5	3/24/2017 1:57:55 PM	30763
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 6:00:51 PM	30763
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 6:00:51 PM	30763
Copper	ND	0.0030	0.0060		mg/L	1	3/20/2017 6:00:51 PM	30763
Iron	18	0.40	0.40	*	mg/L	20	3/24/2017 2:00:26 PM	30763
Manganese	4.1	0.0014	0.010	*	mg/L	5	3/24/2017 1:57:55 PM	30763
Silver	ND	0.0015	0.0050		mg/L	1	3/28/2017 5:35:30 PM	30923
Zinc	0.0048	0.0027	0.010	J	mg/L	1	3/24/2017 1:55:52 PM	30763
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-13
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 1:43:00 PM
Lab ID: 1703833-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0055	0.00018	0.0010		mg/L	1	3/17/2017 6:27:23 PM	A41465
Lead	0.00023	0.00017	0.00050	J	mg/L	1	3/17/2017 6:27:23 PM	A41465
Selenium	ND	0.0039	0.010		mg/L	10	3/22/2017 6:53:02 PM	C41594
Uranium	0.00034	0.000050	0.00050	J	mg/L	1	3/17/2017 6:27:23 PM	A41465
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0056	0.0011	0.0050		mg/L	5	3/20/2017 2:40:16 PM	30763
Lead	0.0021	0.000081	0.00050		mg/L	1	3/20/2017 1:39:39 PM	30763
Selenium	0.0075	0.0019	0.010	J	mg/L	10	3/20/2017 2:43:17 PM	30763
Uranium	0.00073	0.00017	0.00050		mg/L	1	3/20/2017 1:39:39 PM	30763
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:05:56 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 6:04:17 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Bis(2-ethylhexyl)phthalate	7.1	2.6	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Carbazole	ND	2.3	10		µg/L	1	3/20/2017 6:04:17 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 6:04:17 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Di-n-butyl phthalate	2.8	2.4	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-13
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 1:43:00 PM
Lab ID: 1703833-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 6:04:17 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 6:04:17 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 6:04:17 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 6:04:17 PM	30748
2,4-Dimethylphenol	6.7	3.0	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 6:04:17 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 6:04:17 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Fluorene	3.4	2.7	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
1-Methylnaphthalene	45	2.9	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2-Methylnaphthalene	63	2.9	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 6:04:17 PM	30748
3+4-Methylphenol	3.4	2.3	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 6:04:17 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Naphthalene	84	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 6:04:17 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 6:04:17 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 6:04:17 PM	30748
Phenanthrene	3.0	2.6	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748

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Lab ID: 1703833-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	8.2	2.0	10	J	µg/L	1	3/20/2017 6:04:17 PM	30748
Pyrene	ND	3.1	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 6:04:17 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 6:04:17 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 6:04:17 PM	30748
Surr: 2-Fluorophenol	15.2	0	15-98.1		%Rec	1	3/20/2017 6:04:17 PM	30748
Surr: Phenol-d5	11.5	0	15-80.7	S	%Rec	1	3/20/2017 6:04:17 PM	30748
Surr: 2,4,6-Tribromophenol	30.4	0	15-112		%Rec	1	3/20/2017 6:04:17 PM	30748
Surr: Nitrobenzene-d5	43.3	0	27.2-90.7		%Rec	1	3/20/2017 6:04:17 PM	30748
Surr: 2-Fluorobiphenyl	32.3	0	23.3-85.6		%Rec	1	3/20/2017 6:04:17 PM	30748
Surr: 4-Terphenyl-d14	25.0	0	27.6-107	S	%Rec	1	3/20/2017 6:04:17 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	3000	9.6	100		µg/L	100	3/17/2017 9:17:00 AM	B41415
Toluene	210	0.89	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Ethylbenzene	870	1.1	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Methyl tert-butyl ether (MTBE)	2300	15	100		µg/L	100	3/17/2017 9:17:00 AM	B41415
1,2,4-Trimethylbenzene	680	1.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,3,5-Trimethylbenzene	170	1.2	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Naphthalene	210	0.83	20		µg/L	10	3/17/2017 2:42:00 AM	B41415
1-Methylnaphthalene	110	1.6	40		µg/L	10	3/17/2017 2:42:00 AM	B41415
2-Methylnaphthalene	130	1.5	40		µg/L	10	3/17/2017 2:42:00 AM	B41415
Acetone	30	8.8	100	J	µg/L	10	3/17/2017 2:42:00 AM	B41415
Bromobenzene	ND	1.4	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Bromodichloromethane	ND	1.8	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Bromoform	ND	2.1	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Bromomethane	ND	7.8	30		µg/L	10	3/17/2017 2:42:00 AM	B41415
2-Butanone	ND	11	100		µg/L	10	3/17/2017 2:42:00 AM	B41415
Carbon disulfide	ND	6.0	100		µg/L	10	3/17/2017 2:42:00 AM	B41415
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Chlorobenzene	ND	1.1	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Chloroethane	ND	2.3	20		µg/L	10	3/17/2017 2:42:00 AM	B41415
Chloroform	ND	0.89	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Chloromethane	ND	2.1	30		µg/L	10	3/17/2017 2:42:00 AM	B41415
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
4-Chlorotoluene	ND	4.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
cis-1,2-DCE	ND	2.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-13
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 1:43:00 PM
Lab ID: 1703833-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	3/17/2017 2:42:00 AM	B41415
Dibromochloromethane	ND	0.78	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Dibromomethane	ND	1.2	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2-Dichlorobenzene	ND	1.2	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Dichlorodifluoromethane	ND	3.2	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,1-Dichloroethane	ND	1.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,1-Dichloroethene	ND	0.81	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2-Dichloropropane	ND	1.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
2,2-Dichloropropane	ND	1.2	20		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Hexachlorobutadiene	ND	3.7	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
2-Hexanone	ND	6.6	100		µg/L	10	3/17/2017 2:42:00 AM	B41415
Isopropylbenzene	40	0.98	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
4-Isopropyltoluene	9.0	1.4	10	J	µg/L	10	3/17/2017 2:42:00 AM	B41415
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	3/17/2017 2:42:00 AM	B41415
Methylene Chloride	ND	1.1	30		µg/L	10	3/17/2017 2:42:00 AM	B41415
n-Butylbenzene	15	1.6	30	J	µg/L	10	3/17/2017 2:42:00 AM	B41415
n-Propylbenzene	83	1.3	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
sec-Butylbenzene	10	1.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Styrene	ND	1.6	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
tert-Butylbenzene	ND	1.0	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	3/17/2017 2:42:00 AM	B41415
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
trans-1,2-DCE	ND	1.8	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.89	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Trichlorofluoromethane	ND	1.8	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	3/17/2017 2:42:00 AM	B41415
Vinyl chloride	ND	1.8	10		µg/L	10	3/17/2017 2:42:00 AM	B41415
Xylenes, Total	4000	32	150		µg/L	100	3/17/2017 9:17:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-13
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017 1:43:00 PM
Lab ID: 1703833-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	87.0	0	70-130		%Rec	10	3/17/2017 2:42:00 AM	B41415
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	10	3/17/2017 2:42:00 AM	B41415
Surr: Dibromofluoromethane	98.6	0	70-130		%Rec	10	3/17/2017 2:42:00 AM	B41415
Surr: Toluene-d8	105	0	70-130		%Rec	10	3/17/2017 2:42:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017
Lab ID: 1703833-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	32	0.36	1.0		mg/L	1	3/21/2017 4:33:44 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 4:33:44 PM	30758
Surr: DNOP	139	0	72.4-157		%Rec	1	3/21/2017 4:33:44 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	27	1.2	2.5		mg/L	50	3/16/2017 3:34:59 PM	R41423
Surr: BFB	95.0	0	52.3-138		%Rec	50	3/16/2017 3:34:59 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.29	0.050	0.10		mg/L	1	3/20/2017 9:36:09 PM	A41501
Chloride	110	5.0	10		mg/L	20	3/17/2017 2:35:55 AM	R41453
Nitrogen, Nitrite (As N)	ND	0.097	0.50		mg/L	5	3/17/2017 2:23:30 AM	R41453
Bromide	1.6	0.15	0.50		mg/L	5	3/17/2017 2:23:30 AM	R41453
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/17/2017 2:23:30 AM	R41453
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/17/2017 2:23:30 AM	R41453
Sulfate	ND	0.48	2.5		mg/L	5	3/17/2017 2:23:30 AM	R41453
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	4.7	0.0043	0.010	*	mg/L	5	3/27/2017 8:23:44 PM	B41693
Cadmium	ND	0.0010	0.0020		mg/L	1	3/27/2017 3:03:40 PM	A41693
Calcium	200	2.5	5.0		mg/L	5	3/27/2017 8:23:44 PM	B41693
Chromium	ND	0.0010	0.0060		mg/L	1	3/27/2017 3:03:40 PM	A41693
Copper	ND	0.0032	0.0060		mg/L	1	3/27/2017 3:03:40 PM	A41693
Iron	18	0.40	0.40	*	mg/L	20	3/28/2017 3:37:55 PM	A41722
Magnesium	38	0.50	1.0		mg/L	1	3/27/2017 3:03:40 PM	A41693
Manganese	3.9	0.0019	0.010	*	mg/L	5	3/27/2017 8:23:44 PM	B41693
Potassium	ND	0.50	1.0		mg/L	1	3/27/2017 3:03:40 PM	A41693
Silver	ND	0.00088	0.0050		mg/L	1	3/27/2017 3:03:40 PM	A41693
Sodium	160	2.5	5.0		mg/L	5	3/27/2017 8:23:44 PM	B41693
Zinc	0.031	0.0011	0.010		mg/L	1	3/27/2017 3:03:40 PM	A41693
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	4.8	0.0040	0.010	*	mg/L	5	3/24/2017 2:05:23 PM	30763
Cadmium	ND	0.0015	0.0020		mg/L	1	3/20/2017 6:11:07 PM	30763
Chromium	ND	0.0027	0.0060		mg/L	1	3/20/2017 6:11:07 PM	30763
Copper	ND	0.0030	0.0060		mg/L	1	3/20/2017 6:11:07 PM	30763
Iron	17	0.40	0.40	*	mg/L	20	3/24/2017 2:07:55 PM	30763
Manganese	4.0	0.0014	0.010	*	mg/L	5	3/24/2017 2:05:23 PM	30763
Silver	ND	0.0015	0.0050		mg/L	1	3/28/2017 5:39:19 PM	30923
Zinc	0.0046	0.0027	0.010	J	mg/L	1	3/24/2017 2:03:21 PM	30763
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017
Lab ID: 1703833-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0052	0.00018	0.0010		mg/L	1	3/17/2017 6:32:31 PM	A41465
Lead	0.00024	0.00017	0.00050	J	mg/L	1	3/17/2017 6:32:31 PM	A41465
Selenium	ND	0.0039	0.010		mg/L	10	3/22/2017 7:02:16 PM	C41594
Uranium	0.00034	0.000050	0.00050	J	mg/L	1	3/17/2017 6:32:31 PM	A41465
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0054	0.0011	0.0050		mg/L	5	3/20/2017 2:52:23 PM	30763
Lead	0.0022	0.000081	0.00050		mg/L	1	3/20/2017 1:42:39 PM	30763
Selenium	0.0077	0.0019	0.010	J	mg/L	10	3/20/2017 2:55:24 PM	30763
Uranium	0.00060	0.00017	0.00050		mg/L	1	3/20/2017 1:42:39 PM	30763
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:12:07 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 6:32:47 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Bis(2-ethylhexyl)phthalate	7.9	2.6	10	J	µg/L	1	3/20/2017 6:32:47 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Carbazole	2.4	2.3	10	J	µg/L	1	3/20/2017 6:32:47 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 6:32:47 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748

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Lab ID: 1703833-006
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Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/20/2017 6:32:47 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 6:32:47 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 6:32:47 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 6:32:47 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 6:32:47 PM	30748
2,4-Dimethylphenol	9.7	3.0	10	J	µg/L	1	3/20/2017 6:32:47 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 6:32:47 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 6:32:47 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Fluorene	5.1	2.7	10	J	µg/L	1	3/20/2017 6:32:47 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
1-Methylnaphthalene	78	2.9	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2-Methylnaphthalene	110	2.9	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 6:32:47 PM	30748
3+4-Methylphenol	4.5	2.3	10	J	µg/L	1	3/20/2017 6:32:47 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 6:32:47 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Naphthalene	130	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 6:32:47 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 6:32:47 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 6:32:47 PM	30748
Phenanthrene	4.4	2.6	10	J	µg/L	1	3/20/2017 6:32:47 PM	30748

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017
Lab ID: 1703833-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	12	2.0	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Pyrene	ND	3.1	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 6:32:47 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 6:32:47 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 6:32:47 PM	30748
Surr: 2-Fluorophenol	20.7	0	15-98.1		%Rec	1	3/20/2017 6:32:47 PM	30748
Surr: Phenol-d5	14.8	0	15-80.7	S	%Rec	1	3/20/2017 6:32:47 PM	30748
Surr: 2,4,6-Tribromophenol	51.9	0	15-112		%Rec	1	3/20/2017 6:32:47 PM	30748
Surr: Nitrobenzene-d5	63.4	0	27.2-90.7		%Rec	1	3/20/2017 6:32:47 PM	30748
Surr: 2-Fluorobiphenyl	52.3	0	23.3-85.6		%Rec	1	3/20/2017 6:32:47 PM	30748
Surr: 4-Terphenyl-d14	40.8	0	27.6-107		%Rec	1	3/20/2017 6:32:47 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	2900	9.6	100		µg/L	100	3/17/2017 9:41:00 AM	B41415
Toluene	220	0.89	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Ethylbenzene	870	1.1	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Methyl tert-butyl ether (MTBE)	2200	15	100		µg/L	100	3/17/2017 9:41:00 AM	B41415
1,2,4-Trimethylbenzene	670	1.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,3,5-Trimethylbenzene	170	1.2	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Naphthalene	210	0.83	20		µg/L	10	3/17/2017 3:06:00 AM	B41415
1-Methylnaphthalene	110	1.6	40		µg/L	10	3/17/2017 3:06:00 AM	B41415
2-Methylnaphthalene	130	1.5	40		µg/L	10	3/17/2017 3:06:00 AM	B41415
Acetone	41	8.8	100	J	µg/L	10	3/17/2017 3:06:00 AM	B41415
Bromobenzene	ND	1.4	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Bromodichloromethane	ND	1.8	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Bromoform	ND	2.1	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Bromomethane	ND	7.8	30		µg/L	10	3/17/2017 3:06:00 AM	B41415
2-Butanone	ND	11	100		µg/L	10	3/17/2017 3:06:00 AM	B41415
Carbon disulfide	ND	6.0	100		µg/L	10	3/17/2017 3:06:00 AM	B41415
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Chlorobenzene	ND	1.1	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Chloroethane	ND	2.3	20		µg/L	10	3/17/2017 3:06:00 AM	B41415
Chloroform	ND	0.89	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Chloromethane	ND	2.1	30		µg/L	10	3/17/2017 3:06:00 AM	B41415
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
4-Chlorotoluene	ND	4.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
cis-1,2-DCE	ND	2.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017
Lab ID: 1703833-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	3/17/2017 3:06:00 AM	B41415
Dibromochloromethane	ND	0.78	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Dibromomethane	ND	1.2	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2-Dichlorobenzene	ND	1.2	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Dichlorodifluoromethane	ND	3.2	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,1-Dichloroethane	ND	1.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,1-Dichloroethene	ND	0.81	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2-Dichloropropane	ND	1.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
2,2-Dichloropropane	ND	1.2	20		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Hexachlorobutadiene	ND	3.7	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
2-Hexanone	ND	6.6	100		µg/L	10	3/17/2017 3:06:00 AM	B41415
Isopropylbenzene	41	0.98	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
4-Isopropyltoluene	9.2	1.4	10	J	µg/L	10	3/17/2017 3:06:00 AM	B41415
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	3/17/2017 3:06:00 AM	B41415
Methylene Chloride	ND	1.1	30		µg/L	10	3/17/2017 3:06:00 AM	B41415
n-Butylbenzene	15	1.6	30	J	µg/L	10	3/17/2017 3:06:00 AM	B41415
n-Propylbenzene	81	1.3	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
sec-Butylbenzene	9.8	1.0	10	J	µg/L	10	3/17/2017 3:06:00 AM	B41415
Styrene	ND	1.6	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
tert-Butylbenzene	ND	1.0	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	3/17/2017 3:06:00 AM	B41415
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
trans-1,2-DCE	ND	1.8	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.89	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Trichlorofluoromethane	ND	1.8	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	3/17/2017 3:06:00 AM	B41415
Vinyl chloride	ND	1.8	10		µg/L	10	3/17/2017 3:06:00 AM	B41415
Xylenes, Total	3900	32	150		µg/L	100	3/17/2017 9:41:00 AM	B41415

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/15/2017
Lab ID: 1703833-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	88.1	0	70-130		%Rec	10	3/17/2017 3:06:00 AM	B41415
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	10	3/17/2017 3:06:00 AM	B41415
Surr: Dibromofluoromethane	97.7	0	70-130		%Rec	10	3/17/2017 3:06:00 AM	B41415
Surr: Toluene-d8	105	0	70-130		%Rec	10	3/17/2017 3:06:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR-MKTF Wells
Collection Date:
Lab ID: 1703833-007
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Toluene	ND	0.089	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Naphthalene	ND	0.083	2.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Acetone	2.5	0.88	10	J	µg/L	1	3/17/2017 3:52:00 AM	B41415
Bromobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Bromoform	ND	0.21	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Bromomethane	ND	0.78	3.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
2-Butanone	ND	1.1	10		µg/L	1	3/17/2017 3:52:00 AM	B41415
Carbon disulfide	ND	0.60	10		µg/L	1	3/17/2017 3:52:00 AM	B41415
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Chloroethane	ND	0.23	2.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Chloroform	ND	0.089	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Chloromethane	ND	0.21	3.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Dibromomethane	ND	0.12	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/17/2017 3:52:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR-MKTF Wells
Collection Date:
Lab ID: 1703833-007
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
2-Hexanone	ND	0.66	10		µg/L	1	3/17/2017 3:52:00 AM	B41415
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/17/2017 3:52:00 AM	B41415
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Styrene	ND	0.16	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/17/2017 3:52:00 AM	B41415
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/17/2017 3:52:00 AM	B41415
Surr: 1,2-Dichloroethane-d4	89.1	0	70-130		%Rec	1	3/17/2017 3:52:00 AM	B41415
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	3/17/2017 3:52:00 AM	B41415
Surr: Dibromofluoromethane	98.9	0	70-130		%Rec	1	3/17/2017 3:52:00 AM	B41415
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/17/2017 3:52:00 AM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308114** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308115** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0014	0.0020	0.002000	0	68.0	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Chromium	0.0061	0.0060	0.006000	0	101	50	150			
Copper	0.0058	0.0060	0.006000	0	97.0	50	150			J
Magnesium	0.55	1.0	0.5000	0	110	50	150			J
Potassium	0.56	1.0	0.5000	0	112	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.8	50	150			J
Zinc	0.0064	0.010	0.005000	0	129	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308116** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.8	85	115			
Chromium	0.49	0.0060	0.5000	0	98.3	85	115			
Copper	0.48	0.0060	0.5000	0	95.4	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Potassium	50	1.0	50.00	0	99.1	85	115			
Silver	0.099	0.0050	0.1000	0	99.4	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308961** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308962** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	87.0	50	150			J
Calcium	0.50	1.0	0.5000	0	100	50	150			J
Iron	0.022	0.020	0.02000	0	112	50	150			
Manganese	0.0022	0.0020	0.002000	0	111	50	150			
Sodium	0.55	1.0	0.5000	0	110	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308963** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.9	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Iron	0.47	0.020	0.5000	0	94.4	85	115			
Manganese	0.48	0.0020	0.5000	0	95.7	85	115			
Sodium	50	1.0	50.00	0	99.0	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309368** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**LCSLL-A**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A41722**	RunNo:	**41722**					
Prep Date:		Analysis Date:	**3/28/2017**	SeqNo:	**1309369**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.025	0.020	0.02000	0	126	50	150			

Sample ID	**LCS-A**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**A41722**	RunNo:	**41722**					
Prep Date:		Analysis Date:	**3/28/2017**	SeqNo:	**1309370**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.51	0.020	0.5000	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MB-30763**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**30763**	RunNo:	**41513**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301660**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								

Sample ID	**LCSLL-30763**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**30763**	RunNo:	**41513**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301661**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	114	50	150			
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			
Chromium	0.0058	0.0060	0.006000	0	96.0	50	150			J
Copper	0.0078	0.0060	0.006000	0	129	50	150			
Iron	0.019	0.020	0.02000	0	93.6	50	150			J
Manganese	0.0019	0.0020	0.002000	0	94.0	50	150			J

Sample ID	**LCS-30763**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**30763**	RunNo:	**41513**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301662**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.8	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.2	85	115			
Chromium	0.48	0.0060	0.5000	0	95.3	85	115			
Copper	0.49	0.0060	0.5000	0	97.3	85	115			
Iron	0.48	0.020	0.5000	0	95.9	85	115			
Manganese	0.47	0.0020	0.5000	0	93.2	85	115			

Sample ID	**MB-30763**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**30763**	RunNo:	**41645**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/24/2017**	SeqNo:	**1306419**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**LCSLL-30763**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**30763**		RunNo:	**41645**				
Prep Date:	**3/17/2017**	Analysis Date:	**3/24/2017**		SeqNo:	**1306420**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0063	0.010	0.005000	0	126	50	150			J

Sample ID	**LCS-30763**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**30763**		RunNo:	**41645**				
Prep Date:	**3/17/2017**	Analysis Date:	**3/24/2017**		SeqNo:	**1306421**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.47	0.010	0.5000	0	94.9	85	115			

Sample ID	**MB-30923**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PBW**	Batch ID:	**30923**		RunNo:	**41722**				
Prep Date:	**3/27/2017**	Analysis Date:	**3/28/2017**		SeqNo:	**1309415**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								

Sample ID	**LCSLL-30923**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**30923**		RunNo:	**41722**				
Prep Date:	**3/27/2017**	Analysis Date:	**3/28/2017**		SeqNo:	**1309416**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0050	0.0050	0.005000	0	99.2	50	150			J

Sample ID	**LCS-30923**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**30923**		RunNo:	**41722**				
Prep Date:	**3/27/2017**	Analysis Date:	**3/28/2017**		SeqNo:	**1309420**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.088	0.0050	0.1000	0	88.0	85	115			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41465**	RunNo: **41465**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300203** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.2	85	115			
Lead	0.012	0.00050	0.01250	0	98.8	85	115			
Uranium	0.012	0.00050	0.01250	0	98.5	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41465**	RunNo: **41465**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300204** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00050	0.00050	0.0005000	0	99.0	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.4	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41465**	RunNo: **41465**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300205** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41550**	RunNo: **41550**
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	104	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B41550**	RunNo: **41550**
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303290** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	109	50	150			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41550**	RunNo: **41550**
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303292** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00018	0.0010								J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304862** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	95.6	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304864** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00073	0.0010	0.001000	0	73.5	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304866** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**1703833-002FMSDL**	SampType:	**MSDLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-9**	Batch ID:	**30763**		RunNo:	**41510**				
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1301538**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.032	0.0050	0.02500	0.005177	106	70	130	0.552	20	
Selenium	0.033	0.0050	0.02500	0.007180	105	70	130	1.58	20	

Sample ID	**1703833-002FMSDL**	SampType:	**MSDLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-9**	Batch ID:	**30763**		RunNo:	**41510**				
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1301539**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.017	0.00050	0.01250	0.004289	105	70	130	0.241	20	
Uranium	0.018	0.00050	0.01250	0.003564	114	70	130	0.0806	20	

Sample ID	**1703833-002FMSLL**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-9**	Batch ID:	**30763**		RunNo:	**41510**				
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1301540**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.032	0.0050	0.02500	0.005177	107	70	130			
Selenium	0.034	0.0050	0.02500	0.007180	107	70	130			

Sample ID	**1703833-002FMSLL**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-9**	Batch ID:	**30763**		RunNo:	**41510**				
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1301541**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.017	0.00050	0.01250	0.004289	105	70	130			
Uranium	0.018	0.00050	0.01250	0.003564	114	70	130			

Sample ID	**MB-30763**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**30763**		RunNo:	**41510**				
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1301554**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MSLCS-30763**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**
Client ID:	**LCSW**	Batch ID:	**30763**	RunNo:	**41510**
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301555** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.3	85	115			
Lead	0.012	0.00050	0.01250	0	97.8	85	115			
Selenium	0.025	0.0010	0.02500	0	100	85	115			
Uranium	0.012	0.00050	0.01250	0	96.7	85	115			

Sample ID	**MSLCSLL-30763**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**
Client ID:	**BatchQC**	Batch ID:	**30763**	RunNo:	**41510**
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**	SeqNo:	**1301556** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	98.4	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.7	50	150			J
Selenium	0.00077	0.0010	0.001000	0	76.8	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	95.8	50	150			J

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MB-30943**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30943**	RunNo:	**41729**					
Prep Date:	**3/28/2017**	Analysis Date:	**3/29/2017**	SeqNo:	**1309948**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-30943**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30943**	RunNo:	**41729**					
Prep Date:	**3/28/2017**	Analysis Date:	**3/29/2017**	SeqNo:	**1309949**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	80	120			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41453**	RunNo: **41453**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41453**	RunNo: **41453**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299630** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.7	90	110			
Nitrogen, Nitrite (As N)	0.99	0.10	1.000	0	99.1	90	110			
Bromide	2.6	0.10	2.500	0	102	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.3	90	110			
Sulfate	9.8	0.50	10.00	0	98.1	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41501**	RunNo: **41501**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1302151** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41501**	RunNo: **41501**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1302152** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**LCS-30758**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range**					
Client ID:	**LCSW**	Batch ID:	**30758**		RunNo:	**41506**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1302199**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.4	1.0	5.000	0	109	82.8	146			
Surr: DNOP		0.50		0.5000		101	98.8	141			

Sample ID	**MB-30758**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range**					
Client ID:	**PBW**	Batch ID:	**30758**		RunNo:	**41506**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1302200**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		ND	1.0								
Motor Oil Range Organics (MRO)		ND	5.0								
Surr: DNOP		1.0		1.000		104	98.8	141			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R41423**	RunNo: **41423**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299285** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		89.0	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R41423**	RunNo: **41423**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299286** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.41	0.050	0.5000	0	81.2	79.1	123			
Surr: BFB	19		20.00		93.3	52.3	138			

Sample ID **1703833-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-9**	Batch ID: **R41423**	RunNo: **41423**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299292** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	0.50	5.000	12.42	97.6	64.8	129			
Surr: BFB	230		200.0		114	52.3	138			

Sample ID **1703833-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-9**	Batch ID: **R41423**	RunNo: **41423**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299293** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	0.50	5.000	12.42	84.9	64.8	129	3.72	20	
Surr: BFB	230		200.0		114	52.3	138	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299581** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299591** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299591** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299591** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			

Sample ID **1703833-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-17**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1299598** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	480	10	200.0	288.0	98.3	70	130			
Toluene	210	10	200.0	2.180	102	70	130			
Chlorobenzene	210	10	200.0	0	106	70	130			
1,1-Dichloroethene	210	10	200.0	0	103	70	130			
Trichloroethene (TCE)	190	10	200.0	0	95.7	70	130			
Surr: 1,2-Dichloroethane-d4	88		100.0		87.9	70	130			
Surr: 4-Bromofluorobenzene	100		100.0		105	70	130			
Surr: Dibromofluoromethane	97		100.0		97.2	70	130			
Surr: Toluene-d8	100		100.0		105	70	130			

Sample ID **1703833-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-17**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1299599** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	480	10	200.0	288.0	96.5	70	130	0.758	20	
Toluene	200	10	200.0	2.180	99.7	70	130	2.03	20	
Chlorobenzene	210	10	200.0	0	103	70	130	2.14	20	
1,1-Dichloroethene	200	10	200.0	0	100	70	130	2.85	20	
Trichloroethene (TCE)	190	10	200.0	0	94.2	70	130	1.63	20	
Surr: 1,2-Dichloroethane-d4	90		100.0		89.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	110		100.0		106	70	130	0	0	
Surr: Dibromofluoromethane	98		100.0		97.9	70	130	0	0	
Surr: Toluene-d8	100		100.0		105	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **lcs-30748**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301631** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	63	10	100.0	0	62.8	42.9	100			
4-Chloro-3-methylphenol	150	10	200.0	0	76.0	36.2	110			
2-Chlorophenol	130	10	200.0	0	66.9	33.4	97.8			
1,4-Dichlorobenzene	62	10	100.0	0	61.9	32.8	79.3			
2,4-Dinitrotoluene	57	10	100.0	0	56.6	34.9	107			
N-Nitrosodi-n-propylamine	77	10	100.0	0	76.9	30.7	111			
4-Nitrophenol	100	10	200.0	0	51.4	15	91.9			
Pentachlorophenol	120	20	200.0	0	59.2	33.3	93.5			
Phenol	120	10	200.0	0	59.4	20.9	86.4			
Pyrene	66	10	100.0	0	66.3	45.6	111			
1,2,4-Trichlorobenzene	64	10	100.0	0	64.4	38.7	88.2			
Surr: 2-Fluorophenol	130		200.0		66.8	15	98.1			
Surr: Phenol-d5	120		200.0		58.7	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		75.3	15	112			
Surr: Nitrobenzene-d5	72		100.0		71.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	66		100.0		66.4	23.3	85.6			
Surr: 4-Terphenyl-d14	64		100.0		64.0	27.6	107			

Sample ID **lcsd-30748**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301632** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	61	10	100.0	0	60.7	42.9	100	3.40	37.4	
4-Chloro-3-methylphenol	95	10	200.0	0	47.6	36.2	110	45.9	26.8	R
2-Chlorophenol	80	10	200.0	0	40.0	33.4	97.8	50.3	30.3	R
1,4-Dichlorobenzene	39	10	100.0	0	39.2	32.8	79.3	44.8	32	R
2,4-Dinitrotoluene	59	10	100.0	0	59.4	34.9	107	4.83	36.7	
N-Nitrosodi-n-propylamine	69	10	100.0	0	68.9	30.7	111	11.1	29.9	
4-Nitrophenol	51	10	200.0	0	25.7	15	91.9	66.5	28.8	R
Pentachlorophenol	77	20	200.0	0	38.4	33.3	93.5	42.8	38.2	R
Phenol	51	10	200.0	0	25.6	20.9	86.4	79.7	39.8	R
Pyrene	67	10	100.0	0	67.1	45.6	111	1.17	28.3	
1,2,4-Trichlorobenzene	48	10	100.0	0	48.0	38.7	88.2	29.1	39.8	
Surr: 2-Fluorophenol	60		200.0		30.1	15	98.1	0	0	
Surr: Phenol-d5	47		200.0		23.6	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	110		200.0		52.6	15	112	0	0	
Surr: Nitrobenzene-d5	68		100.0		67.7	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	61		100.0		61.3	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **lcsd-30748**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301632** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	54		100.0		54.4	27.6	107	0	0	

Sample ID **mb-30748**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301633** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.2	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	7.3	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	3.5	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **mb-30748**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301633** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703833**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **mb-30748**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301633** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		55.2	15	98.1			
Surr: Phenol-d5	78		200.0		38.8	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		76.6	15	112			
Surr: Nitrobenzene-d5	73		100.0		73.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	59		100.0		58.7	23.3	85.6			
Surr: 4-Terphenyl-d14	73		100.0		73.3	27.6	107			

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1703833** RcptNo: **1**

Received by/date: AG 03/15/17

Logged By: **Ashley Gallegos** 3/15/2017 5:13:00 PM AG

Completed By: **Ashley Gallegos** 3/15/2017 5:48:59 PM AG

Reviewed By: 03/15/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	~~Yes ✔~~	No ✔	
9. Was preservative added to bottles?	Yes ✔	~~No ✔~~	NA
10. VOA vials have zero headspace?	Yes ✔	No	No VOA Vials
11. Were any sample containers received broken?	Yes	No ✔	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH: 15
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted? yes
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by: AG

For Metals analysis: Added 0.4mL HNO3 to 003E for acceptable pH. Held for 24 hrs prior to Analysis AG

03/16/17 @ 0945 AG

(<2 or >12 unless noted)

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: Date

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.8	Good	Yes			

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 1ST QTR - MKTF WELLS

Project #:

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:
On Ice: X Yes ☐ No
Sample Temperature: 4.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703833	8260+MTBE	8015D(DRO/MRO/GRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	MAJOR CATIONS/ANIONS		METHOD 8011 - EDB								Air Bubbles (Y or N)
3/15/2017	700	AQUEOUS	FIELD BLANK	3-40mL VOAs	HCL	-001	X															
3/15/2017	1110	AQUEOUS	MKTF-9	MISC	MISC	-002	X	X	X	X	X	X										
3/15/2017	1205	AQUEOUS	MKTF-17	MISC	MISC	-003	X	X	X	X	X	X										
3/15/2017	1235	AQUEOUS	MKTF-19	MISC	MISC	-004	X	X	X	X	X	X										
3/15/2017	1343	AQUEOUS	MKTF-13	MISC	MISC	-005	X	X	X	X	X	X										
3/15/2017		AQUEOUS	DUPLICATE	MISC	MISC	-006	X	X	X	X	X	X										
		AQUEOUS		MISC	MISC																	
3/15/2017		AQUEOUS	TRIP BLANK	MISC	MISC	-007	X															

Date: 3/15/2017 Time: 1510 Relinquished by: [signature] Received by: [signature] Date: 3/15/17 Time: 1510

Date: 3/16/17 Time: 1714 Relinquished by: [signature] Received by: [signature] Date: 03/15/17 Time: 1713

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 04, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017 1st QTR-MKTF Wells OrderNo.: 1703834

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 7:00:00 AM
Lab ID: 1703834-001
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Toluene	0.26	0.089	1.0	J	µg/L	1	3/17/2017 4:16:00 AM	B41415
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Naphthalene	ND	0.083	2.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Acetone	4.6	0.88	10	J	µg/L	1	3/17/2017 4:16:00 AM	B41415
Bromobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Bromoform	ND	0.21	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Bromomethane	ND	0.78	3.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
2-Butanone	ND	1.1	10		µg/L	1	3/17/2017 4:16:00 AM	B41415
Carbon disulfide	ND	0.60	10		µg/L	1	3/17/2017 4:16:00 AM	B41415
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Chloroethane	ND	0.23	2.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Chloroform	ND	0.089	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Chloromethane	ND	0.21	3.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Dibromomethane	ND	0.12	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/17/2017 4:16:00 AM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 7:00:00 AM
Lab ID: 1703834-001
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
2-Hexanone	ND	0.66	10		µg/L	1	3/17/2017 4:16:00 AM	B41415
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/17/2017 4:16:00 AM	B41415
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Styrene	ND	0.16	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/17/2017 4:16:00 AM	B41415
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/17/2017 4:16:00 AM	B41415
Surr: 1,2-Dichloroethane-d4	90.2	0	70-130		%Rec	1	3/17/2017 4:16:00 AM	B41415
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	3/17/2017 4:16:00 AM	B41415
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	3/17/2017 4:16:00 AM	B41415
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/17/2017 4:16:00 AM	B41415

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Lab ID: 1703834-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	28	0.36	1.0		mg/L	1	3/21/2017 4:56:17 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 4:56:17 PM	30758
Surr: DNOP	144	0	72.4-157		%Rec	1	3/21/2017 4:56:17 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	1.5	0.12	0.25		mg/L	5	3/17/2017 3:52:47 PM	R41423
Surr: BFB	306	0	52.3-138	S	%Rec	5	3/17/2017 3:52:47 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.44	0.050	0.10		mg/L	1	3/16/2017 9:58:15 AM	R41455
Chloride	1000	25	50		mg/L	100	3/18/2017 3:37:48 AM	A41482
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/16/2017 10:10:40 AM	R41455
Bromide	1.6	0.031	0.10		mg/L	1	3/16/2017 9:58:15 AM	R41455
Nitrogen, Nitrate (As N)	0.43	0.022	0.10		mg/L	1	3/16/2017 9:58:15 AM	R41455
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/16/2017 9:58:15 AM	R41455
Sulfate	0.23	0.096	0.50	J	mg/L	1	3/16/2017 9:58:15 AM	R41455
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	5.6	0.0085	0.020	*	mg/L	10	3/27/2017 8:27:15 PM	B41693
Cadmium	ND	0.0010	0.0020		mg/L	1	3/27/2017 3:05:20 PM	A41693
Calcium	89	0.50	1.0		mg/L	1	3/27/2017 3:05:20 PM	A41693
Chromium	ND	0.0010	0.0060		mg/L	1	3/27/2017 3:05:20 PM	A41693
Copper	ND	0.0032	0.0060		mg/L	1	3/27/2017 3:05:20 PM	A41693
Iron	6.3	0.20	0.20	*	mg/L	10	3/27/2017 8:27:15 PM	B41693
Magnesium	30	0.50	1.0		mg/L	1	3/27/2017 3:05:20 PM	A41693
Manganese	1.2	0.00077	0.0040	*	mg/L	2	3/27/2017 8:25:34 PM	B41693
Potassium	4.7	0.50	1.0		mg/L	1	3/27/2017 3:05:20 PM	A41693
Silver	ND	0.00088	0.0050		mg/L	1	3/27/2017 3:05:20 PM	A41693
Sodium	780	5.0	10		mg/L	10	3/27/2017 8:27:15 PM	B41693
Zinc	0.022	0.0011	0.010		mg/L	1	3/27/2017 3:05:20 PM	A41693
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	6.4	0.016	0.040	*	mg/L	20	3/24/2017 3:13:09 PM	30869
Cadmium	ND	0.0015	0.0020		mg/L	1	3/24/2017 2:40:08 PM	30869
Chromium	0.0040	0.0027	0.0060	J	mg/L	1	3/24/2017 2:40:08 PM	30869
Copper	0.0089	0.0030	0.0060		mg/L	1	3/24/2017 2:40:08 PM	30869
Iron	11	0.40	0.40	*	mg/L	20	3/24/2017 3:13:09 PM	30869
Manganese	1.4	0.0014	0.010	*	mg/L	5	3/24/2017 3:10:38 PM	30869
Silver	ND	0.0015	0.0050		mg/L	1	3/24/2017 2:40:08 PM	30869
Zinc	0.022	0.0027	0.010		mg/L	1	3/24/2017 2:40:08 PM	30869
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0032	0.00089	0.0050	J	mg/L	5	3/22/2017 7:05:19 PM	C41594
Lead	0.00032	0.00017	0.00050	J	mg/L	1	3/21/2017 6:43:39 PM	B41550
Selenium	0.0088	0.0019	0.0050		mg/L	5	3/22/2017 7:05:19 PM	C41594
Uranium	0.000079	0.000050	0.00050	J	mg/L	1	3/21/2017 6:43:39 PM	B41550
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0058	0.0021	0.010	J	mg/L	10	3/27/2017 3:39:59 PM	30869
Lead	0.012	0.00041	0.0025		mg/L	5	3/27/2017 3:36:58 PM	30869
Selenium	ND	0.0094	0.050		mg/L	50	3/27/2017 3:42:59 PM	30869
Uranium	0.0011	0.00087	0.0025	J	mg/L	5	3/27/2017 3:36:58 PM	30869
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000067	0.000037	0.00020	J	mg/L	1	3/29/2017 10:14:10 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 7:01:17 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Bis(2-ethylhexyl)phthalate	7.2	2.6	10	J	µg/L	1	3/20/2017 7:01:17 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Carbazole	16	2.3	10		µg/L	1	3/20/2017 7:01:17 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 7:01:17 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/20/2017 7:01:17 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 7:01:17 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 7:01:17 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 7:01:17 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 7:01:17 PM	30748
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/20/2017 7:01:17 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 7:01:17 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 7:01:17 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Fluorene	10	2.7	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
1-Methylnaphthalene	130	2.9	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2-Methylnaphthalene	59	2.9	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 7:01:17 PM	30748
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/20/2017 7:01:17 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 7:01:17 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Naphthalene	65	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 7:01:17 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 7:01:17 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 7:01:17 PM	30748
Phenanthrene	14	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	2.0	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Pyrene	4.0	3.1	10	J	µg/L	1	3/20/2017 7:01:17 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 7:01:17 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 7:01:17 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 7:01:17 PM	30748
Surr: 2-Fluorophenol	32.9	0	15-98.1		%Rec	1	3/20/2017 7:01:17 PM	30748
Surr: Phenol-d5	22.3	0	15-80.7		%Rec	1	3/20/2017 7:01:17 PM	30748
Surr: 2,4,6-Tribromophenol	63.8	0	15-112		%Rec	1	3/20/2017 7:01:17 PM	30748
Surr: Nitrobenzene-d5	66.3	0	27.2-90.7		%Rec	1	3/20/2017 7:01:17 PM	30748
Surr: 2-Fluorobiphenyl	61.6	0	23.3-85.6		%Rec	1	3/20/2017 7:01:17 PM	30748
Surr: 4-Terphenyl-d14	55.3	0	27.6-107		%Rec	1	3/20/2017 7:01:17 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	12	0.48	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Toluene	ND	0.45	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Ethylbenzene	63	0.56	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Methyl tert-butyl ether (MTBE)	ND	0.74	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2,4-Trimethylbenzene	27	0.52	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,3,5-Trimethylbenzene	ND	0.58	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	0.58	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Naphthalene	110	0.42	10		µg/L	5	3/17/2017 4:39:00 AM	B41415
1-Methylnaphthalene	270	0.80	20		µg/L	5	3/17/2017 4:39:00 AM	B41415
2-Methylnaphthalene	100	0.76	20		µg/L	5	3/17/2017 4:39:00 AM	B41415
Acetone	ND	4.4	50		µg/L	5	3/17/2017 4:39:00 AM	B41415
Bromobenzene	ND	0.70	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Bromodichloromethane	ND	0.88	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Bromoform	ND	1.1	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Bromomethane	ND	3.9	15		µg/L	5	3/17/2017 4:39:00 AM	B41415
2-Butanone	ND	5.7	50		µg/L	5	3/17/2017 4:39:00 AM	B41415
Carbon disulfide	ND	3.0	50		µg/L	5	3/17/2017 4:39:00 AM	B41415
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Chlorobenzene	ND	0.53	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Chloroethane	ND	1.2	10		µg/L	5	3/17/2017 4:39:00 AM	B41415
Chloroform	ND	0.44	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Chloromethane	ND	1.1	15		µg/L	5	3/17/2017 4:39:00 AM	B41415
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 10:29:00 AM
Lab ID: 1703834-002 **Matrix:** AQUEOUS **Received Date:** 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.50	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	3/17/2017 4:39:00 AM	B41415
Dibromochloromethane	ND	0.39	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Dibromomethane	ND	0.60	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2-Dichlorobenzene	ND	0.60	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Dichlorodifluoromethane	ND	1.6	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,1-Dichloroethane	ND	0.52	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
2,2-Dichloropropane	ND	0.60	10		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Hexachlorobutadiene	ND	1.9	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
2-Hexanone	ND	3.3	50		µg/L	5	3/17/2017 4:39:00 AM	B41415
Isopropylbenzene	30	0.49	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
4-Isopropyltoluene	8.7	0.70	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	3/17/2017 4:39:00 AM	B41415
Methylene Chloride	ND	0.54	15		µg/L	5	3/17/2017 4:39:00 AM	B41415
n-Butylbenzene	16	0.80	15		µg/L	5	3/17/2017 4:39:00 AM	B41415
n-Propylbenzene	43	0.66	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
sec-Butylbenzene	27	0.51	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Styrene	ND	0.78	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
tert-Butylbenzene	0.82	0.52	5.0	J	µg/L	5	3/17/2017 4:39:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	3/17/2017 4:39:00 AM	B41415
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.45	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Trichloroethene (TCE)	ND	0.88	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	3/17/2017 4:39:00 AM	B41415
Vinyl chloride	ND	0.89	5.0		µg/L	5	3/17/2017 4:39:00 AM	B41415
Xylenes, Total	ND	1.6	7.5		µg/L	5	3/17/2017 4:39:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 10:29:00 AM
Lab ID: 1703834-002
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	88.6	0	70-130		%Rec	5	3/17/2017 4:39:00 AM	B41415
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	5	3/17/2017 4:39:00 AM	B41415
Surr: Dibromofluoromethane	97.5	0	70-130		%Rec	5	3/17/2017 4:39:00 AM	B41415
Surr: Toluene-d8	103	0	70-130		%Rec	5	3/17/2017 4:39:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:04:00 AM
Lab ID: 1703834-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	16	0.36	1.0		mg/L	1	3/21/2017 5:18:46 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 5:18:46 PM	30758
Surr: DNOP	145	0	72.4-157		%Rec	1	3/21/2017 5:18:46 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	90	2.5	5.0		mg/L	100	3/16/2017 4:22:00 PM	R41423
Surr: BFB	91.7	0	52.3-138		%Rec	100	3/16/2017 4:22:00 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.0	0.25	0.50		mg/L	5	3/16/2017 10:23:04 AM	R41455
Chloride	1100	25	50		mg/L	100	3/18/2017 3:50:13 AM	A41482
Nitrogen, Nitrite (As N)	ND	0.097	0.50		mg/L	5	3/16/2017 10:23:04 AM	R41455
Bromide	20	0.15	0.50		mg/L	5	3/16/2017 10:23:04 AM	R41455
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/16/2017 10:23:04 AM	R41455
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/16/2017 10:23:04 AM	R41455
Sulfate	5.0	0.48	2.5		mg/L	5	3/16/2017 10:23:04 AM	R41455
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	12	0.017	0.040	*	mg/L	20	3/28/2017 3:40:06 PM	A41722
Cadmium	ND	0.0010	0.0020		mg/L	1	3/27/2017 3:07:02 PM	A41693
Calcium	400	10	20		mg/L	20	3/28/2017 3:40:06 PM	A41722
Chromium	ND	0.0010	0.0060		mg/L	1	3/27/2017 3:07:02 PM	A41693
Copper	ND	0.0032	0.0060		mg/L	1	3/27/2017 3:07:02 PM	A41693
Iron	23	1.0	1.0	*	mg/L	50	3/28/2017 3:42:04 PM	A41722
Magnesium	87	0.50	1.0		mg/L	1	3/27/2017 3:07:02 PM	A41693
Manganese	7.2	0.0077	0.040	*	mg/L	20	3/28/2017 3:40:06 PM	A41722
Potassium	6.2	0.50	1.0		mg/L	1	3/27/2017 3:07:02 PM	A41693
Silver	ND	0.00088	0.0050		mg/L	1	3/27/2017 3:07:02 PM	A41693
Sodium	520	25	50		mg/L	50	3/28/2017 3:42:04 PM	A41722
Zinc	0.041	0.0011	0.010		mg/L	1	3/27/2017 3:07:02 PM	A41693
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	11	0.040	0.10	*	mg/L	50	3/24/2017 3:18:28 PM	30869
Cadmium	ND	0.0015	0.0020		mg/L	1	3/24/2017 2:42:31 PM	30869
Chromium	ND	0.0027	0.0060		mg/L	1	3/24/2017 2:42:31 PM	30869
Copper	0.036	0.0030	0.0060		mg/L	1	3/24/2017 2:42:31 PM	30869
Iron	22	1.0	1.0	*	mg/L	50	3/24/2017 3:18:28 PM	30869
Manganese	6.3	0.0027	0.020	*	mg/L	10	3/24/2017 3:15:57 PM	30869
Silver	ND	0.0015	0.0050		mg/L	1	3/24/2017 2:42:31 PM	30869
Zinc	0.097	0.0027	0.010		mg/L	1	3/24/2017 2:42:31 PM	30869
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:04:00 AM
Lab ID: 1703834-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.019	0.0018	0.010	*	mg/L	10	3/22/2017 7:11:26 PM	C41594
Lead	0.0023	0.00017	0.00050		mg/L	1	3/21/2017 6:46:42 PM	B41550
Selenium	ND	0.019	0.050		mg/L	50	3/22/2017 7:14:29 PM	C41594
Uranium	0.00053	0.000050	0.00050		mg/L	1	3/21/2017 6:46:42 PM	B41550
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.025	0.0021	0.010	*	mg/L	10	3/27/2017 3:46:00 PM	30869
Lead	0.013	0.000081	0.00050		mg/L	1	3/27/2017 2:57:48 PM	30869
Selenium	0.018	0.0094	0.050	J	mg/L	50	3/27/2017 3:49:00 PM	30869
Uranium	0.00085	0.00017	0.00050		mg/L	1	3/27/2017 2:57:48 PM	30869
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:16:13 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Acenaphthylene	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Aniline	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Anthracene	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Azobenzene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Benz(a)anthracene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Benzo(a)pyrene	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Benzo(b)fluoranthene	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Benzo(g,h,i)perylene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Benzo(k)fluoranthene	ND	15	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Benzoic acid	67	13	100	JD	µg/L	1	3/20/2017 7:29:49 PM	30748
Benzyl alcohol	ND	15	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Bis(2-chloroethoxy)methane	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Bis(2-chloroethyl)ether	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Bis(2-chloroisopropyl)ether	ND	9.5	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Bis(2-ethylhexyl)phthalate	36	13	50	JD	µg/L	1	3/20/2017 7:29:49 PM	30748
4-Bromophenyl phenyl ether	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Butyl benzyl phthalate	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Carbazole	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
4-Chloro-3-methylphenol	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
4-Chloroaniline	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2-Chloronaphthalene	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2-Chlorophenol	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
4-Chlorophenyl phenyl ether	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Chrysene	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Di-n-butyl phthalate	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:04:00 AM
Lab ID: 1703834-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	18	9.9	50	JD	µg/L	1	3/20/2017 7:29:49 PM	30748
Dibenz(a,h)anthracene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Dibenzofuran	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
1,2-Dichlorobenzene	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
1,3-Dichlorobenzene	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
1,4-Dichlorobenzene	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
3,3´-Dichlorobenzidine	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Diethyl phthalate	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Dimethyl phthalate	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2,4-Dichlorophenol	ND	12	100	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2,4-Dimethylphenol	340	15	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
4,6-Dinitro-2-methylphenol	ND	9.0	100	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2,4-Dinitrophenol	ND	14	100	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2,4-Dinitrotoluene	ND	16	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2,6-Dinitrotoluene	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Fluoranthene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Fluorene	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Hexachlorobenzene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Hexachlorobutadiene	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Hexachlorocyclopentadiene	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Hexachloroethane	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Indeno(1,2,3-cd)pyrene	ND	15	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Isophorone	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
1-Methylnaphthalene	29	15	50	JD	µg/L	1	3/20/2017 7:29:49 PM	30748
2-Methylnaphthalene	28	14	50	JD	µg/L	1	3/20/2017 7:29:49 PM	30748
2-Methylphenol	340	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
3+4-Methylphenol	190	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
N-Nitrosodi-n-propylamine	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
N-Nitrosodimethylamine	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
N-Nitrosodiphenylamine	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Naphthalene	72	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2-Nitroaniline	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
3-Nitroaniline	ND	15	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
4-Nitroaniline	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Nitrobenzene	ND	14	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2-Nitrophenol	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
4-Nitrophenol	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Pentachlorophenol	ND	12	100	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Phenanthrene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748

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Collection Date: 3/14/2017 11:04:00 AM
Lab ID: 1703834-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	310	9.9	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Pyrene	ND	15	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Pyridine	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
1,2,4-Trichlorobenzene	ND	13	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2,4,5-Trichlorophenol	ND	11	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
2,4,6-Trichlorophenol	ND	12	50	D	µg/L	1	3/20/2017 7:29:49 PM	30748
Surr: 2-Fluorophenol	25.6	0	15-98.1	D	%Rec	1	3/20/2017 7:29:49 PM	30748
Surr: Phenol-d5	21.1	0	15-80.7	D	%Rec	1	3/20/2017 7:29:49 PM	30748
Surr: 2,4,6-Tribromophenol	69.4	0	15-112	D	%Rec	1	3/20/2017 7:29:49 PM	30748
Surr: Nitrobenzene-d5	62.2	0	27.2-90.7	D	%Rec	1	3/20/2017 7:29:49 PM	30748
Surr: 2-Fluorobiphenyl	55.4	0	23.3-85.6	D	%Rec	1	3/20/2017 7:29:49 PM	30748
Surr: 4-Terphenyl-d14	55.5	0	27.6-107	D	%Rec	1	3/20/2017 7:29:49 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	17000	96	1000		µg/L	1000	3/17/2017 5:02:00 AM	B41415
Toluene	2200	8.9	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Ethylbenzene	260	11	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Methyl tert-butyl ether (MTBE)	230	15	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2,4-Trimethylbenzene	1200	10	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,3,5-Trimethylbenzene	420	12	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	12	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Naphthalene	120	8.3	200	J	µg/L	100	3/17/2017 5:25:00 AM	B41415
1-Methylnaphthalene	83	16	400	J	µg/L	100	3/17/2017 5:25:00 AM	B41415
2-Methylnaphthalene	78	15	400	J	µg/L	100	3/17/2017 5:25:00 AM	B41415
Acetone	ND	88	1000		µg/L	100	3/17/2017 5:25:00 AM	B41415
Bromobenzene	ND	14	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Bromodichloromethane	ND	18	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Bromoform	ND	21	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Bromomethane	ND	78	300		µg/L	100	3/17/2017 5:25:00 AM	B41415
2-Butanone	ND	110	1000		µg/L	100	3/17/2017 5:25:00 AM	B41415
Carbon disulfide	ND	60	1000		µg/L	100	3/17/2017 5:25:00 AM	B41415
Carbon Tetrachloride	ND	11	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Chlorobenzene	ND	11	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Chloroethane	ND	23	200		µg/L	100	3/17/2017 5:25:00 AM	B41415
Chloroform	ND	8.9	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Chloromethane	ND	21	300		µg/L	100	3/17/2017 5:25:00 AM	B41415
2-Chlorotoluene	ND	40	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
4-Chlorotoluene	ND	40	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
cis-1,2-DCE	ND	20	100		µg/L	100	3/17/2017 5:25:00 AM	B41415

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:04:00 AM
Lab ID: 1703834-003 **Matrix:** AQUEOUS **Received Date:** 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	10	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	3/17/2017 5:25:00 AM	B41415
Dibromochloromethane	ND	7.8	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Dibromomethane	ND	12	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2-Dichlorobenzene	ND	12	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,3-Dichlorobenzene	ND	14	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,4-Dichlorobenzene	ND	40	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Dichlorodifluoromethane	ND	32	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,1-Dichloroethane	ND	10	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,1-Dichloroethene	ND	8.1	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2-Dichloropropane	ND	10	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,3-Dichloropropane	ND	16	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
2,2-Dichloropropane	ND	12	200		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,1-Dichloropropene	ND	13	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Hexachlorobutadiene	ND	37	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
2-Hexanone	ND	66	1000		µg/L	100	3/17/2017 5:25:00 AM	B41415
Isopropylbenzene	14	9.8	100	J	µg/L	100	3/17/2017 5:25:00 AM	B41415
4-Isopropyltoluene	ND	14	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	3/17/2017 5:25:00 AM	B41415
Methylene Chloride	ND	11	300		µg/L	100	3/17/2017 5:25:00 AM	B41415
n-Butylbenzene	19	16	300	J	µg/L	100	3/17/2017 5:25:00 AM	B41415
n-Propylbenzene	37	13	100	J	µg/L	100	3/17/2017 5:25:00 AM	B41415
sec-Butylbenzene	ND	10	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Styrene	ND	16	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
tert-Butylbenzene	ND	10	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	11	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	3/17/2017 5:25:00 AM	B41415
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
trans-1,2-DCE	ND	18	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
trans-1,3-Dichloropropene	ND	8.9	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2,3-Trichlorobenzene	ND	11	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2,4-Trichlorobenzene	ND	13	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,1,2-Trichloroethane	ND	14	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Trichloroethene (TCE)	ND	18	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Trichlorofluoromethane	ND	18	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
1,2,3-Trichloropropane	ND	39	200		µg/L	100	3/17/2017 5:25:00 AM	B41415
Vinyl chloride	ND	18	100		µg/L	100	3/17/2017 5:25:00 AM	B41415
Xylenes, Total	9800	32	150		µg/L	100	3/17/2017 5:25:00 AM	B41415

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:04:00 AM
Lab ID: 1703834-003
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	88.7	0	70-130		%Rec	100	3/17/2017 5:25:00 AM	B41415
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	100	3/17/2017 5:25:00 AM	B41415
Surr: Dibromofluoromethane	98.9	0	70-130		%Rec	100	3/17/2017 5:25:00 AM	B41415
Surr: Toluene-d8	105	0	70-130		%Rec	100	3/17/2017 5:25:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:15:00 AM
Lab ID: 1703834-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.9	0.36	1.0		mg/L	1	3/21/2017 5:41:19 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 5:41:19 PM	30758
Surr: DNOP	142	0	72.4-157		%Rec	1	3/21/2017 5:41:19 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	85	2.5	5.0		mg/L	100	3/16/2017 4:45:29 PM	R41423
Surr: BFB	90.1	0	52.3-138		%Rec	100	3/16/2017 4:45:29 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.95	0.050	0.10		mg/L	1	3/16/2017 10:47:54 AM	R41455
Chloride	580	12	25		mg/L	50	3/18/2017 4:02:37 AM	A41482
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/16/2017 11:00:18 AM	R41455
Bromide	0.64	0.031	0.10		mg/L	1	3/16/2017 10:47:54 AM	R41455
Nitrogen, Nitrate (As N)	0.35	0.022	0.10		mg/L	1	3/16/2017 10:47:54 AM	R41455
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/16/2017 10:47:54 AM	R41455
Sulfate	0.14	0.096	0.50	J	mg/L	1	3/16/2017 10:47:54 AM	R41455
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.9	0.0043	0.010		mg/L	5	3/29/2017 3:32:03 PM	A41757
Cadmium	ND	0.0010	0.0020		mg/L	1	3/29/2017 3:22:18 PM	A41757
Calcium	77	2.5	5.0		mg/L	5	3/29/2017 3:32:03 PM	A41757
Chromium	ND	0.0010	0.0060		mg/L	1	3/29/2017 3:22:18 PM	A41757
Copper	ND	0.0032	0.0060		mg/L	1	3/29/2017 3:22:18 PM	A41757
Iron	4.7	0.20	0.20	*	mg/L	10	3/29/2017 3:37:59 PM	A41757
Magnesium	20	0.50	1.0		mg/L	1	3/29/2017 3:22:18 PM	A41757
Manganese	1.8	0.0019	0.010	*	mg/L	5	3/29/2017 3:32:03 PM	A41757
Potassium	1.5	0.50	1.0		mg/L	1	3/29/2017 3:22:18 PM	A41757
Silver	ND	0.00088	0.0050		mg/L	1	3/29/2017 3:22:18 PM	A41757
Sodium	700	5.0	10		mg/L	10	3/29/2017 3:37:59 PM	A41757
Zinc	0.027	0.0011	0.010		mg/L	1	3/29/2017 3:22:18 PM	A41757
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	1.9	0.0040	0.010		mg/L	5	3/24/2017 3:21:18 PM	30869
Cadmium	ND	0.0015	0.0020		mg/L	1	3/24/2017 2:44:56 PM	30869
Chromium	ND	0.0027	0.0060		mg/L	1	3/24/2017 2:44:56 PM	30869
Copper	0.0054	0.0030	0.0060	J	mg/L	1	3/24/2017 2:44:56 PM	30869
Iron	6.3	0.20	0.20	*	mg/L	10	3/24/2017 3:24:01 PM	30869
Manganese	1.7	0.0014	0.010	*	mg/L	5	3/24/2017 3:21:18 PM	30869
Silver	ND	0.0015	0.0050		mg/L	1	3/24/2017 2:44:56 PM	30869
Zinc	0.025	0.0027	0.010		mg/L	1	3/24/2017 2:44:56 PM	30869
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:15:00 AM
Lab ID: 1703834-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.010	0.00089	0.0050	*	mg/L	5	3/22/2017 7:17:32 PM	C41594
Lead	0.00078	0.00017	0.00050		mg/L	1	3/21/2017 6:49:46 PM	B41550
Selenium	ND	0.0077	0.020		mg/L	20	3/22/2017 7:20:36 PM	C41594
Uranium	0.0012	0.000050	0.00050		mg/L	1	3/21/2017 6:49:46 PM	B41550
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.014	0.0011	0.0050	*	mg/L	5	3/27/2017 3:52:01 PM	30869
Lead	0.0058	0.00041	0.0025		mg/L	5	3/27/2017 3:52:01 PM	30869
Selenium	0.0081	0.0037	0.020	J	mg/L	20	3/27/2017 4:01:07 PM	30869
Uranium	0.0024	0.00087	0.0025	J	mg/L	5	3/27/2017 3:52:01 PM	30869
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:18:17 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Aniline	3.8	2.4	10	J	µg/L	1	3/20/2017 7:58:19 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 7:58:19 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Bis(2-ethylhexyl)phthalate	6.8	2.6	10	J	µg/L	1	3/20/2017 7:58:19 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Carbazole	3.0	2.3	10	J	µg/L	1	3/20/2017 7:58:19 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 7:58:19 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:15:00 AM
Lab ID: 1703834-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/20/2017 7:58:19 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 7:58:19 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 7:58:19 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 7:58:19 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 7:58:19 PM	30748
2,4-Dimethylphenol	34	3.0	10		µg/L	1	3/20/2017 7:58:19 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 7:58:19 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 7:58:19 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Fluorene	ND	2.7	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
1-Methylnaphthalene	26	2.9	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2-Methylnaphthalene	28	2.9	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2-Methylphenol	35	2.5	10		µg/L	1	3/20/2017 7:58:19 PM	30748
3+4-Methylphenol	2.8	2.3	10	J	µg/L	1	3/20/2017 7:58:19 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 7:58:19 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Naphthalene	98	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 7:58:19 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 7:58:19 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 7:58:19 PM	30748
Phenanthrene	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:15:00 AM
Lab ID: 1703834-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	29	2.0	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Pyrene	ND	3.1	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 7:58:19 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 7:58:19 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 7:58:19 PM	30748
Surr: 2-Fluorophenol	22.2	0	15-98.1		%Rec	1	3/20/2017 7:58:19 PM	30748
Surr: Phenol-d5	20.3	0	15-80.7		%Rec	1	3/20/2017 7:58:19 PM	30748
Surr: 2,4,6-Tribromophenol	58.1	0	15-112		%Rec	1	3/20/2017 7:58:19 PM	30748
Surr: Nitrobenzene-d5	60.8	0	27.2-90.7		%Rec	1	3/20/2017 7:58:19 PM	30748
Surr: 2-Fluorobiphenyl	54.2	0	23.3-85.6		%Rec	1	3/20/2017 7:58:19 PM	30748
Surr: 4-Terphenyl-d14	35.5	0	27.6-107		%Rec	1	3/20/2017 7:58:19 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	22000	96	1000		µg/L	1000	3/17/2017 5:48:00 AM	B41415
Toluene	340	8.9	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Ethylbenzene	1700	11	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Methyl tert-butyl ether (MTBE)	720	15	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2,4-Trimethylbenzene	750	10	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,3,5-Trimethylbenzene	230	12	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	12	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Naphthalene	140	8.3	200	J	µg/L	100	3/17/2017 6:11:00 AM	B41415
1-Methylnaphthalene	56	16	400	J	µg/L	100	3/17/2017 6:11:00 AM	B41415
2-Methylnaphthalene	62	15	400	J	µg/L	100	3/17/2017 6:11:00 AM	B41415
Acetone	ND	88	1000		µg/L	100	3/17/2017 6:11:00 AM	B41415
Bromobenzene	ND	14	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Bromodichloromethane	ND	18	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Bromoform	ND	21	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Bromomethane	ND	78	300		µg/L	100	3/17/2017 6:11:00 AM	B41415
2-Butanone	ND	110	1000		µg/L	100	3/17/2017 6:11:00 AM	B41415
Carbon disulfide	ND	60	1000		µg/L	100	3/17/2017 6:11:00 AM	B41415
Carbon Tetrachloride	ND	11	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Chlorobenzene	ND	11	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Chloroethane	ND	23	200		µg/L	100	3/17/2017 6:11:00 AM	B41415
Chloroform	ND	8.9	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Chloromethane	ND	21	300		µg/L	100	3/17/2017 6:11:00 AM	B41415
2-Chlorotoluene	ND	40	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
4-Chlorotoluene	ND	40	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
cis-1,2-DCE	ND	20	100		µg/L	100	3/17/2017 6:11:00 AM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:15:00 AM
Lab ID: 1703834-004 **Matrix:** AQUEOUS **Received Date:** 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	10	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	3/17/2017 6:11:00 AM	B41415
Dibromochloromethane	ND	7.8	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Dibromomethane	ND	12	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2-Dichlorobenzene	ND	12	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,3-Dichlorobenzene	ND	14	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,4-Dichlorobenzene	ND	40	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Dichlorodifluoromethane	ND	32	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,1-Dichloroethane	30	10	100	J	µg/L	100	3/17/2017 6:11:00 AM	B41415
1,1-Dichloroethene	ND	8.1	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2-Dichloropropane	ND	10	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,3-Dichloropropane	ND	16	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
2,2-Dichloropropane	ND	12	200		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,1-Dichloropropene	ND	13	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Hexachlorobutadiene	ND	37	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
2-Hexanone	ND	66	1000		µg/L	100	3/17/2017 6:11:00 AM	B41415
Isopropylbenzene	33	9.8	100	J	µg/L	100	3/17/2017 6:11:00 AM	B41415
4-Isopropyltoluene	ND	14	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	3/17/2017 6:11:00 AM	B41415
Methylene Chloride	ND	11	300		µg/L	100	3/17/2017 6:11:00 AM	B41415
n-Butylbenzene	ND	16	300		µg/L	100	3/17/2017 6:11:00 AM	B41415
n-Propylbenzene	86	13	100	J	µg/L	100	3/17/2017 6:11:00 AM	B41415
sec-Butylbenzene	ND	10	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Styrene	ND	16	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
tert-Butylbenzene	ND	10	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	11	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	3/17/2017 6:11:00 AM	B41415
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
trans-1,2-DCE	ND	18	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
trans-1,3-Dichloropropene	ND	8.9	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2,3-Trichlorobenzene	ND	11	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2,4-Trichlorobenzene	ND	13	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,1,2-Trichloroethane	ND	14	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Trichloroethene (TCE)	ND	18	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Trichlorofluoromethane	ND	18	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
1,2,3-Trichloropropane	ND	39	200		µg/L	100	3/17/2017 6:11:00 AM	B41415
Vinyl chloride	ND	18	100		µg/L	100	3/17/2017 6:11:00 AM	B41415
Xylenes, Total	4900	32	150		µg/L	100	3/17/2017 6:11:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 11:15:00 AM
Lab ID: 1703834-004
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	85.4	0	70-130		%Rec	100	3/17/2017 6:11:00 AM	B41415
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	100	3/17/2017 6:11:00 AM	B41415
Surr: Dibromofluoromethane	98.4	0	70-130		%Rec	100	3/17/2017 6:11:00 AM	B41415
Surr: Toluene-d8	106	0	70-130		%Rec	100	3/17/2017 6:11:00 AM	B41415

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 1:37:00 PM
Lab ID: 1703834-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.0	0.36	1.0		mg/L	1	3/21/2017 6:03:51 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 6:03:51 PM	30758
Surr: DNOP	139	0	72.4-157		%Rec	1	3/21/2017 6:03:51 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	37	1.2	2.5		mg/L	50	3/16/2017 5:08:53 PM	R41423
Surr: BFB	90.5	0	52.3-138		%Rec	50	3/16/2017 5:08:53 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.25	0.50		mg/L	5	3/16/2017 12:02:20 PM	R41455
Chloride	440	12	25		mg/L	50	3/18/2017 4:15:02 AM	A41482
Nitrogen, Nitrite (As N)	ND	0.097	0.50		mg/L	5	3/16/2017 12:02:20 PM	R41455
Bromide	6.0	0.15	0.50		mg/L	5	3/16/2017 12:02:20 PM	R41455
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/16/2017 12:02:20 PM	R41455
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/16/2017 12:02:20 PM	R41455
Sulfate	3.4	0.48	2.5		mg/L	5	3/16/2017 12:02:20 PM	R41455
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.7	0.0085	0.020	*	mg/L	10	3/29/2017 3:48:19 PM	A41757
Cadmium	ND	0.0010	0.0020		mg/L	1	3/29/2017 3:46:39 PM	A41757
Calcium	270	5.0	10		mg/L	10	3/29/2017 3:48:19 PM	A41757
Chromium	ND	0.0010	0.0060		mg/L	1	3/29/2017 3:46:39 PM	A41757
Copper	ND	0.0032	0.0060		mg/L	1	3/29/2017 3:46:39 PM	A41757
Iron	26	1.0	1.0	*	mg/L	50	3/28/2017 3:44:12 PM	A41722
Magnesium	36	0.50	1.0		mg/L	1	3/29/2017 3:46:39 PM	A41757
Manganese	5.7	0.0038	0.020	*	mg/L	10	3/29/2017 3:48:19 PM	A41757
Potassium	22	0.50	1.0		mg/L	1	3/29/2017 3:46:39 PM	A41757
Silver	ND	0.00088	0.0050		mg/L	1	3/29/2017 3:46:39 PM	A41757
Sodium	240	5.0	10		mg/L	10	3/29/2017 3:48:19 PM	A41757
Zinc	0.045	0.0011	0.010		mg/L	1	3/29/2017 3:46:39 PM	A41757
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	3.6	0.0079	0.020	*	mg/L	10	3/24/2017 3:26:40 PM	30869
Cadmium	ND	0.0015	0.0020		mg/L	1	3/24/2017 2:47:21 PM	30869
Chromium	ND	0.0027	0.0060		mg/L	1	3/24/2017 2:47:21 PM	30869
Copper	0.0052	0.0030	0.0060	J	mg/L	1	3/24/2017 2:47:21 PM	30869
Iron	29	1.0	1.0	*	mg/L	50	3/24/2017 3:37:43 PM	30869
Manganese	5.6	0.0027	0.020	*	mg/L	10	3/24/2017 3:26:40 PM	30869
Silver	ND	0.0015	0.0050		mg/L	1	3/24/2017 2:47:21 PM	30869
Zinc	0.045	0.0027	0.010		mg/L	1	3/24/2017 2:47:21 PM	30869
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 1:37:00 PM
Lab ID: 1703834-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.011	0.0018	0.010	*	mg/L	10	3/22/2017 8:15:44 PM	D41594
Lead	0.0012	0.00017	0.00050		mg/L	1	3/21/2017 6:52:49 PM	B41550
Selenium	0.0039	0.0039	0.010	J	mg/L	10	3/22/2017 8:15:44 PM	D41594
Uranium	0.00052	0.000050	0.00050		mg/L	1	3/21/2017 6:52:49 PM	B41550
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.016	0.0011	0.0050	*	mg/L	5	3/27/2017 4:04:07 PM	30869
Lead	0.0035	0.000081	0.00050		mg/L	1	3/27/2017 3:03:49 PM	30869
Selenium	0.0064	0.0037	0.020	J	mg/L	20	3/27/2017 4:07:08 PM	30869
Uranium	0.0013	0.00017	0.00050		mg/L	1	3/27/2017 3:03:49 PM	30869
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:20:21 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Acenaphthylene	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Aniline	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Anthracene	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Azobenzene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Benz(a)anthracene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Benzo(a)pyrene	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Benzo(b)fluoranthene	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Benzo(g,h,i)perylene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Benzo(k)fluoranthene	ND	15	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Benzoic acid	33	13	100	JD	µg/L	1	3/20/2017 8:26:54 PM	30748
Benzyl alcohol	ND	15	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Bis(2-chloroethoxy)methane	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Bis(2-chloroethyl)ether	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Bis(2-chloroisopropyl)ether	ND	9.5	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Bis(2-ethylhexyl)phthalate	35	13	50	JD	µg/L	1	3/20/2017 8:26:54 PM	30748
4-Bromophenyl phenyl ether	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Butyl benzyl phthalate	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Carbazole	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
4-Chloro-3-methylphenol	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
4-Chloroaniline	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2-Chloronaphthalene	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2-Chlorophenol	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
4-Chlorophenyl phenyl ether	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Chrysene	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Di-n-butyl phthalate	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 1:37:00 PM
Lab ID: 1703834-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	17	9.9	50	JD	µg/L	1	3/20/2017 8:26:54 PM	30748
Dibenz(a,h)anthracene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Dibenzofuran	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
1,2-Dichlorobenzene	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
1,3-Dichlorobenzene	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
1,4-Dichlorobenzene	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
3,3´-Dichlorobenzidine	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Diethyl phthalate	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Dimethyl phthalate	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2,4-Dichlorophenol	ND	12	100	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2,4-Dimethylphenol	21	15	50	JD	µg/L	1	3/20/2017 8:26:54 PM	30748
4,6-Dinitro-2-methylphenol	ND	9.0	100	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2,4-Dinitrophenol	ND	14	100	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2,4-Dinitrotoluene	ND	16	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2,6-Dinitrotoluene	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Fluoranthene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Fluorene	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Hexachlorobenzene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Hexachlorobutadiene	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Hexachlorocyclopentadiene	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Hexachloroethane	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Indeno(1,2,3-cd)pyrene	ND	15	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Isophorone	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
1-Methylnaphthalene	ND	15	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2-Methylnaphthalene	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2-Methylphenol	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
3+4-Methylphenol	30	11	50	JD	µg/L	1	3/20/2017 8:26:54 PM	30748
N-Nitrosodi-n-propylamine	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
N-Nitrosodimethylamine	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
N-Nitrosodiphenylamine	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Naphthalene	20	13	50	JD	µg/L	1	3/20/2017 8:26:54 PM	30748
2-Nitroaniline	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
3-Nitroaniline	ND	15	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
4-Nitroaniline	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Nitrobenzene	ND	14	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2-Nitrophenol	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
4-Nitrophenol	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Pentachlorophenol	ND	12	100	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Phenanthrene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 1:37:00 PM
Lab ID: 1703834-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	36	9.9	50	JD	µg/L	1	3/20/2017 8:26:54 PM	30748
Pyrene	ND	15	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Pyridine	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
1,2,4-Trichlorobenzene	ND	13	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2,4,5-Trichlorophenol	ND	11	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
2,4,6-Trichlorophenol	ND	12	50	D	µg/L	1	3/20/2017 8:26:54 PM	30748
Surr: 2-Fluorophenol	21.7	0	15-98.1	D	%Rec	1	3/20/2017 8:26:54 PM	30748
Surr: Phenol-d5	14.7	0	15-80.7	SD	%Rec	1	3/20/2017 8:26:54 PM	30748
Surr: 2,4,6-Tribromophenol	42.3	0	15-112	D	%Rec	1	3/20/2017 8:26:54 PM	30748
Surr: Nitrobenzene-d5	65.3	0	27.2-90.7	D	%Rec	1	3/20/2017 8:26:54 PM	30748
Surr: 2-Fluorobiphenyl	49.1	0	23.3-85.6	D	%Rec	1	3/20/2017 8:26:54 PM	30748
Surr: 4-Terphenyl-d14	36.6	0	27.6-107	D	%Rec	1	3/20/2017 8:26:54 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	8000	48	500		µg/L	500	3/17/2017 6:34:00 AM	B41415
Toluene	38	4.5	50	J	µg/L	50	3/17/2017 6:58:00 AM	B41415
Ethylbenzene	460	5.6	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Methyl tert-butyl ether (MTBE)	610	7.4	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2,4-Trimethylbenzene	260	5.2	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,3,5-Trimethylbenzene	96	5.8	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	5.8	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Naphthalene	32	4.2	100	J	µg/L	50	3/17/2017 6:58:00 AM	B41415
1-Methylnaphthalene	20	8.0	200	J	µg/L	50	3/17/2017 6:58:00 AM	B41415
2-Methylnaphthalene	21	7.6	200	J	µg/L	50	3/17/2017 6:58:00 AM	B41415
Acetone	ND	44	500		µg/L	50	3/17/2017 6:58:00 AM	B41415
Bromobenzene	ND	7.0	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Bromodichloromethane	ND	8.8	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Bromoform	ND	11	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Bromomethane	ND	39	150		µg/L	50	3/17/2017 6:58:00 AM	B41415
2-Butanone	ND	57	500		µg/L	50	3/17/2017 6:58:00 AM	B41415
Carbon disulfide	ND	30	500		µg/L	50	3/17/2017 6:58:00 AM	B41415
Carbon Tetrachloride	ND	5.5	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Chlorobenzene	ND	5.3	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Chloroethane	ND	12	100		µg/L	50	3/17/2017 6:58:00 AM	B41415
Chloroform	ND	4.4	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Chloromethane	ND	11	150		µg/L	50	3/17/2017 6:58:00 AM	B41415
2-Chlorotoluene	ND	20	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
4-Chlorotoluene	ND	20	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
cis-1,2-DCE	ND	10	50		µg/L	50	3/17/2017 6:58:00 AM	B41415

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 1:37:00 PM
Lab ID: 1703834-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	5.0	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	3/17/2017 6:58:00 AM	B41415
Dibromochloromethane	ND	3.9	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Dibromomethane	ND	6.0	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2-Dichlorobenzene	ND	6.0	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,3-Dichlorobenzene	ND	7.2	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,4-Dichlorobenzene	ND	20	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Dichlorodifluoromethane	ND	16	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,1-Dichloroethane	ND	5.2	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,1-Dichloroethene	ND	4.0	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2-Dichloropropane	ND	5.1	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,3-Dichloropropane	ND	7.8	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
2,2-Dichloropropane	ND	6.0	100		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,1-Dichloropropene	ND	6.7	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Hexachlorobutadiene	ND	19	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
2-Hexanone	ND	33	500		µg/L	50	3/17/2017 6:58:00 AM	B41415
Isopropylbenzene	13	4.9	50	J	µg/L	50	3/17/2017 6:58:00 AM	B41415
4-Isopropyltoluene	ND	7.0	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
4-Methyl-2-pentanone	ND	35	500		µg/L	50	3/17/2017 6:58:00 AM	B41415
Methylene Chloride	ND	5.4	150		µg/L	50	3/17/2017 6:58:00 AM	B41415
n-Butylbenzene	ND	8.0	150		µg/L	50	3/17/2017 6:58:00 AM	B41415
n-Propylbenzene	20	6.6	50	J	µg/L	50	3/17/2017 6:58:00 AM	B41415
sec-Butylbenzene	ND	5.1	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Styrene	ND	7.8	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
tert-Butylbenzene	ND	5.2	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	5.6	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	3/17/2017 6:58:00 AM	B41415
Tetrachloroethene (PCE)	ND	7.6	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
trans-1,2-DCE	ND	9.2	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
trans-1,3-Dichloropropene	ND	4.5	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2,3-Trichlorobenzene	ND	5.6	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2,4-Trichlorobenzene	ND	6.6	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Trichloroethene (TCE)	ND	8.8	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Trichlorofluoromethane	ND	9.1	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
1,2,3-Trichloropropane	ND	19	100		µg/L	50	3/17/2017 6:58:00 AM	B41415
Vinyl chloride	ND	8.9	50		µg/L	50	3/17/2017 6:58:00 AM	B41415
Xylenes, Total	2000	16	75		µg/L	50	3/17/2017 6:58:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 1:37:00 PM
Lab ID: 1703834-005
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	87.8	0	70-130		%Rec	50	3/17/2017 6:58:00 AM	B41415
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	50	3/17/2017 6:58:00 AM	B41415
Surr: Dibromofluoromethane	98.8	0	70-130		%Rec	50	3/17/2017 6:58:00 AM	B41415
Surr: Toluene-d8	104	0	70-130		%Rec	50	3/17/2017 6:58:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 12:08:00 PM
Lab ID: 1703834-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	3/20/2017 6:37:42 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/20/2017 6:37:42 PM	30758
Surr: DNOP	101	0	98.8-141		%Rec	1	3/20/2017 6:37:42 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	3/16/2017 5:32:17 PM	R41423
Surr: BFB	88.9	0	52.3-138		%Rec	1	3/16/2017 5:32:17 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.74	0.050	0.10		mg/L	1	3/16/2017 11:12:43 AM	R41455
Chloride	130	5.0	10		mg/L	20	3/16/2017 11:25:07 AM	R41455
Nitrogen, Nitrite (As N)	0.26	0.019	0.10		mg/L	1	3/16/2017 11:12:43 AM	R41455
Bromide	1.0	0.031	0.10		mg/L	1	3/16/2017 11:12:43 AM	R41455
Nitrogen, Nitrate (As N)	7.5	0.022	0.10		mg/L	1	3/16/2017 11:12:43 AM	R41455
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/16/2017 11:12:43 AM	R41455
Sulfate	380	1.9	10		mg/L	20	3/16/2017 11:25:07 AM	R41455
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.037	0.00085	0.0020		mg/L	1	3/29/2017 3:50:04 PM	A41757
Cadmium	ND	0.0010	0.0020		mg/L	1	3/29/2017 3:50:04 PM	A41757
Calcium	140	2.5	5.0		mg/L	5	3/28/2017 3:46:12 PM	A41722
Chromium	ND	0.0010	0.0060		mg/L	1	3/29/2017 3:50:04 PM	A41757
Copper	ND	0.0032	0.0060		mg/L	1	3/29/2017 3:50:04 PM	A41757
Iron	0.098	0.020	0.020		mg/L	1	3/29/2017 3:50:04 PM	A41757
Magnesium	29	0.50	1.0		mg/L	1	3/29/2017 3:50:04 PM	A41757
Manganese	2.6	0.0019	0.010	*	mg/L	5	3/28/2017 3:46:12 PM	A41722
Potassium	0.58	0.50	1.0	J	mg/L	1	3/29/2017 3:50:04 PM	A41757
Silver	ND	0.00088	0.0050		mg/L	1	3/29/2017 3:50:04 PM	A41757
Sodium	210	2.5	5.0		mg/L	5	3/28/2017 3:46:12 PM	A41722
Zinc	0.029	0.0011	0.010		mg/L	1	3/29/2017 3:50:04 PM	A41757
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.31	0.00079	0.0020		mg/L	1	3/24/2017 2:49:46 PM	30869
Cadmium	ND	0.0015	0.0020		mg/L	1	3/24/2017 2:49:46 PM	30869
Chromium	0.0051	0.0027	0.0060	J	mg/L	1	3/24/2017 2:49:46 PM	30869
Copper	0.0031	0.0030	0.0060	J	mg/L	1	3/24/2017 2:49:46 PM	30869
Iron	5.8	0.20	0.20	*	mg/L	10	3/24/2017 3:40:30 PM	30869
Manganese	2.9	0.0027	0.020	*	mg/L	10	3/24/2017 3:40:30 PM	30869
Silver	ND	0.0015	0.0050		mg/L	1	3/24/2017 2:49:46 PM	30869
Zinc	0.018	0.0027	0.010		mg/L	1	3/24/2017 2:49:46 PM	30869
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 12:08:00 PM
Lab ID: 1703834-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0011	0.00089	0.0050	J	mg/L	5	3/22/2017 8:21:51 PM	D41594
Lead	0.00031	0.00017	0.00050	J	mg/L	1	3/21/2017 6:55:52 PM	B41550
Selenium	0.0030	0.0019	0.0050	J	mg/L	5	3/22/2017 8:21:51 PM	D41594
Uranium	0.015	0.000050	0.00050		mg/L	1	3/21/2017 6:55:52 PM	B41550
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0022	0.00021	0.0010		mg/L	1	3/27/2017 3:06:50 PM	30869
Lead	0.0072	0.000081	0.00050		mg/L	1	3/27/2017 3:06:50 PM	30869
Selenium	0.0041	0.00019	0.0010		mg/L	1	3/27/2017 3:06:50 PM	30869
Uranium	0.017	0.00017	0.00050		mg/L	1	3/27/2017 3:06:50 PM	30869
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	3/29/2017 10:22:26 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Benzoic acid	7.5	2.6	20	J	µg/L	1	3/20/2017 8:55:28 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Bis(2-ethylhexyl)phthalate	7.4	2.6	10	J	µg/L	1	3/20/2017 8:55:28 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Carbazole	ND	2.3	10		µg/L	1	3/20/2017 8:55:28 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 8:55:28 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Chrysene	ND	2.8	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 12:08:00 PM
Lab ID: 1703834-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.5	2.0	10	J	µg/L	1	3/20/2017 8:55:28 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 8:55:28 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 8:55:28 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 8:55:28 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 8:55:28 PM	30748
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/20/2017 8:55:28 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 8:55:28 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 8:55:28 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Fluorene	ND	2.7	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
1-Methylnaphthalene	ND	2.9	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 8:55:28 PM	30748
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/20/2017 8:55:28 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 8:55:28 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Naphthalene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 8:55:28 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 8:55:28 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 8:55:28 PM	30748
Phenanthrene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 12:08:00 PM
Lab ID: 1703834-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	2.0	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Pyrene	ND	3.1	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 8:55:28 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 8:55:28 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 8:55:28 PM	30748
Surr: 2-Fluorophenol	22.5	0	15-98.1		%Rec	1	3/20/2017 8:55:28 PM	30748
Surr: Phenol-d5	14.6	0	15-80.7	S	%Rec	1	3/20/2017 8:55:28 PM	30748
Surr: 2,4,6-Tribromophenol	47.5	0	15-112		%Rec	1	3/20/2017 8:55:28 PM	30748
Surr: Nitrobenzene-d5	73.9	0	27.2-90.7		%Rec	1	3/20/2017 8:55:28 PM	30748
Surr: 2-Fluorobiphenyl	66.2	0	23.3-85.6		%Rec	1	3/20/2017 8:55:28 PM	30748
Surr: 4-Terphenyl-d14	52.6	0	27.6-107		%Rec	1	3/20/2017 8:55:28 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.17	0.096	1.0	J	µg/L	1	3/17/2017 7:21:00 AM	B41415
Toluene	ND	0.089	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Methyl tert-butyl ether (MTBE)	0.48	0.15	1.0	J	µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Naphthalene	0.14	0.083	2.0	J	µg/L	1	3/17/2017 7:21:00 AM	B41415
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Acetone	1.7	0.88	10	J	µg/L	1	3/17/2017 7:21:00 AM	B41415
Bromobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Bromoform	ND	0.21	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Bromomethane	ND	0.78	3.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
2-Butanone	ND	1.1	10		µg/L	1	3/17/2017 7:21:00 AM	B41415
Carbon disulfide	ND	0.60	10		µg/L	1	3/17/2017 7:21:00 AM	B41415
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Chloroethane	ND	0.23	2.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Chloroform	0.16	0.089	1.0	J	µg/L	1	3/17/2017 7:21:00 AM	B41415
Chloromethane	ND	0.21	3.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
cis-1,2-DCE	0.88	0.20	1.0	J	µg/L	1	3/17/2017 7:21:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-38
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 12:08:00 PM
Lab ID: 1703834-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Dibromomethane	ND	0.12	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,1-Dichloroethane	1.0	0.10	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,1-Dichloroethene	0.19	0.081	1.0	J	µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
2-Hexanone	ND	0.66	10		µg/L	1	3/17/2017 7:21:00 AM	B41415
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/17/2017 7:21:00 AM	B41415
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Styrene	ND	0.16	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Tetrachloroethene (PCE)	0.58	0.15	1.0	J	µg/L	1	3/17/2017 7:21:00 AM	B41415
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/17/2017 7:21:00 AM	B41415
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/17/2017 7:21:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017 12:08:00 PM
Lab ID: 1703834-006
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	87.5	0	70-130		%Rec	1	3/17/2017 7:21:00 AM	B41415
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	3/17/2017 7:21:00 AM	B41415
Surr: Dibromofluoromethane	99.1	0	70-130		%Rec	1	3/17/2017 7:21:00 AM	B41415
Surr: Toluene-d8	105	0	70-130		%Rec	1	3/17/2017 7:21:00 AM	B41415

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017
Lab ID: 1703834-007
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	28	0.36	1.0		mg/L	1	3/21/2017 6:26:25 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/21/2017 6:26:25 PM	30758
Surr: DNOP	141	0	72.4-157		%Rec	1	3/21/2017 6:26:25 PM	30758
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	1.1	0.12	0.25		mg/L	5	3/17/2017 4:19:03 PM	R41423
Surr: BFB	271	0	52.3-138	S	%Rec	5	3/17/2017 4:19:03 PM	R41423
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.43	0.050	0.10		mg/L	1	3/16/2017 12:27:09 PM	R41455
Chloride	1200	25	50		mg/L	100	3/28/2017 2:21:25 AM	A41694
Nitrogen, Nitrite (As N)	ND	0.39	2.0		mg/L	20	3/16/2017 12:39:34 PM	R41455
Bromide	1.7	0.031	0.10		mg/L	1	3/16/2017 12:27:09 PM	R41455
Nitrogen, Nitrate (As N)	0.40	0.022	0.10		mg/L	1	3/16/2017 12:27:09 PM	R41455
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50		mg/L	1	3/16/2017 12:27:09 PM	R41455
Sulfate	2.4	0.096	0.50		mg/L	1	3/16/2017 12:27:09 PM	R41455
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	6.0	0.0085	0.020	*	mg/L	10	3/28/2017 3:56:14 PM	A41722
Cadmium	ND	0.0010	0.0020		mg/L	1	3/29/2017 3:53:56 PM	A41757
Calcium	94	0.50	1.0		mg/L	1	3/29/2017 3:53:56 PM	A41757
Chromium	ND	0.0010	0.0060		mg/L	1	3/29/2017 3:53:56 PM	A41757
Copper	ND	0.0032	0.0060		mg/L	1	3/29/2017 3:53:56 PM	A41757
Iron	7.0	0.20	0.20	*	mg/L	10	3/28/2017 3:56:14 PM	A41722
Magnesium	32	0.50	1.0		mg/L	1	3/29/2017 3:53:56 PM	A41757
Manganese	1.2	0.0038	0.020	*	mg/L	10	3/28/2017 3:56:14 PM	A41722
Potassium	4.7	0.50	1.0		mg/L	1	3/29/2017 3:53:56 PM	A41757
Silver	0.0016	0.00088	0.0050	J	mg/L	1	3/29/2017 3:53:56 PM	A41757
Sodium	840	5.0	10		mg/L	10	3/29/2017 3:57:37 PM	A41757
Zinc	0.048	0.0011	0.010		mg/L	1	3/29/2017 3:53:56 PM	A41757
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	6.2	0.0079	0.020	*	mg/L	10	3/24/2017 3:46:03 PM	30869
Cadmium	ND	0.0015	0.0020		mg/L	1	3/24/2017 2:52:10 PM	30869
Chromium	ND	0.0027	0.0060		mg/L	1	3/24/2017 2:52:10 PM	30869
Copper	0.0060	0.0030	0.0060		mg/L	1	3/24/2017 2:52:10 PM	30869
Iron	8.5	0.20	0.20	*	mg/L	10	3/24/2017 3:46:03 PM	30869
Manganese	1.3	0.0014	0.010	*	mg/L	5	3/24/2017 3:43:21 PM	30869
Silver	ND	0.0015	0.0050		mg/L	1	3/24/2017 2:52:10 PM	30869
Zinc	0.017	0.0027	0.010		mg/L	1	3/24/2017 2:52:10 PM	30869
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Lab ID: 1703834-007
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0030	0.00089	0.0050	J	mg/L	5	3/22/2017 8:27:58 PM	D41594
Lead	0.00028	0.00017	0.00050	J	mg/L	1	3/21/2017 6:58:56 PM	B41550
Selenium	0.0083	0.0019	0.0050		mg/L	5	3/22/2017 8:27:58 PM	D41594
Uranium	0.000095	0.000050	0.00050	J	mg/L	1	3/21/2017 6:58:56 PM	B41550
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0078	0.0021	0.010	J	mg/L	10	3/27/2017 4:13:09 PM	30869
Lead	0.0068	0.00041	0.0025		mg/L	5	3/27/2017 4:10:08 PM	30869
Selenium	0.0097	0.0094	0.050	J	mg/L	50	3/27/2017 4:16:09 PM	30869
Uranium	ND	0.00087	0.0025		mg/L	5	3/27/2017 4:10:08 PM	30869
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000045	0.000037	0.00020	J	mg/L	1	3/29/2017 10:24:24 AM	30943
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Acenaphthylene	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Aniline	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Anthracene	ND	2.5	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Azobenzene	ND	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Benzoic acid	ND	2.6	20		µg/L	1	3/20/2017 9:23:57 PM	30748
Benzyl alcohol	ND	3.0	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Bis(2-ethylhexyl)phthalate	7.2	2.6	10	J	µg/L	1	3/20/2017 9:23:57 PM	30748
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Carbazole	15	2.3	10		µg/L	1	3/20/2017 9:23:57 PM	30748
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
4-Chloroaniline	ND	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2-Chlorophenol	ND	2.2	10		µg/L	1	3/20/2017 9:23:57 PM	30748
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Chrysene	4.8	2.8	10	J	µg/L	1	3/20/2017 9:23:57 PM	30748
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	3.7	2.0	10	J	µg/L	1	3/20/2017 9:23:57 PM	30748
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Dibenzofuran	ND	2.5	10		µg/L	1	3/20/2017 9:23:57 PM	30748
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 9:23:57 PM	30748
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/20/2017 9:23:57 PM	30748
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Diethyl phthalate	ND	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/20/2017 9:23:57 PM	30748
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	3/20/2017 9:23:57 PM	30748
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/20/2017 9:23:57 PM	30748
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/20/2017 9:23:57 PM	30748
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Fluoranthene	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Fluorene	17	2.7	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Hexachloroethane	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Isophorone	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
1-Methylnaphthalene	160	2.9	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2-Methylnaphthalene	64	2.9	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2-Methylphenol	ND	2.5	10		µg/L	1	3/20/2017 9:23:57 PM	30748
3+4-Methylphenol	ND	2.3	10		µg/L	1	3/20/2017 9:23:57 PM	30748
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/20/2017 9:23:57 PM	30748
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Naphthalene	68	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2-Nitroaniline	ND	2.8	10		µg/L	1	3/20/2017 9:23:57 PM	30748
3-Nitroaniline	ND	2.9	10		µg/L	1	3/20/2017 9:23:57 PM	30748
4-Nitroaniline	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Nitrobenzene	ND	2.8	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2-Nitrophenol	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
4-Nitrophenol	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Pentachlorophenol	ND	2.3	20		µg/L	1	3/20/2017 9:23:57 PM	30748
Phenanthrene	22	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	2.0	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Pyrene	4.9	3.1	10	J	µg/L	1	3/20/2017 9:23:57 PM	30748
Pyridine	ND	2.2	10		µg/L	1	3/20/2017 9:23:57 PM	30748
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/20/2017 9:23:57 PM	30748
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/20/2017 9:23:57 PM	30748
Surr: 2-Fluorophenol	31.4	0	15-98.1		%Rec	1	3/20/2017 9:23:57 PM	30748
Surr: Phenol-d5	23.4	0	15-80.7		%Rec	1	3/20/2017 9:23:57 PM	30748
Surr: 2,4,6-Tribromophenol	46.5	0	15-112		%Rec	1	3/20/2017 9:23:57 PM	30748
Surr: Nitrobenzene-d5	75.8	0	27.2-90.7		%Rec	1	3/20/2017 9:23:57 PM	30748
Surr: 2-Fluorobiphenyl	66.9	0	23.3-85.6		%Rec	1	3/20/2017 9:23:57 PM	30748
Surr: 4-Terphenyl-d14	44.1	0	27.6-107		%Rec	1	3/20/2017 9:23:57 PM	30748
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	12	0.48	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Toluene	ND	0.45	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Ethylbenzene	58	0.56	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Methyl tert-butyl ether (MTBE)	ND	0.74	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2,4-Trimethylbenzene	17	0.52	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,3,5-Trimethylbenzene	ND	0.58	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	0.58	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Naphthalene	91	0.42	10		µg/L	5	3/17/2017 10:04:00 AM	B41415
1-Methylnaphthalene	180	0.80	20		µg/L	5	3/17/2017 10:04:00 AM	B41415
2-Methylnaphthalene	62	0.76	20		µg/L	5	3/17/2017 10:04:00 AM	B41415
Acetone	ND	4.4	50		µg/L	5	3/17/2017 10:04:00 AM	B41415
Bromobenzene	ND	0.70	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Bromodichloromethane	ND	0.88	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Bromoform	ND	1.1	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Bromomethane	ND	3.9	15		µg/L	5	3/17/2017 10:04:00 AM	B41415
2-Butanone	ND	5.7	50		µg/L	5	3/17/2017 10:04:00 AM	B41415
Carbon disulfide	ND	3.0	50		µg/L	5	3/17/2017 10:04:00 AM	B41415
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Chlorobenzene	ND	0.53	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Chloroethane	ND	1.2	10		µg/L	5	3/17/2017 10:04:00 AM	B41415
Chloroform	ND	0.44	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Chloromethane	ND	1.1	15		µg/L	5	3/17/2017 10:04:00 AM	B41415
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.50	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	3/17/2017 10:04:00 AM	B41415
Dibromochloromethane	ND	0.39	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Dibromomethane	ND	0.60	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2-Dichlorobenzene	ND	0.60	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Dichlorodifluoromethane	ND	1.6	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,1-Dichloroethane	ND	0.52	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
2,2-Dichloropropane	ND	0.60	10		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Hexachlorobutadiene	ND	1.9	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
2-Hexanone	ND	3.3	50		µg/L	5	3/17/2017 10:04:00 AM	B41415
Isopropylbenzene	25	0.49	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
4-Isopropyltoluene	4.8	0.70	5.0	J	µg/L	5	3/17/2017 10:04:00 AM	B41415
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	3/17/2017 10:04:00 AM	B41415
Methylene Chloride	ND	0.54	15		µg/L	5	3/17/2017 10:04:00 AM	B41415
n-Butylbenzene	8.5	0.80	15	J	µg/L	5	3/17/2017 10:04:00 AM	B41415
n-Propylbenzene	33	0.66	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
sec-Butylbenzene	16	0.51	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Styrene	ND	0.78	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
tert-Butylbenzene	0.56	0.52	5.0	J	µg/L	5	3/17/2017 10:04:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	3/17/2017 10:04:00 AM	B41415
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.45	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Trichloroethene (TCE)	ND	0.88	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	3/17/2017 10:04:00 AM	B41415
Vinyl chloride	ND	0.89	5.0		µg/L	5	3/17/2017 10:04:00 AM	B41415
Xylenes, Total	ND	1.6	7.5		µg/L	5	3/17/2017 10:04:00 AM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 1st QTR-MKTF Wells
Collection Date: 3/14/2017
Lab ID: 1703834-007
Matrix: AQUEOUS
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	91.4	0	70-130		%Rec	5	3/17/2017 10:04:00 AM	B41415
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	5	3/17/2017 10:04:00 AM	B41415
Surr: Dibromofluoromethane	102	0	70-130		%Rec	5	3/17/2017 10:04:00 AM	B41415
Surr: Toluene-d8	104	0	70-130		%Rec	5	3/17/2017 10:04:00 AM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR-MKTF Wells
Collection Date:
Lab ID: 1703834-008
Matrix: TRIP BLANK
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.096	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Toluene	ND	0.089	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Ethylbenzene	ND	0.11	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Methyl tert-butyl ether (MTBE)	ND	0.15	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2,4-Trimethylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,3,5-Trimethylbenzene	ND	0.12	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2-Dichloroethane (EDC)	ND	0.12	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Naphthalene	ND	0.083	2.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Acetone	2.6	0.88	10	J	µg/L	1	3/17/2017 8:30:00 AM	B41415
Bromobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Bromodichloromethane	ND	0.18	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Bromoform	ND	0.21	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Bromomethane	ND	0.78	3.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
2-Butanone	ND	1.1	10		µg/L	1	3/17/2017 8:30:00 AM	B41415
Carbon disulfide	ND	0.60	10		µg/L	1	3/17/2017 8:30:00 AM	B41415
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Chlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Chloroethane	ND	0.23	2.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Chloroform	ND	0.089	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Chloromethane	ND	0.21	3.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
cis-1,3-Dichloropropene	ND	0.10	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Dibromochloromethane	ND	0.078	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Dibromomethane	ND	0.12	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2-Dichlorobenzene	ND	0.12	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,3-Dichlorobenzene	ND	0.14	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Dichlorodifluoromethane	ND	0.32	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,1-Dichloroethane	ND	0.10	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,3-Dichloropropane	ND	0.16	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
2,2-Dichloropropane	ND	0.12	2.0		µg/L	1	3/17/2017 8:30:00 AM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 1st QTR-MKTF Wells
Collection Date:
Lab ID: 1703834-008
Matrix: TRIP BLANK
Received Date: 3/15/2017 5:13:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.13	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Hexachlorobutadiene	ND	0.37	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
2-Hexanone	ND	0.66	10		µg/L	1	3/17/2017 8:30:00 AM	B41415
Isopropylbenzene	ND	0.098	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
4-Isopropyltoluene	ND	0.14	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	3/17/2017 8:30:00 AM	B41415
Methylene Chloride	ND	0.11	3.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
n-Butylbenzene	ND	0.16	3.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
n-Propylbenzene	ND	0.13	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
sec-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Styrene	ND	0.16	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,1,1,2-Tetrachloroethane	ND	0.11	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
trans-1,3-Dichloropropene	ND	0.089	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2,3-Trichlorobenzene	ND	0.11	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2,4-Trichlorobenzene	ND	0.13	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Trichloroethene (TCE)	ND	0.18	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Vinyl chloride	ND	0.18	1.0		µg/L	1	3/17/2017 8:30:00 AM	B41415
Xylenes, Total	ND	0.32	1.5		µg/L	1	3/17/2017 8:30:00 AM	B41415
Surr: 1,2-Dichloroethane-d4	90.5	0	70-130		%Rec	1	3/17/2017 8:30:00 AM	B41415
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	3/17/2017 8:30:00 AM	B41415
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	3/17/2017 8:30:00 AM	B41415
Surr: Toluene-d8	104	0	70-130		%Rec	1	3/17/2017 8:30:00 AM	B41415

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308114** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308115** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Calcium	0.58	1.0	0.5000	0	115	50	150			J
Chromium	0.0061	0.0060	0.006000	0	101	50	150			
Copper	0.0058	0.0060	0.006000	0	97.0	50	150			J
Magnesium	0.55	1.0	0.5000	0	110	50	150			J
Potassium	0.56	1.0	0.5000	0	112	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.8	50	150			J
Zinc	0.0064	0.010	0.005000	0	129	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308116** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	98.8	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	98.3	85	115			
Copper	0.48	0.0060	0.5000	0	95.4	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Potassium	50	1.0	50.00	0	99.1	85	115			
Silver	0.099	0.0050	0.1000	0	99.4	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308961** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308962** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	87.0	50	150			J
Iron	0.022	0.020	0.02000	0	112	50	150			
Manganese	0.0022	0.0020	0.002000	0	111	50	150			
Sodium	0.55	1.0	0.5000	0	110	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41693**	RunNo: **41693**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308963** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.9	85	115			
Iron	0.47	0.020	0.5000	0	94.4	85	115			
Manganese	0.48	0.0020	0.5000	0	95.7	85	115			
Sodium	50	1.0	50.00	0	99.0	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309368** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0024	0.0020	0.002000	0	121	50	150			
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Iron	0.025	0.020	0.02000	0	126	50	150			
Manganese	0.0020	0.0020	0.002000	0	100	50	150			
Sodium	0.56	1.0	0.5000	0	112	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309370** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.53	0.0020	0.5000	0	106	85	115			
Calcium	53	1.0	50.00	0	106	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.51	0.0020	0.5000	0	103	85	115			
Sodium	53	1.0	50.00	0	106	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41757**	RunNo: **41757**
Prep Date:	Analysis Date: **3/29/2017**	SeqNo: **1310584** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41757**	RunNo: **41757**
Prep Date:	Analysis Date: **3/29/2017**	SeqNo: **1310585** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41757**	RunNo: **41757**
Prep Date:	Analysis Date: **3/29/2017**	SeqNo: **1310585** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	98.0	50	150			J
Cadmium	0.0019	0.0020	0.002000	0	94.5	50	150			J
Calcium	0.51	1.0	0.5000	0	103	50	150			J
Chromium	0.0071	0.0060	0.006000	0	119	50	150			
Copper	0.0057	0.0060	0.006000	0	95.0	50	150			J
Iron	0.022	0.020	0.02000	0	108	50	150			
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Manganese	0.0019	0.0020	0.002000	0	94.0	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Silver	0.0051	0.0050	0.005000	0	102	50	150			
Sodium	0.52	1.0	0.5000	0	104	50	150			J
Zinc	0.0048	0.010	0.005000	0	95.8	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41757**	RunNo: **41757**
Prep Date:	Analysis Date: **3/29/2017**	SeqNo: **1310586** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	103	85	115			
Cadmium	0.52	0.0020	0.5000	0	104	85	115			
Calcium	53	1.0	50.00	0	106	85	115			
Chromium	0.51	0.0060	0.5000	0	103	85	115			
Copper	0.49	0.0060	0.5000	0	98.9	85	115			
Iron	0.49	0.020	0.5000	0	98.7	85	115			
Magnesium	53	1.0	50.00	0	106	85	115			
Manganese	0.50	0.0020	0.5000	0	99.1	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	52	1.0	50.00	0	104	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID **1703834-004EMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MKTF-16**	Batch ID: **A41757**	RunNo: **41757**
Prep Date:	Analysis Date: **3/29/2017**	SeqNo: **1310588** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	99.5	70	130			
Chromium	0.49	0.0060	0.5000	0	97.5	70	130			
Copper	0.51	0.0060	0.5000	0	102	70	130			
Magnesium	71	1.0	50.00	20.49	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**1703834-004EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-16**	Batch ID:	**A41757**		RunNo:	**41757**				
Prep Date:		Analysis Date:	**3/29/2017**		SeqNo:	**1310588**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	53	1.0	50.00	1.475	104	70	130			
Silver	0.089	0.0050	0.1000	0	88.8	70	130			
Zinc	0.50	0.010	0.5000	0.02733	93.7	70	130			

Sample ID	**1703834-004EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-16**	Batch ID:	**A41757**		RunNo:	**41757**				
Prep Date:		Analysis Date:	**3/29/2017**		SeqNo:	**1310589**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.52	0.0020	0.5000	0	104	70	130	4.86	20	
Chromium	0.51	0.0060	0.5000	0	102	70	130	4.91	20	
Copper	0.54	0.0060	0.5000	0	108	70	130	4.91	20	
Magnesium	73	1.0	50.00	20.49	104	70	130	1.64	20	
Potassium	55	1.0	50.00	1.475	108	70	130	3.62	20	
Silver	0.094	0.0050	0.1000	0	93.8	70	130	5.44	20	
Zinc	0.52	0.010	0.5000	0.02733	98.9	70	130	5.12	20	

Sample ID	**1703834-004EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-16**	Batch ID:	**A41757**		RunNo:	**41757**				
Prep Date:		Analysis Date:	**3/29/2017**		SeqNo:	**1310591**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	4.4	0.010	2.500	1.909	101	70	130			
Calcium	330	5.0	250.0	77.04	103	70	130			
Manganese	4.2	0.010	2.500	1.804	95.9	70	130			

Sample ID	**1703834-004EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-16**	Batch ID:	**A41757**		RunNo:	**41757**				
Prep Date:		Analysis Date:	**3/29/2017**		SeqNo:	**1310592**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	4.5	0.010	2.500	1.909	103	70	130	1.43	20	
Calcium	340	5.0	250.0	77.04	105	70	130	1.73	20	
Manganese	4.3	0.010	2.500	1.804	97.9	70	130	1.20	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **MB-30869**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **30869**	RunNo: **41645**
Prep Date: **3/23/2017**	Analysis Date: **3/24/2017**	SeqNo: **1307122** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCS-30869**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **30869**	RunNo: **41645**
Prep Date: **3/23/2017**	Analysis Date: **3/24/2017**	SeqNo: **1307124** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Chromium	0.50	0.0060	0.5000	0	99.3	85	115			
Copper	0.49	0.0060	0.5000	0	97.5	85	115			
Iron	0.48	0.020	0.5000	0	96.3	85	115			
Manganese	0.48	0.0020	0.5000	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	98.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B41550**	RunNo: **41550**
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0	102	85	115			
Uranium	0.012	0.00050	0.01250	0	93.6	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B41550**	RunNo: **41550**
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303290** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	97.5	50	150			J
Uranium	0.00044	0.00050	0.0005000	0	87.2	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B41550**	RunNo: **41550**
Prep Date:	Analysis Date: **3/21/2017**	SeqNo: **1303292** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304862** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.5	85	115			
Selenium	0.024	0.0010	0.02500	0	95.6	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304863** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Selenium	0.025	0.0010	0.02500	0	99.9	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304864** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304864** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00089	0.0010	0.001000	0	89.3	50	150			J
Selenium	0.00073	0.0010	0.001000	0	73.5	50	150			J

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304865** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00090	0.0010	0.001000	0	90.2	50	150			J
Selenium	0.00079	0.0010	0.001000	0	79.5	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304866** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304867** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MB-30869**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30869**	RunNo:	**41680**					
Prep Date:	**3/23/2017**	Analysis Date:	**3/27/2017**	SeqNo:	**1307678**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-30869**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30869**	RunNo:	**41680**					
Prep Date:	**3/23/2017**	Analysis Date:	**3/27/2017**	SeqNo:	**1307679**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.012	0.00050	0.01250	0	99.6	85	115			
Selenium	0.025	0.0010	0.02500	0	98.7	85	115			
Uranium	0.012	0.00050	0.01250	0	99.4	85	115			

Sample ID	**MSLCSLL-30869**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**30869**	RunNo:	**41680**					
Prep Date:	**3/23/2017**	Analysis Date:	**3/27/2017**	SeqNo:	**1307680**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	107	50	150			
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.00088	0.0010	0.001000	0	87.6	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	97.4	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**MB-30943**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30943**	RunNo:	**41729**					
Prep Date:	**3/28/2017**	Analysis Date:	**3/29/2017**	SeqNo:	**1309948**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-30943**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30943**	RunNo:	**41729**					
Prep Date:	**3/28/2017**	Analysis Date:	**3/29/2017**	SeqNo:	**1309949**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41455**	RunNo: **41455**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299721** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.12	0.50								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41455**	RunNo: **41455**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299722** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	101	90	110			
Chloride	4.7	0.50	5.000	0	94.5	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	97.9	90	110			
Bromide	2.4	0.10	2.500	0	95.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.3	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.7	90	110			
Sulfate	9.6	0.50	10.00	0	96.2	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41482**	RunNo: **41482**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300481** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41482**	RunNo: **41482**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300482** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.4	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41694**	RunNo: **41694**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308322** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41694**	RunNo: **41694**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308322** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41694**	RunNo: **41694**
Prep Date:	Analysis Date: **3/27/2017**	SeqNo: **1308323** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	95.0	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID	**LCS-30758**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range**					
Client ID:	**LCSW**	Batch ID:	**30758**		RunNo:	**41506**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1302199**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.4	1.0	5.000	0	109	82.8	146			
Surr: DNOP		0.50		0.5000		101	98.8	141			

Sample ID	**MB-30758**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range**					
Client ID:	**PBW**	Batch ID:	**30758**		RunNo:	**41506**					
Prep Date:	**3/17/2017**	Analysis Date:	**3/20/2017**		SeqNo:	**1302200**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		ND	1.0								
Motor Oil Range Organics (MRO)		ND	5.0								
Surr: DNOP		1.0		1.000		104	98.8	141			

Qualifiers:

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R41423**	RunNo: **41423**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299285** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		89.0	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R41423**	RunNo: **41423**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299286** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.41	0.050	0.5000	0	81.2	79.1	123			
Surr: BFB	19		20.00		93.3	52.3	138			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299581** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299591** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299591** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B41415**	RunNo: **41415**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299591** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		105	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **lcs-30748**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301631** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	63	10	100.0	0	62.8	42.9	100			
4-Chloro-3-methylphenol	150	10	200.0	0	76.0	36.2	110			
2-Chlorophenol	130	10	200.0	0	66.9	33.4	97.8			
1,4-Dichlorobenzene	62	10	100.0	0	61.9	32.8	79.3			
2,4-Dinitrotoluene	57	10	100.0	0	56.6	34.9	107			
N-Nitrosodi-n-propylamine	77	10	100.0	0	76.9	30.7	111			
4-Nitrophenol	100	10	200.0	0	51.4	15	91.9			
Pentachlorophenol	120	20	200.0	0	59.2	33.3	93.5			
Phenol	120	10	200.0	0	59.4	20.9	86.4			
Pyrene	66	10	100.0	0	66.3	45.6	111			
1,2,4-Trichlorobenzene	64	10	100.0	0	64.4	38.7	88.2			
Surr: 2-Fluorophenol	130		200.0		66.8	15	98.1			
Surr: Phenol-d5	120		200.0		58.7	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		75.3	15	112			
Surr: Nitrobenzene-d5	72		100.0		71.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	66		100.0		66.4	23.3	85.6			
Surr: 4-Terphenyl-d14	64		100.0		64.0	27.6	107			

Sample ID **lcsd-30748**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301632** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	61	10	100.0	0	60.7	42.9	100	3.40	37.4	
4-Chloro-3-methylphenol	95	10	200.0	0	47.6	36.2	110	45.9	26.8	R
2-Chlorophenol	80	10	200.0	0	40.0	33.4	97.8	50.3	30.3	R
1,4-Dichlorobenzene	39	10	100.0	0	39.2	32.8	79.3	44.8	32	R
2,4-Dinitrotoluene	59	10	100.0	0	59.4	34.9	107	4.83	36.7	
N-Nitrosodi-n-propylamine	69	10	100.0	0	68.9	30.7	111	11.1	29.9	
4-Nitrophenol	51	10	200.0	0	25.7	15	91.9	66.5	28.8	R
Pentachlorophenol	77	20	200.0	0	38.4	33.3	93.5	42.8	38.2	R
Phenol	51	10	200.0	0	25.6	20.9	86.4	79.7	39.8	R
Pyrene	67	10	100.0	0	67.1	45.6	111	1.17	28.3	
1,2,4-Trichlorobenzene	48	10	100.0	0	48.0	38.7	88.2	29.1	39.8	
Surr: 2-Fluorophenol	60		200.0		30.1	15	98.1	0	0	
Surr: Phenol-d5	47		200.0		23.6	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	110		200.0		52.6	15	112	0	0	
Surr: Nitrobenzene-d5	68		100.0		67.7	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	61		100.0		61.3	23.3	85.6	0	0	

Qualifiers:

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **lcsd-30748**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301632** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	54		100.0		54.4	27.6	107	0	0	

Sample ID **mb-30748**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301633** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.2	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	7.3	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	3.5	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**
04-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR-MKTF Wells

Sample ID **mb-30748**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301633** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703834**

04-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR-MKTF Wells

Sample ID **mb-30748**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30748**	RunNo: **41512**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1301633** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		55.2	15	98.1			
Surr: Phenol-d5	78		200.0		38.8	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		76.6	15	112			
Surr: Nitrobenzene-d5	73		100.0		73.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	59		100.0		58.7	23.3	85.6			
Surr: 4-Terphenyl-d14	73		100.0		73.3	27.6	107			

Qualifiers:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1703834** RcptNo: **1**

Received by/date: AG 03/15/17

Logged By: **Ashley Gallegos** **3/15/2017 5:13:00 PM** AG

Completed By: **Ashley Gallegos** **3/15/2017 6:02:46 PM** AG

Reviewed By: 03/15/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ✔	No	NA
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
6. Sample(s) in proper container(s)?	Yes ✔	No	
7. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
8. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No	
9. Was preservative added to bottles?	Yes	No ✔	NA
10. VOA vials have zero headspace?	Yes ✔	No	No VOA Vials
11. Were any sample containers received broken?	Yes	No ✔	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH: 18 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ✔	No	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by: AG

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: Date

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.8	Good	Yes			

Chain-of-Custody Record

Client:	WESTERN REFINING - GALLUP REFINERY
Mailing Address:	92 Giant Crossing Road, Gallup, NM 87301
Phone #:	505-722-3833
email or Fax#:	505-863-0930
QA/QC Package	☐ Standard ☐ Level 4 (Full Validation)
Accreditation	☐ NELAP ☐ Other
☐ EDD (Type)	

Turn-Around Time: X Standard ☐ Rush

Project Name: 2017 1ST QTR - MKTF WELLS

Project #:

Project Manager: C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703834	8260+MTBE	8015D(DRO/MRO/GRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	MAJOR CATIONS/ANIONS	METHOD 8011 - EDB	Air Bubbles (Y or N)
3/14/2017	700	AQUEOUS	FIELD BLANK	3-40ML VOAS	HCL	-001	X							
3/14/2017	1029	AQUEOUS	MKTF-39	MISC	MISC	-002	X	X	X	X	X	X		
3/14/2017	1104	AQUEOUS	MKTF-20	MISC	MISC	-003	X	X	X	X	X	X		
3/14/2017	1115	AQUEOUS	MKTF-16	MISC	MISC	-004	X	X	X	X	X	X		
3/14/2017	1337	AQUEOUS	MKTF-21	MISC	MISC	-005	X	X	X	X	X	X		
3/14/2017	1208	AQUEOUS	MKTF-38	MISC	MISC	-006	X	X	X	X	X	X		
3/14/2017		AQUEOUS	DUPLICATE	MISC	MISC	-007	X	X	X	X	X	X		
		AQUEOUS		MISC	MISC									
3/14/2017		AQUEOUS	TRIP BLANK	MISC	MISC	-008	X							

Date	Time	Relinquished by	Received by	Date	Time
3-15-17	1510			3/15/17	1510
3/15/17	1715				

Remarks: 03/15/17@1713

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 06, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: 2017 1st QTR GW Monitoring OrderNo.: 1703928

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 3/17/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-5
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 10:28:00 AM
Lab ID: 1703928-001
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	3.5	0.36	1.0		mg/L	1	3/20/2017 7:35:48 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/20/2017 7:35:48 PM	30758
Surr: DNOP	101	0	98.8-141		%Rec	1	3/20/2017 7:35:48 PM	30758
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	640	4.8	50		µg/L	50	3/20/2017 11:24:00 AM	R41495
Toluene	2.8	0.45	5.0	J	µg/L	5	3/20/2017 11:47:00 AM	R41495
Ethylbenzene	410	0.56	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Methyl tert-butyl ether (MTBE)	7.7	0.74	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2,4-Trimethylbenzene	33	0.52	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,3,5-Trimethylbenzene	11	0.58	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2-Dichloroethane (EDC)	ND	0.58	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Naphthalene	140	0.42	10		µg/L	5	3/20/2017 11:47:00 AM	R41495
1-Methylnaphthalene	120	0.80	20		µg/L	5	3/20/2017 11:47:00 AM	R41495
2-Methylnaphthalene	120	0.76	20		µg/L	5	3/20/2017 11:47:00 AM	R41495
Acetone	6.7	4.4	50	J	µg/L	5	3/20/2017 11:47:00 AM	R41495
Bromobenzene	ND	0.70	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Bromodichloromethane	ND	0.88	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Bromoform	ND	1.1	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Bromomethane	ND	3.9	15		µg/L	5	3/20/2017 11:47:00 AM	R41495
2-Butanone	ND	5.7	50		µg/L	5	3/20/2017 11:47:00 AM	R41495
Carbon disulfide	ND	3.0	50		µg/L	5	3/20/2017 11:47:00 AM	R41495
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Chlorobenzene	ND	0.53	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Chloroethane	ND	1.2	10		µg/L	5	3/20/2017 11:47:00 AM	R41495
Chloroform	ND	0.44	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Chloromethane	ND	1.1	15		µg/L	5	3/20/2017 11:47:00 AM	R41495
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
cis-1,3-Dichloropropene	ND	0.50	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	3/20/2017 11:47:00 AM	R41495
Dibromochloromethane	ND	0.39	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Dibromomethane	ND	0.60	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2-Dichlorobenzene	ND	0.60	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,3-Dichlorobenzene	ND	0.72	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Dichlorodifluoromethane	ND	1.6	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,1-Dichloroethane	ND	0.52	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-5
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 10:28:00 AM
Lab ID: 1703928-001
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,3-Dichloropropane	ND	0.78	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
2,2-Dichloropropane	ND	0.60	10		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,1-Dichloropropene	ND	0.67	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Hexachlorobutadiene	ND	1.9	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
2-Hexanone	ND	3.3	50		µg/L	5	3/20/2017 11:47:00 AM	R41495
Isopropylbenzene	25	0.49	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
4-Isopropyltoluene	5.0	0.70	5.0	J	µg/L	5	3/20/2017 11:47:00 AM	R41495
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	3/20/2017 11:47:00 AM	R41495
Methylene Chloride	ND	0.54	15		µg/L	5	3/20/2017 11:47:00 AM	R41495
n-Butylbenzene	13	0.80	15	J	µg/L	5	3/20/2017 11:47:00 AM	R41495
n-Propylbenzene	60	0.66	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
sec-Butylbenzene	8.3	0.51	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Styrene	ND	0.78	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,1,1,2-Tetrachloroethane	ND	0.56	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	3/20/2017 11:47:00 AM	R41495
Tetrachloroethene (PCE)	ND	0.76	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
trans-1,3-Dichloropropene	ND	0.45	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2,3-Trichlorobenzene	ND	0.56	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2,4-Trichlorobenzene	ND	0.66	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Trichloroethene (TCE)	ND	0.88	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	3/20/2017 11:47:00 AM	R41495
Vinyl chloride	ND	0.89	5.0		µg/L	5	3/20/2017 11:47:00 AM	R41495
Xylenes, Total	94	1.6	7.5		µg/L	5	3/20/2017 11:47:00 AM	R41495
Surr: 1,2-Dichloroethane-d4	90.3	0	70-130		%Rec	5	3/20/2017 11:47:00 AM	R41495
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	5	3/20/2017 11:47:00 AM	R41495
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	3/20/2017 11:47:00 AM	R41495
Surr: Toluene-d8	105	0	70-130		%Rec	5	3/20/2017 11:47:00 AM	R41495
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	6.5	0.097	0.50		mg/L	10	3/21/2017 12:31:51 AM	G41514
Surr: BFB	93.7	0	70-130		%Rec	10	3/21/2017 12:31:51 AM	G41514

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-6
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 10:35:00 AM
Lab ID: 1703928-002
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	8.5	0.36	1.0		mg/L	1	3/20/2017 8:04:52 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/20/2017 8:04:52 PM	30758
Surr: DNOP	102	0	98.8-141		%Rec	1	3/20/2017 8:04:52 PM	30758
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	280	0.96	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Toluene	280	0.89	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Ethylbenzene	630	1.1	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Methyl tert-butyl ether (MTBE)	25	1.5	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2,4-Trimethylbenzene	61	1.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,3,5-Trimethylbenzene	130	1.2	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Naphthalene	590	0.83	20		µg/L	10	3/20/2017 12:58:00 PM	R41495
1-Methylnaphthalene	270	1.6	40		µg/L	10	3/20/2017 12:58:00 PM	R41495
2-Methylnaphthalene	290	1.5	40		µg/L	10	3/20/2017 12:58:00 PM	R41495
Acetone	ND	8.8	100		µg/L	10	3/20/2017 12:58:00 PM	R41495
Bromobenzene	ND	1.4	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Bromodichloromethane	ND	1.8	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Bromoform	ND	2.1	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Bromomethane	ND	7.8	30		µg/L	10	3/20/2017 12:58:00 PM	R41495
2-Butanone	ND	11	100		µg/L	10	3/20/2017 12:58:00 PM	R41495
Carbon disulfide	ND	6.0	100		µg/L	10	3/20/2017 12:58:00 PM	R41495
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Chlorobenzene	ND	1.1	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Chloroethane	ND	2.3	20		µg/L	10	3/20/2017 12:58:00 PM	R41495
Chloroform	ND	0.89	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Chloromethane	ND	2.1	30		µg/L	10	3/20/2017 12:58:00 PM	R41495
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
4-Chlorotoluene	ND	4.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
cis-1,2-DCE	ND	2.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
cis-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	3/20/2017 12:58:00 PM	R41495
Dibromochloromethane	ND	0.78	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Dibromomethane	ND	1.2	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2-Dichlorobenzene	ND	1.2	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Dichlorodifluoromethane	ND	3.2	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,1-Dichloroethane	ND	1.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-6
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 10:35:00 AM
Lab ID: 1703928-002
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	0.81	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2-Dichloropropane	ND	1.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
2,2-Dichloropropane	ND	1.2	20		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Hexachlorobutadiene	ND	3.7	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
2-Hexanone	ND	6.6	100		µg/L	10	3/20/2017 12:58:00 PM	R41495
Isopropylbenzene	44	0.98	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
4-Isopropyltoluene	10	1.4	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	3/20/2017 12:58:00 PM	R41495
Methylene Chloride	ND	1.1	30		µg/L	10	3/20/2017 12:58:00 PM	R41495
n-Butylbenzene	22	1.6	30	J	µg/L	10	3/20/2017 12:58:00 PM	R41495
n-Propylbenzene	96	1.3	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
sec-Butylbenzene	12	1.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Styrene	ND	1.6	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
tert-Butylbenzene	ND	1.0	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	3/20/2017 12:58:00 PM	R41495
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
trans-1,2-DCE	ND	1.8	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
trans-1,3-Dichloropropene	ND	0.89	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Trichloroethene (TCE)	ND	1.8	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Trichlorofluoromethane	ND	1.8	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	3/20/2017 12:58:00 PM	R41495
Vinyl chloride	ND	1.8	10		µg/L	10	3/20/2017 12:58:00 PM	R41495
Xylenes, Total	1400	3.2	15		µg/L	10	3/20/2017 12:58:00 PM	R41495
Surr: 1,2-Dichloroethane-d4	90.0	0	70-130		%Rec	10	3/20/2017 12:58:00 PM	R41495
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	10	3/20/2017 12:58:00 PM	R41495
Surr: Dibromofluoromethane	102	0	70-130		%Rec	10	3/20/2017 12:58:00 PM	R41495
Surr: Toluene-d8	104	0	70-130		%Rec	10	3/20/2017 12:58:00 PM	R41495
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	13	0.19	1.0		mg/L	20	3/21/2017 1:00:40 AM	G41514
Surr: BFB	91.2	0	70-130		%Rec	20	3/21/2017 1:00:40 AM	G41514

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-2
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 11:12:00 AM
Lab ID: 1703928-003 **Matrix:** AQUEOUS **Received Date:** 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	11	0.36	1.0		mg/L	1	3/20/2017 8:33:26 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/20/2017 8:33:26 PM	30758
Surr: DNOP	99.3	0	98.8-141		%Rec	1	3/20/2017 8:33:26 PM	30758
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	37000	190	2000		µg/L	2000	3/20/2017 1:22:00 PM	R41495
Toluene	2300	18	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Ethylbenzene	1300	22	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Methyl tert-butyl ether (MTBE)	1600	30	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2,4-Trimethylbenzene	200	21	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,3,5-Trimethylbenzene	40	23	100	J	µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2-Dichloroethane (EDC)	ND	23	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2-Dibromoethane (EDB)	ND	26	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Naphthalene	150	17	200	J	µg/L	200	3/20/2017 1:46:00 PM	R41495
1-Methylnaphthalene	130	32	400	J	µg/L	200	3/20/2017 1:46:00 PM	R41495
2-Methylnaphthalene	110	30	400	J	µg/L	200	3/20/2017 1:46:00 PM	R41495
Acetone	ND	180	1000		µg/L	200	3/20/2017 1:46:00 PM	R41495
Bromobenzene	ND	28	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Bromodichloromethane	ND	35	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Bromoform	ND	42	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Bromomethane	ND	160	300		µg/L	200	3/20/2017 1:46:00 PM	R41495
2-Butanone	ND	230	1000		µg/L	200	3/20/2017 1:46:00 PM	R41495
Carbon disulfide	ND	120	1000		µg/L	200	3/20/2017 1:46:00 PM	R41495
Carbon Tetrachloride	ND	22	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Chlorobenzene	ND	21	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Chloroethane	ND	47	200		µg/L	200	3/20/2017 1:46:00 PM	R41495
Chloroform	ND	18	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Chloromethane	ND	43	300		µg/L	200	3/20/2017 1:46:00 PM	R41495
2-Chlorotoluene	ND	80	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
4-Chlorotoluene	ND	80	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
cis-1,2-DCE	ND	41	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
cis-1,3-Dichloropropene	ND	20	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2-Dibromo-3-chloropropane	ND	280	400		µg/L	200	3/20/2017 1:46:00 PM	R41495
Dibromochloromethane	ND	16	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Dibromomethane	ND	24	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2-Dichlorobenzene	ND	24	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,3-Dichlorobenzene	ND	29	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,4-Dichlorobenzene	ND	80	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Dichlorodifluoromethane	ND	65	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,1-Dichloroethane	ND	21	100		µg/L	200	3/20/2017 1:46:00 PM	R41495

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Lab ID: 1703928-003 **Matrix:** AQUEOUS **Received Date:** 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethene	ND	16	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2-Dichloropropane	ND	20	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,3-Dichloropropane	ND	31	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
2,2-Dichloropropane	ND	24	200		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,1-Dichloropropene	ND	27	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Hexachlorobutadiene	ND	74	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
2-Hexanone	ND	130	1000		µg/L	200	3/20/2017 1:46:00 PM	R41495
Isopropylbenzene	25	20	100	J	µg/L	200	3/20/2017 1:46:00 PM	R41495
4-Isopropyltoluene	ND	28	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
4-Methyl-2-pentanone	ND	140	1000		µg/L	200	3/20/2017 1:46:00 PM	R41495
Methylene Chloride	ND	22	300		µg/L	200	3/20/2017 1:46:00 PM	R41495
n-Butylbenzene	ND	32	300		µg/L	200	3/20/2017 1:46:00 PM	R41495
n-Propylbenzene	44	26	100	J	µg/L	200	3/20/2017 1:46:00 PM	R41495
sec-Butylbenzene	ND	20	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Styrene	ND	31	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
tert-Butylbenzene	ND	21	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,1,1,2-Tetrachloroethane	ND	22	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,1,2,2-Tetrachloroethane	ND	27	200		µg/L	200	3/20/2017 1:46:00 PM	R41495
Tetrachloroethene (PCE)	ND	30	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
trans-1,2-DCE	ND	37	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
trans-1,3-Dichloropropene	ND	18	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2,3-Trichlorobenzene	ND	23	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2,4-Trichlorobenzene	ND	27	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,1,1-Trichloroethane	ND	15	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,1,2-Trichloroethane	ND	28	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Trichloroethene (TCE)	ND	35	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Trichlorofluoromethane	ND	37	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
1,2,3-Trichloropropane	ND	78	200		µg/L	200	3/20/2017 1:46:00 PM	R41495
Vinyl chloride	ND	36	100		µg/L	200	3/20/2017 1:46:00 PM	R41495
Xylenes, Total	3100	65	150		µg/L	200	3/20/2017 1:46:00 PM	R41495
Surr: 1,2-Dichloroethane-d4	94.3	0	70-130		%Rec	200	3/20/2017 1:46:00 PM	R41495
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	200	3/20/2017 1:46:00 PM	R41495
Surr: Dibromofluoromethane	103	0	70-130		%Rec	200	3/20/2017 1:46:00 PM	R41495
Surr: Toluene-d8	104	0	70-130		%Rec	200	3/20/2017 1:46:00 PM	R41495
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	92	1.9	10		mg/L	200	3/21/2017 1:29:07 AM	G41514
Surr: BFB	87.6	0	70-130		%Rec	200	3/21/2017 1:29:07 AM	G41514

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-2
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 12:45:00 PM
Lab ID: 1703928-004
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	3/22/2017 3:55:13 PM	30835
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **MAB**	
Diesel Range Organics (DRO)	2.7	0.36	1.0		mg/L	1	3/20/2017 9:02:03 PM	30758
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	3/20/2017 9:02:03 PM	30758
Surr: DNOP	102	0	98.8-141		%Rec	1	3/20/2017 9:02:03 PM	30758
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	2.7	0.25	0.50		mg/L	5	3/17/2017 3:13:06 PM	R41482
Chloride	400	12	25		mg/L	50	3/30/2017 5:55:32 AM	A41758
Nitrogen, Nitrite (As N)	ND	0.097	0.50		mg/L	5	3/17/2017 3:13:06 PM	R41482
Bromide	4.1	0.15	0.50		mg/L	5	3/17/2017 3:13:06 PM	R41482
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	3/17/2017 3:13:06 PM	R41482
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	3/17/2017 3:13:06 PM	R41482
Sulfate	16	0.48	2.5		mg/L	5	3/17/2017 3:13:06 PM	R41482
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.31	0.00085	0.0020		mg/L	1	3/28/2017 4:14:21 PM	A41722
Cadmium	ND	0.0010	0.0020		mg/L	1	3/28/2017 4:14:21 PM	A41722
Calcium	68	0.50	1.0		mg/L	1	3/28/2017 4:14:21 PM	A41722
Chromium	ND	0.0010	0.0060		mg/L	1	3/28/2017 4:14:21 PM	A41722
Copper	ND	0.0032	0.0060		mg/L	1	3/28/2017 4:14:21 PM	A41722
Iron	0.089	0.020	0.020		mg/L	1	3/28/2017 4:14:21 PM	A41722
Magnesium	12	0.50	1.0		mg/L	1	3/28/2017 4:14:21 PM	A41722
Manganese	0.67	0.00038	0.0020	*	mg/L	1	3/28/2017 4:14:21 PM	A41722
Potassium	2.1	0.50	1.0		mg/L	1	3/28/2017 4:14:21 PM	A41722
Silver	ND	0.00088	0.0050		mg/L	1	3/28/2017 4:14:21 PM	A41722
Sodium	630	5.0	10		mg/L	10	3/28/2017 4:22:33 PM	A41722
Zinc	0.015	0.0011	0.010		mg/L	1	3/28/2017 4:14:21 PM	A41722
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.35	0.00079	0.0020		mg/L	1	3/30/2017 8:16:11 PM	30923
Cadmium	ND	0.0015	0.0020		mg/L	1	3/30/2017 8:16:11 PM	30923
Chromium	ND	0.0027	0.0060		mg/L	1	3/30/2017 8:16:11 PM	30923
Copper	ND	0.0030	0.0060		mg/L	1	3/30/2017 8:16:11 PM	30923
Iron	1.4	0.20	0.20	*	mg/L	10	3/30/2017 8:18:07 PM	30923
Manganese	0.74	0.00027	0.0020	*	mg/L	1	3/30/2017 8:16:11 PM	30923
Silver	ND	0.0015	0.0050		mg/L	1	3/30/2017 8:16:11 PM	30923
Zinc	0.0063	0.0027	0.010	J	mg/L	1	3/30/2017 8:16:11 PM	30923
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0016	0.00018	0.0010		mg/L	1	3/22/2017 8:34:05 PM	D41594

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-2
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 12:45:00 PM
Lab ID: 1703928-004
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00025	0.00017	0.00050	J	mg/L	1	3/22/2017 8:34:05 PM	D41594
Selenium	0.0029	0.00039	0.0010		mg/L	1	3/22/2017 8:34:05 PM	D41594
Uranium	0.024	0.00025	0.0025		mg/L	5	3/22/2017 8:43:20 PM	D41594
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0040	0.0011	0.0050	J	mg/L	5	3/31/2017 12:35:29 PM	30923
Lead	0.0017	0.000081	0.00050		mg/L	1	3/30/2017 7:08:13 PM	30923
Selenium	0.0082	0.0019	0.010	J	mg/L	10	3/31/2017 12:38:29 PM	30923
Uranium	0.024	0.00017	0.00050		mg/L	1	3/30/2017 7:08:13 PM	30923
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.00015	0.00020		mg/L	1	3/30/2017 9:07:19 AM	30964
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Acenaphthylene	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Aniline	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Anthracene	ND	2.5	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Azobenzene	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Benz(a)anthracene	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Benzo(a)pyrene	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Benzo(b)fluoranthene	ND	2.9	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Benzo(g,h,i)perylene	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Benzo(k)fluoranthene	ND	3.0	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Benzoic acid	ND	2.6	20		µg/L	1	3/22/2017 2:51:51 PM	30813
Benzyl alcohol	ND	3.0	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Bis(2-chloroethoxy)methane	ND	2.8	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Bis(2-chloroethyl)ether	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Bis(2-chloroisopropyl)ether	ND	1.9	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Bis(2-ethylhexyl)phthalate	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
4-Bromophenyl phenyl ether	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Butyl benzyl phthalate	ND	2.5	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Carbazole	ND	2.3	10		µg/L	1	3/22/2017 2:51:51 PM	30813
4-Chloro-3-methylphenol	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
4-Chloroaniline	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2-Chloronaphthalene	ND	2.3	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2-Chlorophenol	ND	2.2	10		µg/L	1	3/22/2017 2:51:51 PM	30813
4-Chlorophenyl phenyl ether	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Chrysene	ND	2.8	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Di-n-butyl phthalate	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Di-n-octyl phthalate	3.3	2.0	10	J	µg/L	1	3/22/2017 2:51:51 PM	30813

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Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Dibenzofuran	ND	2.5	10		µg/L	1	3/22/2017 2:51:51 PM	30813
1,2-Dichlorobenzene	ND	2.3	10		µg/L	1	3/22/2017 2:51:51 PM	30813
1,3-Dichlorobenzene	ND	2.3	10		µg/L	1	3/22/2017 2:51:51 PM	30813
1,4-Dichlorobenzene	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
3,3´-Dichlorobenzidine	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Diethyl phthalate	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Dimethyl phthalate	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2,4-Dichlorophenol	ND	2.3	20		µg/L	1	3/22/2017 2:51:51 PM	30813
2,4-Dimethylphenol	11	3.0	10		µg/L	1	3/22/2017 2:51:51 PM	30813
4,6-Dinitro-2-methylphenol	ND	1.8	20		µg/L	1	3/22/2017 2:51:51 PM	30813
2,4-Dinitrophenol	ND	2.8	20		µg/L	1	3/22/2017 2:51:51 PM	30813
2,4-Dinitrotoluene	ND	3.1	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2,6-Dinitrotoluene	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Fluoranthene	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Fluorene	ND	2.7	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Hexachlorobenzene	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Hexachlorobutadiene	ND	2.2	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Hexachlorocyclopentadiene	ND	2.3	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Hexachloroethane	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Indeno(1,2,3-cd)pyrene	ND	3.0	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Isophorone	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
1-Methylnaphthalene	30	2.9	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2-Methylnaphthalene	ND	2.9	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2-Methylphenol	13	2.5	10		µg/L	1	3/22/2017 2:51:51 PM	30813
3+4-Methylphenol	13	2.3	10		µg/L	1	3/22/2017 2:51:51 PM	30813
N-Nitrosodi-n-propylamine	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
N-Nitrosodimethylamine	ND	2.2	10		µg/L	1	3/22/2017 2:51:51 PM	30813
N-Nitrosodiphenylamine	ND	2.3	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Naphthalene	38	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2-Nitroaniline	ND	2.8	10		µg/L	1	3/22/2017 2:51:51 PM	30813
3-Nitroaniline	ND	2.9	10		µg/L	1	3/22/2017 2:51:51 PM	30813
4-Nitroaniline	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Nitrobenzene	ND	2.8	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2-Nitrophenol	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
4-Nitrophenol	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Pentachlorophenol	ND	2.3	20		µg/L	1	3/22/2017 2:51:51 PM	30813
Phenanthrene	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Phenol	16	2.0	10		µg/L	1	3/22/2017 2:51:51 PM	30813

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-2
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 12:45:00 PM
Lab ID: 1703928-004
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	3.1	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Pyridine	ND	2.2	10		µg/L	1	3/22/2017 2:51:51 PM	30813
1,2,4-Trichlorobenzene	ND	2.6	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2,4,5-Trichlorophenol	ND	2.2	10		µg/L	1	3/22/2017 2:51:51 PM	30813
2,4,6-Trichlorophenol	ND	2.4	10		µg/L	1	3/22/2017 2:51:51 PM	30813
Surr: 2-Fluorophenol	61.6	0	15-98.1		%Rec	1	3/22/2017 2:51:51 PM	30813
Surr: Phenol-d5	44.6	0	15-80.7		%Rec	1	3/22/2017 2:51:51 PM	30813
Surr: 2,4,6-Tribromophenol	91.5	0	15-112		%Rec	1	3/22/2017 2:51:51 PM	30813
Surr: Nitrobenzene-d5	84.0	0	27.2-90.7		%Rec	1	3/22/2017 2:51:51 PM	30813
Surr: 2-Fluorobiphenyl	96.6	0	23.3-85.6	S	%Rec	1	3/22/2017 2:51:51 PM	30813
Surr: 4-Terphenyl-d14	70.6	0	27.6-107		%Rec	1	3/22/2017 2:51:51 PM	30813
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4000	9.6	100		µg/L	100	3/20/2017 2:10:00 PM	R41495
Toluene	56	0.89	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Ethylbenzene	510	1.1	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Methyl tert-butyl ether (MTBE)	150	1.5	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2,4-Trimethylbenzene	360	1.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,3,5-Trimethylbenzene	24	1.2	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2-Dichloroethane (EDC)	ND	1.2	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Naphthalene	44	0.83	20		µg/L	10	3/20/2017 2:34:00 PM	R41495
1-Methylnaphthalene	31	1.6	40	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
2-Methylnaphthalene	5.8	1.5	40	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
Acetone	16	8.8	100	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
Bromobenzene	ND	1.4	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Bromodichloromethane	ND	1.8	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Bromoform	ND	2.1	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Bromomethane	ND	7.8	30		µg/L	10	3/20/2017 2:34:00 PM	R41495
2-Butanone	ND	11	100		µg/L	10	3/20/2017 2:34:00 PM	R41495
Carbon disulfide	ND	6.0	100		µg/L	10	3/20/2017 2:34:00 PM	R41495
Carbon Tetrachloride	ND	1.1	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Chlorobenzene	ND	1.1	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Chloroethane	ND	2.3	20		µg/L	10	3/20/2017 2:34:00 PM	R41495
Chloroform	ND	0.89	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Chloromethane	ND	2.1	30		µg/L	10	3/20/2017 2:34:00 PM	R41495
2-Chlorotoluene	ND	4.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
4-Chlorotoluene	ND	4.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
cis-1,2-DCE	24	2.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
cis-1,3-Dichloropropene	ND	1.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-2
Project: 2017 1st QTR GW Monitoring
Collection Date: 3/16/2017 12:45:00 PM
Lab ID: 1703928-004
Matrix: AQUEOUS
Received Date: 3/17/2017 8:20:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	3/20/2017 2:34:00 PM	R41495
Dibromochloromethane	ND	0.78	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Dibromomethane	ND	1.2	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2-Dichlorobenzene	ND	1.2	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,3-Dichlorobenzene	ND	1.4	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Dichlorodifluoromethane	ND	3.2	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,1-Dichloroethane	62	1.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,1-Dichloroethene	26	0.81	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2-Dichloropropane	ND	1.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,3-Dichloropropane	ND	1.6	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
2,2-Dichloropropane	ND	1.2	20		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,1-Dichloropropene	ND	1.3	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Hexachlorobutadiene	ND	3.7	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
2-Hexanone	ND	6.6	100		µg/L	10	3/20/2017 2:34:00 PM	R41495
Isopropylbenzene	33	0.98	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
4-Isopropyltoluene	2.6	1.4	10	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	3/20/2017 2:34:00 PM	R41495
Methylene Chloride	ND	1.1	30		µg/L	10	3/20/2017 2:34:00 PM	R41495
n-Butylbenzene	9.1	1.6	30	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
n-Propylbenzene	96	1.3	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
sec-Butylbenzene	5.2	1.0	10	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
Styrene	ND	1.6	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
tert-Butylbenzene	ND	1.0	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,1,1,2-Tetrachloroethane	ND	1.1	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	3/20/2017 2:34:00 PM	R41495
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
trans-1,2-DCE	ND	1.8	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
trans-1,3-Dichloropropene	ND	0.89	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2,3-Trichlorobenzene	ND	1.1	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2,4-Trichlorobenzene	ND	1.3	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
Trichloroethene (TCE)	4.2	1.8	10	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
Trichlorofluoromethane	ND	1.8	10		µg/L	10	3/20/2017 2:34:00 PM	R41495
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	3/20/2017 2:34:00 PM	R41495
Vinyl chloride	5.1	1.8	10	J	µg/L	10	3/20/2017 2:34:00 PM	R41495
Xylenes, Total	230	3.2	15		µg/L	10	3/20/2017 2:34:00 PM	R41495
Surr: 1,2-Dichloroethane-d4	90.6	0	70-130		%Rec	10	3/20/2017 2:34:00 PM	R41495

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Lab ID: 1703928-004
Matrix: AQUEOUS
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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	10	3/20/2017 2:34:00 PM	R41495
Surr: Dibromofluoromethane	103	0	70-130		%Rec	10	3/20/2017 2:34:00 PM	R41495
Surr: Toluene-d8	105	0	70-130		%Rec	10	3/20/2017 2:34:00 PM	R41495
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	14	0.048	0.25		mg/L	5	3/21/2017 1:57:38 AM	G41514
Surr: BFB	92.1	0	70-130		%Rec	5	3/21/2017 1:57:38 AM	G41514

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309368** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0024	0.0020	0.002000	0	121	50	150			
Cadmium	0.0019	0.0020	0.002000	0	97.0	50	150			J
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0064	0.0060	0.006000	0	108	50	150			
Copper	0.0066	0.0060	0.006000	0	110	50	150			
Iron	0.025	0.020	0.02000	0	126	50	150			
Magnesium	0.55	1.0	0.5000	0	109	50	150			J
Manganese	0.0020	0.0020	0.002000	0	100	50	150			
Potassium	0.53	1.0	0.5000	0	106	50	150			J
Silver	0.0051	0.0050	0.005000	0	101	50	150			
Sodium	0.56	1.0	0.5000	0	112	50	150			J
Zinc	0.0052	0.010	0.005000	0	103	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309370** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.53	0.0020	0.5000	0	106	85	115			
Cadmium	0.53	0.0020	0.5000	0	107	85	115			
Calcium	53	1.0	50.00	0	106	85	115			
Chromium	0.53	0.0060	0.5000	0	106	85	115			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41722**	RunNo: **41722**
Prep Date:	Analysis Date: **3/28/2017**	SeqNo: **1309370** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.52	0.0060	0.5000	0	103	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	54	1.0	50.00	0	107	85	115			
Manganese	0.51	0.0020	0.5000	0	103	85	115			
Potassium	52	1.0	50.00	0	104	85	115			
Silver	0.11	0.0050	0.1000	0	106	85	115			
Sodium	53	1.0	50.00	0	106	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **MB-30923**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **30923**	RunNo: **41722**
Prep Date: **3/27/2017**	Analysis Date: **3/28/2017**	SeqNo: **1309415** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0010	0.0020								J
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-30923**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **30923**	RunNo: **41722**
Prep Date: **3/27/2017**	Analysis Date: **3/28/2017**	SeqNo: **1309416** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0026	0.0020	0.002000	0	128	50	150			
Cadmium	0.0020	0.0020	0.002000	0	98.0	50	150			J
Chromium	0.0064	0.0060	0.006000	0	106	50	150			
Copper	0.0070	0.0060	0.006000	0	116	50	150			
Iron	0.026	0.020	0.02000	0	130	50	150			
Manganese	0.0020	0.0020	0.002000	0	99.0	50	150			J
Silver	0.0050	0.0050	0.005000	0	99.2	50	150			J
Zinc	0.0060	0.010	0.005000	0	120	50	150			J

Sample ID **LCS-30923**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **30923**	RunNo: **41722**
Prep Date: **3/27/2017**	Analysis Date: **3/28/2017**	SeqNo: **1309420** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.4	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.1	85	115			
Chromium	0.47	0.0060	0.5000	0	93.6	85	115			
Copper	0.46	0.0060	0.5000	0	92.2	85	115			
Iron	0.46	0.020	0.5000	0	92.2	85	115			
Manganese	0.46	0.0020	0.5000	0	91.4	85	115			
Silver	0.088	0.0050	0.1000	0	88.0	85	115			
Zinc	0.46	0.010	0.5000	0	92.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304863** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Lead	0.012	0.00050	0.01250	0	96.2	85	115			
Selenium	0.025	0.0010	0.02500	0	99.9	85	115			
Uranium	0.012	0.00050	0.01250	0	94.8	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304865** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00090	0.0010	0.001000	0	90.2	50	150			J
Lead	0.00050	0.00050	0.0005000	0	99.0	50	150			J
Selenium	0.00079	0.0010	0.001000	0	79.5	50	150			J
Uranium	0.00044	0.00050	0.0005000	0	88.9	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D41594**	RunNo: **41594**
Prep Date:	Analysis Date: **3/22/2017**	SeqNo: **1304867** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID	**MB-30923**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**30923**	RunNo:	**41772**					
Prep Date:	**3/27/2017**	Analysis Date:	**3/30/2017**	SeqNo:	**1312134**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-30923**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**30923**	RunNo:	**41772**					
Prep Date:	**3/27/2017**	Analysis Date:	**3/30/2017**	SeqNo:	**1312136**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.012	0.00050	0.01250	0	98.5	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			
Uranium	0.012	0.00050	0.01250	0	98.2	85	115			

Sample ID	**MSLCSLL-30923**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**30923**	RunNo:	**41772**					
Prep Date:	**3/27/2017**	Analysis Date:	**3/30/2017**	SeqNo:	**1312138**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00095	0.0010	0.001000	0	94.7	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.2	50	150			J
Selenium	0.0011	0.0010	0.001000	0	107	50	150			
Uranium	0.00048	0.00050	0.0005000	0	96.8	50	150			J

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**
06-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR GW Monitoring

Sample ID	**MB-30964**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**30964**	RunNo:	**41761**					
Prep Date:	**3/29/2017**	Analysis Date:	**3/30/2017**	SeqNo:	**1311075**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-30964**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**30964**	RunNo:	**41761**					
Prep Date:	**3/29/2017**	Analysis Date:	**3/30/2017**	SeqNo:	**1311076**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.6	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**
06-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR GW Monitoring

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41482**	RunNo: **41482**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300418** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R41482**	RunNo: **41482**
Prep Date:	Analysis Date: **3/17/2017**	SeqNo: **1300419** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	97.8	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.0	90	110			
Bromide	2.3	0.10	2.500	0	91.9	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	94.3	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.1	90	110			
Sulfate	9.2	0.50	10.00	0	91.7	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41758**	RunNo: **41758**
Prep Date:	Analysis Date: **3/29/2017**	SeqNo: **1310937** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41758**	RunNo: **41758**
Prep Date:	Analysis Date: **3/29/2017**	SeqNo: **1310938** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.3	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID	**MB-30835**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**30835**	RunNo:	**41589**					
Prep Date:	**3/22/2017**	Analysis Date:	**3/22/2017**	SeqNo:	**1304530**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-30835**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**30835**	RunNo:	**41589**					
Prep Date:	**3/22/2017**	Analysis Date:	**3/22/2017**	SeqNo:	**1304531**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	104	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **LCS-30758**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **30758**	RunNo: **41506**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1302199** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.4	1.0	5.000	0	109	82.8	146			
Surr: DNOP	0.50		0.5000		101	98.8	141			

Sample ID **MB-30758**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **30758**	RunNo: **41506**
Prep Date: **3/17/2017**	Analysis Date: **3/20/2017**	SeqNo: **1302200** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.0		1.000		104	98.8	141			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R41495**	RunNo: **41495**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301832** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.1	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	107	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	97.6	70	130			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41495**	RunNo: **41495**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301837** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41495**	RunNo: **41495**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301837** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R41495**	RunNo: **41495**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301837** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **1703928-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **RW-5**	Batch ID: **R41495**	RunNo: **41495**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	720	5.0	100.0	636.4	84.0	70	130			E
Toluene	100	5.0	100.0	0	105	70	130			
Chlorobenzene	110	5.0	100.0	0	106	70	130			
1,1-Dichloroethene	110	5.0	100.0	0	110	70	130			
Trichloroethene (TCE)	100	5.0	100.0	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	45		50.00		89.8	70	130			
Surr: 4-Bromofluorobenzene	54		50.00		109	70	130			
Surr: Dibromofluoromethane	50		50.00		101	70	130			
Surr: Toluene-d8	51		50.00		103	70	130			

Sample ID **1703928-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **RW-5**	Batch ID: **R41495**	RunNo: **41495**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301875** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	700	5.0	100.0	636.4	61.3	70	130	3.20	20	ES
Toluene	100	5.0	100.0	0	104	70	130	0.373	20	
Chlorobenzene	110	5.0	100.0	0	105	70	130	0.171	20	
1,1-Dichloroethene	100	5.0	100.0	0	104	70	130	5.05	20	
Trichloroethene (TCE)	98	5.0	100.0	0	98.2	70	130	3.40	20	
Surr: 1,2-Dichloroethane-d4	44		50.00		88.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	52		50.00		103	70	130	0	0	
Surr: Dibromofluoromethane	50		50.00		99.8	70	130	0	0	
Surr: Toluene-d8	53		50.00		105	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **lcs-30813**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **30813**	RunNo: **41587**
Prep Date: **3/21/2017**	Analysis Date: **3/22/2017**	SeqNo: **1304472** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	91	10	100.0	0	91.2	42.9	100			
4-Chloro-3-methylphenol	170	10	200.0	0	87.4	36.2	110			
2-Chlorophenol	180	10	200.0	0	88.4	33.4	97.8			
1,4-Dichlorobenzene	75	10	100.0	0	74.9	32.8	79.3			
2,4-Dinitrotoluene	67	10	100.0	0	66.5	34.9	107			
N-Nitrosodi-n-propylamine	91	10	100.0	0	90.9	30.7	111			
4-Nitrophenol	89	10	200.0	0	44.5	15	91.9			
Pentachlorophenol	130	20	200.0	0	66.7	33.3	93.5			
Phenol	96	10	200.0	0	48.2	20.9	86.4			
Pyrene	81	10	100.0	0	81.0	45.6	111			
1,2,4-Trichlorobenzene	78	10	100.0	0	78.4	38.7	88.2			
Surr: 2-Fluorophenol	130		200.0		63.0	15	98.1			
Surr: Phenol-d5	92		200.0		46.1	15	80.7			
Surr: 2,4,6-Tribromophenol	170		200.0		83.3	15	112			
Surr: Nitrobenzene-d5	84		100.0		84.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	85		100.0		85.1	23.3	85.6			
Surr: 4-Terphenyl-d14	70		100.0		69.6	27.6	107			

Sample ID **lcsd-30813**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30813**	RunNo: **41587**
Prep Date: **3/21/2017**	Analysis Date: **3/22/2017**	SeqNo: **1304474** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	86	10	100.0	0	85.5	42.9	100	6.36	37.4	
4-Chloro-3-methylphenol	170	10	200.0	0	87.2	36.2	110	0.252	26.8	
2-Chlorophenol	160	10	200.0	0	82.0	33.4	97.8	7.55	30.3	
1,4-Dichlorobenzene	70	10	100.0	0	69.7	32.8	79.3	7.25	32	
2,4-Dinitrotoluene	74	10	100.0	0	73.9	34.9	107	10.5	36.7	
N-Nitrosodi-n-propylamine	82	10	100.0	0	82.1	30.7	111	10.2	29.9	
4-Nitrophenol	89	10	200.0	0	44.7	15	91.9	0.314	28.8	
Pentachlorophenol	130	20	200.0	0	66.7	33.3	93.5	0	38.2	
Phenol	87	10	200.0	0	43.5	20.9	86.4	10.2	39.8	
Pyrene	83	10	100.0	0	83.0	45.6	111	2.46	28.3	
1,2,4-Trichlorobenzene	77	10	100.0	0	77.4	38.7	88.2	1.31	39.8	
Surr: 2-Fluorophenol	110		200.0		57.1	15	98.1	0	0	
Surr: Phenol-d5	84		200.0		42.1	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		80.0	15	112	0	0	
Surr: Nitrobenzene-d5	81		100.0		81.2	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	83		100.0		82.8	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**
06-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR GW Monitoring

Sample ID **lcsd-30813**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **30813**	RunNo: **41587**
Prep Date: **3/21/2017**	Analysis Date: **3/22/2017**	SeqNo: **1304474** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	67		100.0		67.1	27.6	107	0	0	

Sample ID **mb-30813**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30813**	RunNo: **41587**
Prep Date: **3/21/2017**	Analysis Date: **3/22/2017**	SeqNo: **1304476** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.3	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	3.7	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**
06-Apr-17

Client: Western Refining Southwest, Gallup
Project: 2017 1st QTR GW Monitoring

Sample ID **mb-30813**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30813**	RunNo: **41587**
Prep Date: **3/21/2017**	Analysis Date: **3/22/2017**	SeqNo: **1304476** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	2.9	10								J
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **mb-30813**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **30813**	RunNo: **41587**
Prep Date: **3/21/2017**	Analysis Date: **3/22/2017**	SeqNo: **1304476** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	140		200.0		70.4	15	98.1			
Surr: Phenol-d5	99		200.0		49.4	15	80.7			
Surr: 2,4,6-Tribromophenol	210		200.0		103	15	112			
Surr: Nitrobenzene-d5	98		100.0		98.3	27.2	90.7			S
Surr: 2-Fluorobiphenyl	99		100.0		99.4	23.3	85.6			S
Surr: 4-Terphenyl-d14	85		100.0		84.7	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703928**

06-Apr-17

Client: Western Refining Southwest, Gallup

Project: 2017 1st QTR GW Monitoring

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G41514**	RunNo: **41514**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301907** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.1		10.00		91.5	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G41514**	RunNo: **41514**
Prep Date:	Analysis Date: **3/20/2017**	SeqNo: **1301908** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	102	75.9	120			
Surr: BFB	9.0		10.00		90.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1703928** RcptNo: **1**

Received by/date: 3/17/17

Logged By: **Lindsay Mangin** 3/17/2017 8:20:00 AM

Completed By: **Lindsay Mangin** 3/17/2017 8:22:47 AM

Reviewed By: AJ 03/17/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 3 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SPC

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client:	Western Refining Company
	GALLUP REFINERY
Mailing Address:	92 Giant Crossing Road, Gallup, NM 87301
Phone #:	505-722-3833
email or Fax#:	505-863-0930
QA/QC Package:	☐ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other ☐ EDD (Type)

Turn-Around Time:	Standard X Rush
Project Name:	2017 1ST QTR GW MONITORING
Project #:	
Project Manager:	C. JOHNSON (cheryl.johnson@wnr.com)
Sampler:	
On Ice:	☑ Yes ☐ No
Sample Temperature:	1.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703978	8260B	8015D (DRO/GRO/MRO)	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	Cyanide	8021 8011 EDB								Air Bubbles (Y or N)
3/16/2017	1028	AQUEOUS	RW-5	MISC	MISC	-001	X	X														
3/16/2017	1035	AQUEOUS	RW-6	MISC	MISC	-002	X	X														
3/16/2017	1112	AQUEOUS	RW-2	MISC	MISC	-003	X	X														
3/16/2017	1245	AQUEOUS	MKTF-2	MISC	MISC	-004	X	X	X	X	X	X		X								

Date: 3/16/2017	Time: 1510	Relinquished by:	Received by:	Date: 3/17/17	Time: 1511
Date: 3/17/17	Time: 820	Relinquished by:	Received by:	Date: 03/17/17	Time: 0820

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 27, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 2nd QTR GW OrderNo.: 1706127

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 6/2/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: **1706127**
Date: **6/27/2017**

CLIENT: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Analytical Comments Regarding BOD:
The method blank(s) had a DO depletion >0.2mg/L.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 7:00:00 AM
Lab ID: 1706127-001 **Matrix:** AQUEOUS **Received Date:** 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Toluene	ND	0.064	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Ethylbenzene	0.17	0.093	1.0	J	µg/L	1	6/8/2017 6:50:00 PM	R43347
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2,4-Trimethylbenzene	0.13	0.11	1.0	J	µg/L	1	6/8/2017 6:50:00 PM	R43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Acetone	2.6	0.82	10	J	µg/L	1	6/8/2017 6:50:00 PM	R43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Bromodichloromethane	16	0.18	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Bromoform	0.71	0.21	1.0	J	µg/L	1	6/8/2017 6:50:00 PM	R43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
2-Butanone	2.1	1.1	10	J	µg/L	1	6/8/2017 6:50:00 PM	R43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/8/2017 6:50:00 PM	R43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Chloroform	30	0.40	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Dibromochloromethane	7.3	0.072	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/8/2017 6:50:00 PM	R43347

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 7:00:00 AM
Lab ID: 1706127-001
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
2-Hexanone	ND	0.66	10		µg/L	1	6/8/2017 6:50:00 PM	R43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/8/2017 6:50:00 PM	R43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Styrene	ND	0.16	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/8/2017 6:50:00 PM	R43347
Xylenes, Total	0.83	0.32	1.5	J	µg/L	1	6/8/2017 6:50:00 PM	R43347
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	6/8/2017 6:50:00 PM	R43347
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	6/8/2017 6:50:00 PM	R43347
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/8/2017 6:50:00 PM	R43347
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	6/8/2017 6:50:00 PM	R43347

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 8:54:00 AM
Lab ID: 1706127-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	9.3	0.36	1.0		mg/L	1	6/6/2017 1:14:09 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 1:14:09 PM	32115
Surr: DNOP	116	0	72.4-157		%Rec	1	6/6/2017 1:14:09 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	1.3	0.12	0.25		mg/L	5	6/6/2017 12:44:07 PM	R43288
Surr: BFB	144	0	52.3-138	S	%Rec	5	6/6/2017 12:44:07 PM	R43288
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.3	0.22	0.50		mg/L	5	6/6/2017 11:48:43 PM	R43284
Chloride	1500	50	100		mg/L	200	6/15/2017 8:44:20 PM	R43563
Bromide	4.6	0.073	0.50		mg/L	5	6/6/2017 11:48:43 PM	R43284
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/6/2017 11:48:43 PM	R43284
Sulfate	9.4	0.48	2.5		mg/L	5	6/6/2017 11:48:43 PM	R43284
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/7/2017 3:56:58 AM	R43284
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.92	0.00085	0.0020		mg/L	1	6/7/2017 2:59:38 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 2:59:38 PM	A43320
Calcium	160	0.78	10		mg/L	10	6/7/2017 3:01:24 PM	A43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 2:59:38 PM	A43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 2:59:38 PM	A43320
Iron	6.4	0.33	0.40	*	mg/L	20	6/7/2017 7:06:08 PM	E43320
Magnesium	31	0.25	1.0		mg/L	1	6/7/2017 2:59:38 PM	A43320
Manganese	1.7	0.0038	0.020	*	mg/L	10	6/7/2017 3:01:24 PM	A43320
Potassium	3.3	0.11	1.0		mg/L	1	6/7/2017 2:59:38 PM	A43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 2:59:38 PM	A43320
Sodium	1300	3.3	20		mg/L	20	6/7/2017 7:06:08 PM	E43320
Zinc	0.014	0.0011	0.010		mg/L	1	6/7/2017 2:59:38 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.99	0.00093	0.0020		mg/L	1	6/13/2017 3:42:52 PM	32236
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 3:42:52 PM	32236
Chromium	0.0057	0.0011	0.0060	J	mg/L	1	6/13/2017 3:42:52 PM	32236
Copper	0.013	0.0017	0.0060		mg/L	1	6/14/2017 12:28:00 PM	32236
Iron	8.8	0.10	0.20	*	mg/L	10	6/13/2017 3:44:42 PM	32236
Manganese	2.1	0.011	0.020	*	mg/L	10	6/13/2017 3:44:42 PM	32236
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 3:42:52 PM	32236
Zinc	0.039	0.0028	0.010		mg/L	1	6/16/2017 8:32:03 PM	32327
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.011	0.0035	0.020	J*	mg/L	20	6/15/2017 5:59:59 PM	A43553

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 8:54:00 AM
Lab ID: 1706127-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	6/15/2017 5:53:53 PM	A43553
Selenium	0.016	0.0077	0.020	J	mg/L	20	6/15/2017 5:59:59 PM	A43553
Uranium	0.013	0.00025	0.0025		mg/L	5	6/15/2017 5:53:53 PM	A43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.012	0.0015	0.0050	*	mg/L	5	6/16/2017 9:41:23 AM	32236
Lead	0.011	0.000095	0.00050		mg/L	1	6/14/2017 9:45:43 AM	32236
Selenium	0.015	0.0036	0.0050		mg/L	5	6/16/2017 9:41:23 AM	32236
Uranium	0.014	0.00077	0.0025		mg/L	5	6/16/2017 9:41:23 AM	32236
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 1:52:47 PM	32299
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Acenaphthylene	ND	3.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Aniline	ND	3.1	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Anthracene	ND	3.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Azobenzene	ND	4.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Benzoic acid	6.9	3.9	20	J	µg/L	1	6/8/2017 7:14:24 PM	32109
Benzyl alcohol	ND	4.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Bis(2-ethylhexyl)phthalate	10	4.8	10		µg/L	1	6/8/2017 7:14:24 PM	32109
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Carbazole	ND	4.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
4-Chloroaniline	ND	3.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2-Chlorophenol	ND	7.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Chrysene	ND	3.8	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/8/2017 7:14:24 PM	32109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 8:54:00 AM
Lab ID: 1706127-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Dibenzofuran	ND	4.1	10		µg/L	1	6/8/2017 7:14:24 PM	32109
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/8/2017 7:14:24 PM	32109
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 7:14:24 PM	32109
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Diethyl phthalate	ND	4.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/8/2017 7:14:24 PM	32109
2,4-Dimethylphenol	7.3	2.8	10	J	µg/L	1	6/8/2017 7:14:24 PM	32109
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/8/2017 7:14:24 PM	32109
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/8/2017 7:14:24 PM	32109
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Fluoranthene	ND	4.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Fluorene	ND	4.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Hexachloroethane	ND	1.2	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Isophorone	ND	4.4	10		µg/L	1	6/8/2017 7:14:24 PM	32109
1-Methylnaphthalene	5.3	3.3	10	J	µg/L	1	6/8/2017 7:14:24 PM	32109
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2-Methylphenol	ND	3.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/8/2017 7:14:24 PM	32109
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Naphthalene	ND	2.9	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2-Nitroaniline	ND	4.9	10		µg/L	1	6/8/2017 7:14:24 PM	32109
3-Nitroaniline	ND	4.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
4-Nitroaniline	ND	4.0	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Nitrobenzene	ND	3.6	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2-Nitrophenol	ND	5.2	10		µg/L	1	6/8/2017 7:14:24 PM	32109
4-Nitrophenol	ND	5.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Pentachlorophenol	ND	4.9	20		µg/L	1	6/8/2017 7:14:24 PM	32109
Phenanthrene	ND	4.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Phenol	ND	3.1	10		µg/L	1	6/8/2017 7:14:24 PM	32109

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 8:54:00 AM
Lab ID: 1706127-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Pyridine	ND	2.3	10		µg/L	1	6/8/2017 7:14:24 PM	32109
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/8/2017 7:14:24 PM	32109
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/8/2017 7:14:24 PM	32109
Surr: 2-Fluorophenol	30.0	0	15-98.1		%Rec	1	6/8/2017 7:14:24 PM	32109
Surr: Phenol-d5	23.6	0	15-80.7		%Rec	1	6/8/2017 7:14:24 PM	32109
Surr: 2,4,6-Tribromophenol	58.4	0	15-112		%Rec	1	6/8/2017 7:14:24 PM	32109
Surr: Nitrobenzene-d5	48.1	0	27.2-90.7		%Rec	1	6/8/2017 7:14:24 PM	32109
Surr: 2-Fluorobiphenyl	45.6	0	23.3-85.6		%Rec	1	6/8/2017 7:14:24 PM	32109
Surr: 4-Terphenyl-d14	46.0	0	27.6-107		%Rec	1	6/8/2017 7:14:24 PM	32109
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	200	0.31	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Toluene	1.9	0.32	5.0	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
Ethylbenzene	26	0.47	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Methyl tert-butyl ether (MTBE)	250	1.2	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2,4-Trimethylbenzene	20	0.56	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,3,5-Trimethylbenzene	ND	0.44	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2-Dichloroethane (EDC)	ND	2.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2-Dibromoethane (EDB)	ND	0.65	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Naphthalene	7.0	0.57	10	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
1-Methylnaphthalene	67	0.80	20	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
2-Methylnaphthalene	ND	0.76	20	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Acetone	ND	4.1	50	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Bromobenzene	ND	0.70	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Bromodichloromethane	ND	0.88	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Bromoform	ND	1.1	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Bromomethane	ND	1.3	15	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
2-Butanone	ND	5.7	50	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Carbon disulfide	ND	2.0	50	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Carbon Tetrachloride	ND	0.55	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Chlorobenzene	ND	0.53	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Chloroethane	ND	1.2	10	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Chloroform	ND	2.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Chloromethane	ND	1.5	15	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
2-Chlorotoluene	ND	2.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
4-Chlorotoluene	ND	2.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
cis-1,2-DCE	ND	1.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
cis-1,3-Dichloropropene	ND	0.41	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 8:54:00 AM
Lab ID: 1706127-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	6.9	10	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Dibromochloromethane	ND	0.36	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Dibromomethane	ND	0.45	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2-Dichlorobenzene	ND	0.45	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,3-Dichlorobenzene	ND	0.76	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,4-Dichlorobenzene	ND	2.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Dichlorodifluoromethane	ND	5.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,1-Dichloroethane	2.2	2.0	5.0	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,1-Dichloroethene	ND	0.40	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2-Dichloropropane	ND	0.51	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,3-Dichloropropane	ND	0.84	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
2,2-Dichloropropane	ND	0.79	10	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,1-Dichloropropene	ND	0.46	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Hexachlorobutadiene	ND	4.0	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
2-Hexanone	ND	3.3	50	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Isopropylbenzene	3.0	0.26	5.0	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
4-Isopropyltoluene	0.59	0.48	5.0	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
4-Methyl-2-pentanone	ND	3.5	50	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Methylene Chloride	0.92	0.54	15	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
n-Butylbenzene	ND	0.65	15	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
n-Propylbenzene	4.1	0.37	5.0	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
sec-Butylbenzene	2.6	0.55	5.0	JD	µg/L	5	6/6/2017 11:07:10 AM	A43303
Styrene	ND	0.78	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
tert-Butylbenzene	ND	0.52	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,1,1,2-Tetrachloroethane	ND	0.52	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,1,2,2-Tetrachloroethane	ND	0.68	10	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Tetrachloroethene (PCE)	ND	0.65	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
trans-1,2-DCE	ND	0.92	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
trans-1,3-Dichloropropene	ND	1.1	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2,3-Trichlorobenzene	ND	0.59	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2,4-Trichlorobenzene	ND	0.71	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,1,1-Trichloroethane	ND	0.36	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,1,2-Trichloroethane	ND	0.70	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Trichloroethene (TCE)	ND	0.56	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Trichlorofluoromethane	ND	0.91	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
1,2,3-Trichloropropane	ND	1.9	10	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Vinyl chloride	ND	0.89	5.0	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Xylenes, Total	9.6	1.6	7.5	D	µg/L	5	6/6/2017 11:07:10 AM	A43303
Surr: 1,2-Dichloroethane-d4	98.7	0	70-130	D	%Rec	5	6/6/2017 11:07:10 AM	A43303

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 8:54:00 AM
Lab ID: 1706127-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	92.6	0	70-130	D	%Rec	5	6/6/2017 11:07:10 AM	A43303
Surr: Dibromofluoromethane	95.8	0	70-130	D	%Rec	5	6/6/2017 11:07:10 AM	A43303
Surr: Toluene-d8	102	0	70-130	D	%Rec	5	6/6/2017 11:07:10 AM	A43303

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 12:45:00 PM
Lab ID: 1706127-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.2	0.36	1.0		mg/L	1	6/6/2017 2:20:27 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 2:20:27 PM	32115
Surr: DNOP	117	0	72.4-157		%Rec	1	6/6/2017 2:20:27 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.53	0.025	0.050		mg/L	1	6/6/2017 11:33:03 AM	R43288
Surr: BFB	180	0	52.3-138	S	%Rec	1	6/6/2017 11:33:03 AM	R43288
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.5	0.044	0.10		mg/L	1	6/7/2017 12:13:32 AM	R43284
Chloride	260	5.0	10		mg/L	20	6/7/2017 12:25:56 AM	R43284
Bromide	1.0	0.014	0.10		mg/L	1	6/7/2017 12:13:32 AM	R43284
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/7/2017 12:13:32 AM	R43284
Sulfate	6.5	0.096	0.50		mg/L	1	6/7/2017 12:13:32 AM	R43284
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/7/2017 4:09:23 AM	R43284
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.9	0.0085	0.020		mg/L	10	6/7/2017 3:05:20 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:03:26 PM	A43320
Calcium	76	1.6	20		mg/L	20	6/7/2017 7:08:02 PM	E43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 3:03:26 PM	A43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 3:03:26 PM	A43320
Iron	0.52	0.082	0.10	*	mg/L	5	6/13/2017 7:12:29 PM	B43471
Magnesium	15	1.2	5.0		mg/L	5	6/13/2017 7:12:29 PM	B43471
Manganese	0.86	0.00038	0.0020	*	mg/L	1	6/7/2017 3:03:26 PM	A43320
Potassium	0.57	0.56	5.0	J	mg/L	5	6/13/2017 7:12:29 PM	B43471
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 3:03:26 PM	A43320
Sodium	370	3.3	20		mg/L	20	6/7/2017 7:08:02 PM	E43320
Zinc	0.018	0.0011	0.010		mg/L	1	6/7/2017 3:03:26 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.1	0.0093	0.020	*	mg/L	10	6/13/2017 3:48:20 PM	32236
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 3:46:42 PM	32236
Chromium	0.0032	0.0011	0.0060	J	mg/L	1	6/13/2017 3:46:42 PM	32236
Copper	0.0079	0.0017	0.0060		mg/L	1	6/14/2017 12:29:48 PM	32236
Iron	4.8	0.10	0.20	*	mg/L	10	6/13/2017 3:48:20 PM	32236
Manganese	0.98	0.0011	0.0020	*	mg/L	1	6/13/2017 3:46:42 PM	32236
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 3:46:42 PM	32236
Zinc	0.013	0.0028	0.010		mg/L	1	6/16/2017 8:33:52 PM	32327
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0035	0.00018	0.0010		mg/L	1	6/14/2017 6:47:00 PM	B43513

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Client Sample ID: NAPIS-2
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 12:45:00 PM
Lab ID: 1706127-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00021	0.00017	0.00050	J	mg/L	1	6/14/2017 6:47:00 PM	B43513
Selenium	ND	0.0039	0.010		mg/L	10	6/15/2017 6:12:16 PM	A43553
Uranium	0.00070	0.000050	0.00050		mg/L	1	6/15/2017 6:09:13 PM	A43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0050	0.00030	0.0010		mg/L	1	6/16/2017 9:53:28 AM	32236
Lead	0.0029	0.000095	0.00050		mg/L	1	6/14/2017 9:56:00 AM	32236
Selenium	0.0024	0.00071	0.0010		mg/L	1	6/16/2017 9:53:28 AM	32236
Uranium	0.00066	0.00015	0.00050		mg/L	1	6/16/2017 9:53:28 AM	32236
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 1:54:40 PM	32299
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Acenaphthylene	ND	3.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Aniline	ND	3.1	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Anthracene	ND	3.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Azobenzene	ND	4.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Benzoic acid	8.2	3.9	20	J	µg/L	1	6/8/2017 7:42:27 PM	32109
Benzyl alcohol	ND	4.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Bis(2-ethylhexyl)phthalate	6.7	4.8	10	J	µg/L	1	6/8/2017 7:42:27 PM	32109
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Carbazole	ND	4.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
4-Chloroaniline	ND	3.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2-Chlorophenol	ND	7.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Chrysene	ND	3.8	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Di-n-octyl phthalate	4.9	4.7	10	J	µg/L	1	6/8/2017 7:42:27 PM	32109

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Lab ID: 1706127-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Dibenzofuran	ND	4.1	10		µg/L	1	6/8/2017 7:42:27 PM	32109
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/8/2017 7:42:27 PM	32109
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 7:42:27 PM	32109
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Diethyl phthalate	ND	4.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/8/2017 7:42:27 PM	32109
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/8/2017 7:42:27 PM	32109
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/8/2017 7:42:27 PM	32109
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/8/2017 7:42:27 PM	32109
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Fluoranthene	ND	4.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Fluorene	ND	4.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Hexachloroethane	ND	1.2	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Isophorone	ND	4.4	10		µg/L	1	6/8/2017 7:42:27 PM	32109
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2-Methylphenol	ND	3.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/8/2017 7:42:27 PM	32109
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Naphthalene	3.3	2.9	10	J	µg/L	1	6/8/2017 7:42:27 PM	32109
2-Nitroaniline	ND	4.9	10		µg/L	1	6/8/2017 7:42:27 PM	32109
3-Nitroaniline	ND	4.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
4-Nitroaniline	ND	4.0	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Nitrobenzene	ND	3.6	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2-Nitrophenol	ND	5.2	10		µg/L	1	6/8/2017 7:42:27 PM	32109
4-Nitrophenol	ND	5.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Pentachlorophenol	ND	4.9	20		µg/L	1	6/8/2017 7:42:27 PM	32109
Phenanthrene	ND	4.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Phenol	ND	3.1	10		µg/L	1	6/8/2017 7:42:27 PM	32109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 12:45:00 PM
Lab ID: 1706127-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Pyridine	ND	2.3	10		µg/L	1	6/8/2017 7:42:27 PM	32109
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/8/2017 7:42:27 PM	32109
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/8/2017 7:42:27 PM	32109
Surr: 2-Fluorophenol	38.5	0	15-98.1		%Rec	1	6/8/2017 7:42:27 PM	32109
Surr: Phenol-d5	28.1	0	15-80.7		%Rec	1	6/8/2017 7:42:27 PM	32109
Surr: 2,4,6-Tribromophenol	62.8	0	15-112		%Rec	1	6/8/2017 7:42:27 PM	32109
Surr: Nitrobenzene-d5	63.7	0	27.2-90.7		%Rec	1	6/8/2017 7:42:27 PM	32109
Surr: 2-Fluorobiphenyl	62.4	0	23.3-85.6		%Rec	1	6/8/2017 7:42:27 PM	32109
Surr: 4-Terphenyl-d14	51.3	0	27.6-107		%Rec	1	6/8/2017 7:42:27 PM	32109
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	35	0.062	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Toluene	0.25	0.064	1.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
Ethylbenzene	16	0.093	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Methyl tert-butyl ether (MTBE)	140	0.24	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Naphthalene	1.8	0.11	2.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
1-Methylnaphthalene	1.3	0.16	4.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
2-Methylnaphthalene	0.23	0.15	4.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
Acetone	ND	0.82	10		µg/L	1	6/6/2017 1:58:09 AM	W43271
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 1:58:09 AM	W43271
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 1:58:09 AM	W43271
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 12:45:00 PM
Lab ID: 1706127-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,1-Dichloroethane	0.46	0.40	1.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
1,1-Dichloroethene	0.22	0.081	1.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 1:58:09 AM	W43271
Isopropylbenzene	2.1	0.051	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 1:58:09 AM	W43271
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
n-Butylbenzene	0.14	0.13	3.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
n-Propylbenzene	1.2	0.074	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
sec-Butylbenzene	0.98	0.11	1.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
tert-Butylbenzene	0.20	0.10	1.0	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 1:58:09 AM	W43271
Xylenes, Total	0.71	0.32	1.5	J	µg/L	1	6/6/2017 1:58:09 AM	W43271
Surr: 1,2-Dichloroethane-d4	99.4	0	70-130		%Rec	1	6/6/2017 1:58:09 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 12:45:00 PM
Lab ID: 1706127-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	97.1	0	70-130		%Rec	1	6/6/2017 1:58:09 AM	W43271
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	6/6/2017 1:58:09 AM	W43271
Surr: Toluene-d8	99.3	0	70-130		%Rec	1	6/6/2017 1:58:09 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 1:00:00 PM
Lab ID: 1706127-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/6/2017 2:42:57 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 2:42:57 PM	32115
Surr: DNOP	121	0	72.4-157		%Rec	1	6/6/2017 2:42:57 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.068	0.025	0.050		mg/L	1	6/6/2017 11:56:41 AM	R43288
Surr: BFB	120	0	52.3-138		%Rec	1	6/6/2017 11:56:41 AM	R43288
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.66	0.044	0.10		mg/L	1	6/7/2017 12:38:21 AM	R43284
Chloride	220	5.0	10		mg/L	20	6/7/2017 12:50:45 AM	R43284
Bromide	1.3	0.014	0.10		mg/L	1	6/7/2017 12:38:21 AM	R43284
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/7/2017 12:38:21 AM	R43284
Sulfate	41	0.096	0.50		mg/L	1	6/7/2017 12:38:21 AM	R43284
Nitrate+Nitrite as N	0.34	0.13	1.0	J	mg/L	5	6/7/2017 4:21:48 AM	R43284
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.75	0.00085	0.0020		mg/L	1	6/7/2017 3:07:14 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:07:14 PM	A43320
Calcium	92	0.078	1.0		mg/L	1	6/8/2017 6:10:29 PM	A43373
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 3:07:14 PM	A43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 3:07:14 PM	A43320
Iron	0.056	0.016	0.020		mg/L	1	6/8/2017 6:10:29 PM	A43373
Magnesium	15	0.25	1.0		mg/L	1	6/8/2017 6:10:29 PM	A43373
Manganese	1.1	0.0038	0.020	*	mg/L	10	6/7/2017 3:15:27 PM	A43320
Potassium	0.34	0.11	1.0	J	mg/L	1	6/8/2017 6:10:29 PM	A43373
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 3:07:14 PM	A43320
Sodium	310	1.6	10		mg/L	10	6/8/2017 6:12:24 PM	A43373
Zinc	0.026	0.0011	0.010		mg/L	1	6/7/2017 3:07:14 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.77	0.00093	0.0020		mg/L	1	6/13/2017 3:50:15 PM	32236
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 3:50:15 PM	32236
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 3:50:15 PM	32236
Copper	ND	0.0017	0.0060		mg/L	1	6/14/2017 12:31:28 PM	32236
Iron	0.55	0.010	0.020	*	mg/L	1	6/13/2017 3:50:15 PM	32236
Manganese	1.2	0.011	0.020	*	mg/L	10	6/13/2017 3:52:12 PM	32236
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 3:50:15 PM	32236
Zinc	ND	0.0028	0.010		mg/L	1	6/16/2017 8:41:55 PM	32327
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.00089	0.0050	J	mg/L	5	6/15/2017 6:15:20 PM	A43553

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 1:00:00 PM
Lab ID: 1706127-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/14/2017 7:05:26 PM	C43513
Selenium	0.0047	0.0019	0.0050	J	mg/L	5	6/15/2017 6:15:20 PM	A43553
Uranium	0.015	0.00025	0.0025		mg/L	5	6/15/2017 6:15:20 PM	A43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0035	0.0015	0.0050	J	mg/L	5	6/16/2017 9:59:29 AM	32236
Lead	0.00038	0.000095	0.00050	J	mg/L	1	6/14/2017 10:01:09 AM	32236
Selenium	0.0036	0.0036	0.0050	J	mg/L	5	6/16/2017 9:59:29 AM	32236
Uranium	0.016	0.00077	0.0025		mg/L	5	6/16/2017 9:59:29 AM	32236
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 1:56:34 PM	32299
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Acenaphthylene	ND	3.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Aniline	ND	3.1	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Anthracene	ND	3.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Azobenzene	ND	4.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Benzoic acid	9.6	3.9	20	J	µg/L	1	6/8/2017 8:10:41 PM	32109
Benzyl alcohol	ND	4.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Bis(2-ethylhexyl)phthalate	5.4	4.8	10	J	µg/L	1	6/8/2017 8:10:41 PM	32109
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Carbazole	ND	4.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
4-Chloroaniline	ND	3.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2-Chlorophenol	ND	7.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Chrysene	ND	3.8	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/8/2017 8:10:41 PM	32109

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 1:00:00 PM
Lab ID: 1706127-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Dibenzofuran	ND	4.1	10		µg/L	1	6/8/2017 8:10:41 PM	32109
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/8/2017 8:10:41 PM	32109
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 8:10:41 PM	32109
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Diethyl phthalate	ND	4.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/8/2017 8:10:41 PM	32109
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/8/2017 8:10:41 PM	32109
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/8/2017 8:10:41 PM	32109
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/8/2017 8:10:41 PM	32109
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Fluoranthene	ND	4.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Fluorene	ND	4.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Hexachloroethane	ND	1.2	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Isophorone	ND	4.4	10		µg/L	1	6/8/2017 8:10:41 PM	32109
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2-Methylphenol	ND	3.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/8/2017 8:10:41 PM	32109
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Naphthalene	ND	2.9	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2-Nitroaniline	ND	4.9	10		µg/L	1	6/8/2017 8:10:41 PM	32109
3-Nitroaniline	ND	4.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
4-Nitroaniline	ND	4.0	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Nitrobenzene	ND	3.6	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2-Nitrophenol	ND	5.2	10		µg/L	1	6/8/2017 8:10:41 PM	32109
4-Nitrophenol	ND	5.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Pentachlorophenol	ND	4.9	20		µg/L	1	6/8/2017 8:10:41 PM	32109
Phenanthrene	ND	4.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Phenol	ND	3.1	10		µg/L	1	6/8/2017 8:10:41 PM	32109

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 1:00:00 PM
Lab ID: 1706127-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Pyridine	ND	2.3	10		µg/L	1	6/8/2017 8:10:41 PM	32109
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/8/2017 8:10:41 PM	32109
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/8/2017 8:10:41 PM	32109
Surr: 2-Fluorophenol	43.7	0	15-98.1		%Rec	1	6/8/2017 8:10:41 PM	32109
Surr: Phenol-d5	34.0	0	15-80.7		%Rec	1	6/8/2017 8:10:41 PM	32109
Surr: 2,4,6-Tribromophenol	66.4	0	15-112		%Rec	1	6/8/2017 8:10:41 PM	32109
Surr: Nitrobenzene-d5	66.9	0	27.2-90.7		%Rec	1	6/8/2017 8:10:41 PM	32109
Surr: 2-Fluorobiphenyl	62.9	0	23.3-85.6		%Rec	1	6/8/2017 8:10:41 PM	32109
Surr: 4-Terphenyl-d14	54.3	0	27.6-107		%Rec	1	6/8/2017 8:10:41 PM	32109
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.48	0.062	1.0	J	µg/L	1	6/6/2017 2:26:29 AM	W43271
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Ethylbenzene	0.27	0.093	1.0	J	µg/L	1	6/6/2017 2:26:29 AM	W43271
Methyl tert-butyl ether (MTBE)	46	0.24	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Naphthalene	0.29	0.11	2.0	J	µg/L	1	6/6/2017 2:26:29 AM	W43271
1-Methylnaphthalene	0.23	0.16	4.0	J	µg/L	1	6/6/2017 2:26:29 AM	W43271
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Acetone	5.7	0.82	10	J	µg/L	1	6/6/2017 2:26:29 AM	W43271
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 2:26:29 AM	W43271
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 2:26:29 AM	W43271
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 1:00:00 PM
Lab ID: 1706127-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 2:26:29 AM	W43271
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 2:26:29 AM	W43271
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
sec-Butylbenzene	0.46	0.11	1.0	J	µg/L	1	6/6/2017 2:26:29 AM	W43271
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 2:26:29 AM	W43271
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 2:26:29 AM	W43271
Surr: 1,2-Dichloroethane-d4	98.4	0	70-130		%Rec	1	6/6/2017 2:26:29 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 2nd QTR GW
Collection Date: 6/1/2017 1:00:00 PM
Lab ID: 1706127-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	98.1	0	70-130		%Rec	1	6/6/2017 2:26:29 AM	W43271
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	6/6/2017 2:26:29 AM	W43271
Surr: Toluene-d8	102	0	70-130		%Rec	1	6/6/2017 2:26:29 AM	W43271

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:50:00 AM
Lab ID: 1706127-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/6/2017 3:05:17 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 3:05:17 PM	32115
Surr: DNOP	123	0	72.4-157		%Rec	1	6/6/2017 3:05:17 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.063	0.025	0.050		mg/L	1	6/6/2017 12:20:24 PM	R43288
Surr: BFB	123	0	52.3-138		%Rec	1	6/6/2017 12:20:24 PM	R43288
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.72	0.044	0.10		mg/L	1	6/7/2017 1:27:59 AM	R43284
Chloride	240	5.0	10		mg/L	20	6/7/2017 2:05:13 AM	R43284
Bromide	1.4	0.014	0.10		mg/L	1	6/7/2017 1:27:59 AM	R43284
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/7/2017 1:27:59 AM	R43284
Sulfate	88	1.9	10		mg/L	20	6/7/2017 2:05:13 AM	R43284
Nitrate+Nitrite as N	0.56	0.13	1.0	J	mg/L	5	6/7/2017 4:34:13 AM	R43284
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.089	0.00085	0.0020		mg/L	1	6/7/2017 3:17:23 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:17:23 PM	A43320
Calcium	16	0.078	1.0		mg/L	1	6/7/2017 3:17:23 PM	A43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 3:17:23 PM	A43320
Copper	0.0041	0.0032	0.0060	J	mg/L	1	6/7/2017 3:17:23 PM	A43320
Iron	ND	0.016	0.020		mg/L	1	6/8/2017 6:14:19 PM	A43373
Magnesium	2.8	0.25	1.0		mg/L	1	6/7/2017 3:17:23 PM	A43320
Manganese	0.10	0.00038	0.0020	*	mg/L	1	6/7/2017 3:17:23 PM	A43320
Potassium	1.5	0.11	1.0		mg/L	1	6/7/2017 3:17:23 PM	A43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 3:17:23 PM	A43320
Sodium	420	1.6	10		mg/L	10	6/7/2017 3:19:27 PM	A43320
Zinc	0.012	0.0011	0.010		mg/L	1	6/7/2017 3:17:23 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.093	0.00093	0.0020		mg/L	1	6/13/2017 3:54:08 PM	32236
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 3:54:08 PM	32236
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 3:54:08 PM	32236
Copper	0.0043	0.0017	0.0060	J	mg/L	1	6/14/2017 12:33:23 PM	32236
Iron	0.075	0.010	0.020		mg/L	1	6/13/2017 3:54:08 PM	32236
Manganese	0.10	0.0011	0.0020	*	mg/L	1	6/13/2017 3:54:08 PM	32236
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 3:54:08 PM	32236
Zinc	0.0049	0.0028	0.010	J	mg/L	1	6/16/2017 8:43:51 PM	32327
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0021	0.00089	0.0050	J	mg/L	5	6/15/2017 6:18:23 PM	A43553

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:50:00 AM
Lab ID: 1706127-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00053	0.00017	0.00050		mg/L	1	6/14/2017 7:08:29 PM	C43513
Selenium	0.0060	0.0039	0.010	J	mg/L	10	6/19/2017 4:36:23 PM	B43632
Uranium	0.029	0.00025	0.0025		mg/L	5	6/15/2017 6:18:23 PM	A43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0015	0.0050		mg/L	5	6/16/2017 10:02:29 AM	32236
Lead	0.00043	0.000095	0.00050	J	mg/L	1	6/14/2017 10:06:17 AM	32236
Selenium	ND	0.0036	0.0050		mg/L	5	6/16/2017 10:02:29 AM	32236
Uranium	0.030	0.00077	0.0025	*	mg/L	5	6/16/2017 10:02:29 AM	32236
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 1:58:30 PM	32299
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Acenaphthylene	ND	3.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Aniline	ND	3.1	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Anthracene	ND	3.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Azobenzene	ND	4.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Benzoic acid	6.7	3.9	20	J	µg/L	1	6/8/2017 8:38:56 PM	32109
Benzyl alcohol	ND	4.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Bis(2-ethylhexyl)phthalate	5.4	4.8	10	J	µg/L	1	6/8/2017 8:38:56 PM	32109
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Carbazole	ND	4.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
4-Chloroaniline	ND	3.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2-Chlorophenol	ND	7.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Chrysene	ND	3.8	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/8/2017 8:38:56 PM	32109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:50:00 AM
Lab ID: 1706127-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Dibenzofuran	ND	4.1	10		µg/L	1	6/8/2017 8:38:56 PM	32109
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/8/2017 8:38:56 PM	32109
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 8:38:56 PM	32109
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Diethyl phthalate	ND	4.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/8/2017 8:38:56 PM	32109
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/8/2017 8:38:56 PM	32109
4,6-Dinitro-2-methylphenol	5.0	3.9	20	J	µg/L	1	6/8/2017 8:38:56 PM	32109
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/8/2017 8:38:56 PM	32109
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Fluoranthene	ND	4.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Fluorene	ND	4.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Hexachloroethane	ND	1.2	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Isophorone	ND	4.4	10		µg/L	1	6/8/2017 8:38:56 PM	32109
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2-Methylphenol	ND	3.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/8/2017 8:38:56 PM	32109
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Naphthalene	ND	2.9	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2-Nitroaniline	ND	4.9	10		µg/L	1	6/8/2017 8:38:56 PM	32109
3-Nitroaniline	ND	4.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
4-Nitroaniline	ND	4.0	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Nitrobenzene	ND	3.6	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2-Nitrophenol	ND	5.2	10		µg/L	1	6/8/2017 8:38:56 PM	32109
4-Nitrophenol	ND	5.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Pentachlorophenol	ND	4.9	20		µg/L	1	6/8/2017 8:38:56 PM	32109
Phenanthrene	ND	4.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Phenol	ND	3.1	10		µg/L	1	6/8/2017 8:38:56 PM	32109

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:50:00 AM
Lab ID: 1706127-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Pyridine	ND	2.3	10		µg/L	1	6/8/2017 8:38:56 PM	32109
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/8/2017 8:38:56 PM	32109
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/8/2017 8:38:56 PM	32109
Surr: 2-Fluorophenol	46.9	0	15-98.1		%Rec	1	6/8/2017 8:38:56 PM	32109
Surr: Phenol-d5	34.0	0	15-80.7		%Rec	1	6/8/2017 8:38:56 PM	32109
Surr: 2,4,6-Tribromophenol	73.5	0	15-112		%Rec	1	6/8/2017 8:38:56 PM	32109
Surr: Nitrobenzene-d5	76.3	0	27.2-90.7		%Rec	1	6/8/2017 8:38:56 PM	32109
Surr: 2-Fluorobiphenyl	68.5	0	23.3-85.6		%Rec	1	6/8/2017 8:38:56 PM	32109
Surr: 4-Terphenyl-d14	59.1	0	27.6-107		%Rec	1	6/8/2017 8:38:56 PM	32109
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Methyl tert-butyl ether (MTBE)	40	0.24	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Acetone	4.2	0.82	10	J	µg/L	1	6/6/2017 2:54:47 AM	W43271
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 2:54:47 AM	W43271
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 2:54:47 AM	W43271
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:50:00 AM
Lab ID: 1706127-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 2:54:47 AM	W43271
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 2:54:47 AM	W43271
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
sec-Butylbenzene	0.45	0.11	1.0	J	µg/L	1	6/6/2017 2:54:47 AM	W43271
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 2:54:47 AM	W43271
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 2:54:47 AM	W43271
Surr: 1,2-Dichloroethane-d4	97.1	0	70-130		%Rec	1	6/6/2017 2:54:47 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:50:00 AM
Lab ID: 1706127-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	94.6	0	70-130		%Rec	1	6/6/2017 2:54:47 AM	W43271
Surr: Dibromofluoromethane	97.9	0	70-130		%Rec	1	6/6/2017 2:54:47 AM	W43271
Surr: Toluene-d8	102	0	70-130		%Rec	1	6/6/2017 2:54:47 AM	W43271

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 8:54:00 AM
Lab ID: 1706127-006
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/6/2017 3:27:50 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 3:27:50 PM	32115
Surr: DNOP	123	0	72.4-157		%Rec	1	6/6/2017 3:27:50 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/6/2017 1:55:09 PM	R43288
Surr: BFB	107	0	52.3-138		%Rec	1	6/6/2017 1:55:09 PM	R43288
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.25	0.044	0.10		mg/L	1	6/7/2017 2:17:38 AM	R43284
Chloride	130	5.0	10		mg/L	20	6/7/2017 2:30:03 AM	R43284
Bromide	1.7	0.014	0.10		mg/L	1	6/7/2017 2:17:38 AM	R43284
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/7/2017 2:17:38 AM	R43284
Sulfate	110	1.9	10		mg/L	20	6/7/2017 2:30:03 AM	R43284
Nitrate+Nitrite as N	16	0.13	1.0	*	mg/L	5	6/7/2017 4:46:37 AM	R43284
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.13	0.00085	0.0020		mg/L	1	6/7/2017 3:21:24 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:21:24 PM	A43320
Calcium	100	0.78	10		mg/L	10	6/7/2017 3:23:20 PM	A43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 3:21:24 PM	A43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 3:21:24 PM	A43320
Iron	ND	0.016	0.020		mg/L	1	6/8/2017 6:16:27 PM	A43373
Magnesium	20	0.25	1.0		mg/L	1	6/7/2017 3:21:24 PM	A43320
Manganese	0.14	0.00038	0.0020	*	mg/L	1	6/7/2017 3:21:24 PM	A43320
Potassium	0.25	0.11	1.0	J	mg/L	1	6/7/2017 3:21:24 PM	A43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 3:21:24 PM	A43320
Sodium	310	1.6	10		mg/L	10	6/7/2017 3:23:20 PM	A43320
Zinc	0.019	0.0011	0.010		mg/L	1	6/7/2017 3:21:24 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.15	0.00093	0.0020		mg/L	1	6/13/2017 4:04:20 PM	32236
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 4:04:20 PM	32236
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 4:04:20 PM	32236
Copper	ND	0.0017	0.0060		mg/L	1	6/14/2017 12:35:27 PM	32236
Iron	0.36	0.010	0.020	*	mg/L	1	6/13/2017 4:04:20 PM	32236
Manganese	0.59	0.0011	0.0020	*	mg/L	1	6/13/2017 4:04:20 PM	32236
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 4:04:20 PM	32236
Zinc	0.0028	0.0028	0.010	J	mg/L	1	6/16/2017 8:45:52 PM	32327
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0023	0.00089	0.0050	J	mg/L	5	6/15/2017 6:21:26 PM	A43553

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EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/14/2017 7:11:33 PM	C43513
Selenium	0.0072	0.0039	0.010	J	mg/L	10	6/19/2017 4:39:26 PM	B43632
Uranium	0.013	0.00025	0.0025		mg/L	5	6/15/2017 6:21:26 PM	A43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0018	0.0015	0.0050	J	mg/L	5	6/16/2017 10:05:30 AM	32236
Lead	0.00051	0.000095	0.00050		mg/L	1	6/14/2017 10:11:25 AM	32236
Selenium	0.0045	0.0036	0.0050	J	mg/L	5	6/16/2017 10:05:30 AM	32236
Uranium	0.015	0.00077	0.0025		mg/L	5	6/16/2017 10:05:30 AM	32236
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:00:25 PM	32299
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Acenaphthylene	ND	3.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Aniline	ND	3.1	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Anthracene	ND	3.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Azobenzene	ND	4.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Benzoic acid	6.8	3.9	20	J	µg/L	1	6/8/2017 9:07:03 PM	32109
Benzyl alcohol	ND	4.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Bis(2-ethylhexyl)phthalate	6.3	4.8	10	J	µg/L	1	6/8/2017 9:07:03 PM	32109
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Carbazole	ND	4.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
4-Chloroaniline	ND	3.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2-Chlorophenol	ND	7.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Chrysene	ND	3.8	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/8/2017 9:07:03 PM	32109

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Dibenzofuran	ND	4.1	10		µg/L	1	6/8/2017 9:07:03 PM	32109
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/8/2017 9:07:03 PM	32109
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 9:07:03 PM	32109
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Diethyl phthalate	ND	4.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/8/2017 9:07:03 PM	32109
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/8/2017 9:07:03 PM	32109
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/8/2017 9:07:03 PM	32109
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/8/2017 9:07:03 PM	32109
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Fluoranthene	ND	4.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Fluorene	ND	4.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Hexachloroethane	ND	1.2	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Isophorone	ND	4.4	10		µg/L	1	6/8/2017 9:07:03 PM	32109
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2-Methylphenol	ND	3.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/8/2017 9:07:03 PM	32109
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Naphthalene	ND	2.9	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2-Nitroaniline	ND	4.9	10		µg/L	1	6/8/2017 9:07:03 PM	32109
3-Nitroaniline	ND	4.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
4-Nitroaniline	ND	4.0	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Nitrobenzene	ND	3.6	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2-Nitrophenol	ND	5.2	10		µg/L	1	6/8/2017 9:07:03 PM	32109
4-Nitrophenol	ND	5.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Pentachlorophenol	ND	4.9	20		µg/L	1	6/8/2017 9:07:03 PM	32109
Phenanthrene	ND	4.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Phenol	ND	3.1	10		µg/L	1	6/8/2017 9:07:03 PM	32109

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Pyridine	ND	2.3	10		µg/L	1	6/8/2017 9:07:03 PM	32109
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/8/2017 9:07:03 PM	32109
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/8/2017 9:07:03 PM	32109
Surr: 2-Fluorophenol	49.3	0	15-98.1		%Rec	1	6/8/2017 9:07:03 PM	32109
Surr: Phenol-d5	36.1	0	15-80.7		%Rec	1	6/8/2017 9:07:03 PM	32109
Surr: 2,4,6-Tribromophenol	79.0	0	15-112		%Rec	1	6/8/2017 9:07:03 PM	32109
Surr: Nitrobenzene-d5	76.0	0	27.2-90.7		%Rec	1	6/8/2017 9:07:03 PM	32109
Surr: 2-Fluorobiphenyl	69.7	0	23.3-85.6		%Rec	1	6/8/2017 9:07:03 PM	32109
Surr: 4-Terphenyl-d14	59.7	0	27.6-107		%Rec	1	6/8/2017 9:07:03 PM	32109
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.067	0.062	1.0	J	µg/L	1	6/6/2017 3:23:20 AM	W43271
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Methyl tert-butyl ether (MTBE)	3.1	0.24	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Acetone	3.0	0.82	10	J	µg/L	1	6/6/2017 3:23:20 AM	W43271
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 3:23:20 AM	W43271
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 3:23:20 AM	W43271
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271

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EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 3:23:20 AM	W43271
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 3:23:20 AM	W43271
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 3:23:20 AM	W43271
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 3:23:20 AM	W43271
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	6/6/2017 3:23:20 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 8:54:00 AM
Lab ID: 1706127-006
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	96.8	0	70-130		%Rec	1	6/6/2017 3:23:20 AM	W43271
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	6/6/2017 3:23:20 AM	W43271
Surr: Toluene-d8	103	0	70-130		%Rec	1	6/6/2017 3:23:20 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 9:40:00 AM
Lab ID: 1706127-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/6/2017 3:50:16 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 3:50:16 PM	32115
Surr: DNOP	123	0	72.4-157		%Rec	1	6/6/2017 3:50:16 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/6/2017 2:18:59 PM	R43288
Surr: BFB	112	0	52.3-138		%Rec	1	6/6/2017 2:18:59 PM	R43288
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.044	0.10		mg/L	1	6/7/2017 2:42:28 AM	R43284
Chloride	2100	50	100		mg/L	200	6/15/2017 8:56:44 PM	R43563
Bromide	4.2	0.29	2.0		mg/L	20	6/7/2017 2:54:53 AM	R43284
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/7/2017 2:42:28 AM	R43284
Sulfate	140	1.9	10		mg/L	20	6/7/2017 2:54:53 AM	R43284
Nitrate+Nitrite as N	24	0.26	2.0	*	mg/L	10	6/20/2017 1:30:03 PM	R43686
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.13	0.00085	0.0020		mg/L	1	6/7/2017 3:25:13 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:25:13 PM	A43320
Calcium	88	0.078	1.0		mg/L	1	6/7/2017 3:25:13 PM	A43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 3:25:13 PM	A43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 3:25:13 PM	A43320
Iron	0.037	0.016	0.020		mg/L	1	6/8/2017 6:18:24 PM	A43373
Magnesium	12	0.25	1.0		mg/L	1	6/7/2017 3:25:13 PM	A43320
Manganese	0.00046	0.00038	0.0020	J	mg/L	1	6/7/2017 3:25:13 PM	A43320
Potassium	4.9	0.11	1.0		mg/L	1	6/7/2017 3:25:13 PM	A43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 3:25:13 PM	A43320
Sodium	1400	3.3	20		mg/L	20	6/7/2017 7:18:06 PM	E43320
Zinc	0.014	0.0011	0.010		mg/L	1	6/7/2017 3:25:13 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.16	0.00093	0.0020		mg/L	1	6/13/2017 4:08:11 PM	32236
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 4:08:11 PM	32236
Chromium	0.0027	0.0011	0.0060	J	mg/L	1	6/13/2017 4:08:11 PM	32236
Copper	ND	0.0017	0.0060		mg/L	1	6/14/2017 12:37:22 PM	32236
Iron	3.1	0.051	0.10	*	mg/L	5	6/14/2017 12:51:23 PM	32236
Manganese	0.062	0.0011	0.0020	*	mg/L	1	6/13/2017 4:08:11 PM	32236
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 4:08:11 PM	32236
Zinc	0.054	0.0028	0.010		mg/L	1	6/16/2017 8:47:46 PM	32327
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0055	0.0035	0.020	J	mg/L	20	6/15/2017 6:27:33 PM	A43553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 9:40:00 AM
Lab ID: 1706127-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/14/2017 7:14:36 PM	C43513
Selenium	0.017	0.0019	0.0050		mg/L	5	6/15/2017 6:24:30 PM	A43553
Uranium	0.025	0.00025	0.0025		mg/L	5	6/15/2017 6:24:30 PM	A43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0045	0.0030	0.010	J	mg/L	10	6/16/2017 10:11:31 AM	32236
Lead	0.0029	0.000095	0.00050		mg/L	1	6/14/2017 10:16:34 AM	32236
Selenium	0.014	0.0036	0.0050		mg/L	5	6/16/2017 10:08:31 AM	32236
Uranium	0.027	0.00077	0.0025		mg/L	5	6/16/2017 10:08:31 AM	32236
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:06:25 PM	32299
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Methyl tert-butyl ether (MTBE)	0.43	0.24	1.0	J	µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Acetone	3.1	0.82	10	J	µg/L	1	6/6/2017 3:52:20 AM	W43271
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 3:52:20 AM	W43271
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 3:52:20 AM	W43271
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 9:40:00 AM
Lab ID: 1706127-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 3:52:20 AM	W43271
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 3:52:20 AM	W43271
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 3:52:20 AM	W43271
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 3:52:20 AM	W43271
Surr: 1,2-Dichloroethane-d4	99.1	0	70-130		%Rec	1	6/6/2017 3:52:20 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 9:40:00 AM
Lab ID: 1706127-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	95.4	0	70-130		%Rec	1	6/6/2017 3:52:20 AM	W43271
Surr: Dibromofluoromethane	99.9	0	70-130		%Rec	1	6/6/2017 3:52:20 AM	W43271
Surr: Toluene-d8	102	0	70-130		%Rec	1	6/6/2017 3:52:20 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1 TO EP-2
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 10:37:00 AM
Lab ID: 1706127-008
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.5	0.36	1.0		mg/L	1	6/6/2017 4:13:05 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 4:13:05 PM	32115
Surr: DNOP	113	0	72.4-157		%Rec	1	6/6/2017 4:13:05 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.12	0.25	D	mg/L	5	6/6/2017 2:42:47 PM	R43288
Surr: BFB	107	0	52.3-138	D	%Rec	5	6/6/2017 2:42:47 PM	R43288
SM5210B: BOD							Analyst: **tnc**	
Biochemical Oxygen Demand	1200	2.0	2.0		mg/L	1	6/7/2017 3:53:00 PM	32091
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.71	0.62	10	JD	µg/L	10	6/6/2017 11:36:14 AM	A43303
Toluene	ND	0.64	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Ethylbenzene	ND	0.93	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Methyl tert-butyl ether (MTBE)	ND	2.4	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2,4-Trimethylbenzene	ND	1.1	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,3,5-Trimethylbenzene	ND	0.87	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2-Dichloroethane (EDC)	ND	4.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2-Dibromoethane (EDB)	ND	1.3	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Naphthalene	1.8	1.1	20	JD	µg/L	10	6/6/2017 11:36:14 AM	A43303
1-Methylnaphthalene	5.7	1.6	40	JD	µg/L	10	6/6/2017 11:36:14 AM	A43303
2-Methylnaphthalene	ND	1.5	40	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Acetone	1600	8.2	100	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Bromobenzene	ND	1.4	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Bromodichloromethane	ND	1.8	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Bromoform	ND	2.1	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Bromomethane	ND	2.6	30	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
2-Butanone	140	11	100	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Carbon disulfide	12	4.0	100	JD	µg/L	10	6/6/2017 11:36:14 AM	A43303
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Chlorobenzene	ND	1.1	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Chloroethane	ND	2.3	20	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Chloroform	ND	4.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Chloromethane	ND	2.9	30	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
4-Chlorotoluene	ND	4.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
cis-1,2-DCE	ND	2.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
cis-1,3-Dichloropropene	ND	0.82	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2-Dibromo-3-chloropropane	ND	14	20	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Dibromochloromethane	ND	0.72	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1 TO EP-2
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 10:37:00 AM
Lab ID: 1706127-008
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.91	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2-Dichlorobenzene	ND	0.90	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,3-Dichlorobenzene	ND	1.5	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,4-Dichlorobenzene	ND	4.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Dichlorodifluoromethane	ND	10	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,1-Dichloroethane	ND	4.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,1-Dichloroethene	ND	0.81	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2-Dichloropropane	ND	1.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,3-Dichloropropane	ND	1.7	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
2,2-Dichloropropane	ND	1.6	20	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,1-Dichloropropene	ND	0.93	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Hexachlorobutadiene	ND	8.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
2-Hexanone	ND	6.6	100	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Isopropylbenzene	ND	0.51	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
4-Isopropyltoluene	ND	0.96	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Methylene Chloride	1.9	1.1	30	JD	µg/L	10	6/6/2017 11:36:14 AM	A43303
n-Butylbenzene	ND	1.3	30	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
n-Propylbenzene	ND	0.74	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
sec-Butylbenzene	ND	1.1	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Styrene	ND	1.6	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
tert-Butylbenzene	ND	1.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,1,1,2-Tetrachloroethane	ND	1.0	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,1,2,2-Tetrachloroethane	ND	1.4	20	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Tetrachloroethene (PCE)	ND	1.3	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
trans-1,3-Dichloropropene	ND	2.2	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2,3-Trichlorobenzene	ND	1.2	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2,4-Trichlorobenzene	ND	1.4	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,1,1-Trichloroethane	ND	0.73	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,1,2-Trichloroethane	ND	1.4	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Trichloroethene (TCE)	ND	1.1	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Trichlorofluoromethane	ND	1.8	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
1,2,3-Trichloropropane	ND	3.9	20	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Vinyl chloride	ND	1.8	10	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Xylenes, Total	ND	3.2	15	D	µg/L	10	6/6/2017 11:36:14 AM	A43303
Surr: 1,2-Dichloroethane-d4	95.3	0	70-130	D	%Rec	10	6/6/2017 11:36:14 AM	A43303
Surr: 4-Bromofluorobenzene	95.9	0	70-130	D	%Rec	10	6/6/2017 11:36:14 AM	A43303
Surr: Dibromofluoromethane	96.8	0	70-130	D	%Rec	10	6/6/2017 11:36:14 AM	A43303

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1 TO EP-2
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 10:37:00 AM
Lab ID: 1706127-008
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	101	0	70-130	D	%Rec	10	6/6/2017 11:36:14 AM	A43303
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	3680	59.1	100	*D	mg/L	1	6/9/2017 5:54:00 PM	32183

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EAST LDU
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 11:04:00 AM
Lab ID: 1706127-009
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	7.1	0.36	1.0		mg/L	1	6/6/2017 4:35:30 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 4:35:30 PM	32115
Surr: DNOP	124	0	72.4-157		%Rec	1	6/6/2017 4:35:30 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	2.0	0.25	0.50		mg/L	10	6/6/2017 3:06:31 PM	R43288
Surr: BFB	125	0	52.3-138		%Rec	10	6/6/2017 3:06:31 PM	R43288
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.22	0.00085	0.0020		mg/L	1	6/7/2017 3:29:05 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:29:05 PM	A43320
Chromium	0.026	0.0010	0.0060		mg/L	1	6/7/2017 3:29:05 PM	A43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 3:29:05 PM	A43320
Iron	0.23	0.016	0.020		mg/L	1	6/8/2017 6:20:23 PM	A43373
Manganese	0.13	0.00038	0.0020	*	mg/L	1	6/7/2017 3:29:05 PM	A43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 3:29:05 PM	A43320
Zinc	0.012	0.0011	0.010		mg/L	1	6/7/2017 3:29:05 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.23	0.00093	0.0020		mg/L	1	6/13/2017 5:20:41 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:20:41 PM	32237
Chromium	0.050	0.0011	0.0060		mg/L	1	6/13/2017 5:20:41 PM	32237
Copper	0.0024	0.0017	0.0060	J	mg/L	1	6/13/2017 5:20:41 PM	32237
Iron	0.32	0.010	0.020	*	mg/L	1	6/13/2017 5:20:41 PM	32237
Manganese	0.13	0.0011	0.0020	*	mg/L	1	6/13/2017 5:20:41 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:20:41 PM	32237
Zinc	0.013	0.0028	0.010		mg/L	1	6/13/2017 5:20:41 PM	32237
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00037	0.00018	0.0010	J	mg/L	1	6/14/2017 7:17:40 PM	C43513
Lead	ND	0.00017	0.00050		mg/L	1	6/14/2017 7:17:40 PM	C43513
Selenium	ND	0.00039	0.0010		mg/L	1	6/14/2017 7:17:40 PM	C43513
Uranium	ND	0.000050	0.00050		mg/L	1	6/15/2017 6:45:56 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00036	0.00030	0.0010	J	mg/L	1	6/16/2017 10:14:32 AM	32237
Lead	0.00027	0.000095	0.00050	J	mg/L	1	6/14/2017 10:21:42 AM	32237
Selenium	ND	0.00071	0.0010		mg/L	1	6/16/2017 10:14:32 AM	32237
Uranium	ND	0.00015	0.00050		mg/L	1	6/16/2017 10:14:32 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:08:21 PM	32299

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: EAST LDU
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 11:04:00 AM
Lab ID: 1706127-009
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	170	0.62	10		µg/L	10	6/6/2017 2:29:15 PM	C43303
Toluene	6.6	0.64	10	J	µg/L	10	6/6/2017 2:29:15 PM	C43303
Ethylbenzene	63	0.93	10		µg/L	10	6/6/2017 2:29:15 PM	C43303
Methyl tert-butyl ether (MTBE)	2.5	2.4	10	J	µg/L	10	6/6/2017 2:29:15 PM	C43303
Xylenes, Total	75	3.2	15		µg/L	10	6/6/2017 2:29:15 PM	C43303
Surr: 1,2-Dichloroethane-d4	99.9	0	70-130		%Rec	10	6/6/2017 2:29:15 PM	C43303
Surr: 4-Bromofluorobenzene	93.7	0	70-130		%Rec	10	6/6/2017 2:29:15 PM	C43303
Surr: Dibromofluoromethane	95.9	0	70-130		%Rec	10	6/6/2017 2:29:15 PM	C43303
Surr: Toluene-d8	100	0	70-130		%Rec	10	6/6/2017 2:29:15 PM	C43303

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: WEST LDU
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 11:15:00 AM
Lab ID: 1706127-010
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.5	0.36	1.0		mg/L	1	6/6/2017 4:57:57 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 4:57:57 PM	32115
Surr: DNOP	124	0	72.4-157		%Rec	1	6/6/2017 4:57:57 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	1.1	0.25	0.50		mg/L	10	6/6/2017 3:30:14 PM	R43288
Surr: BFB	117	0	52.3-138		%Rec	10	6/6/2017 3:30:14 PM	R43288
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00085	0.0020		mg/L	1	6/7/2017 3:33:23 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:33:23 PM	A43320
Chromium	0.33	0.0010	0.0060	*	mg/L	1	6/7/2017 3:33:23 PM	A43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 3:33:23 PM	A43320
Iron	44	0.82	1.0	*	mg/L	50	6/7/2017 7:19:58 PM	E43320
Manganese	17	0.019	0.10	*	mg/L	50	6/7/2017 7:19:58 PM	E43320
Silver	0.0011	0.00088	0.0050	J	mg/L	1	6/7/2017 3:33:23 PM	A43320
Zinc	0.052	0.0011	0.010		mg/L	1	6/7/2017 3:33:23 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00093	0.0020		mg/L	1	6/13/2017 5:26:45 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:26:45 PM	32237
Chromium	0.35	0.0011	0.0060	*	mg/L	1	6/13/2017 5:26:45 PM	32237
Copper	ND	0.0017	0.0060		mg/L	1	6/13/2017 5:26:45 PM	32237
Iron	44	0.51	1.0	*	mg/L	50	6/14/2017 1:22:58 PM	32237
Manganese	16	0.055	0.10	*	mg/L	50	6/14/2017 1:22:58 PM	32237
Silver	0.0016	0.00042	0.0050	J	mg/L	1	6/13/2017 5:26:45 PM	32237
Zinc	0.33	0.0028	0.010		mg/L	1	6/13/2017 5:26:45 PM	32237
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0022	0.00018	0.0010		mg/L	1	6/14/2017 7:20:43 PM	C43513
Lead	ND	0.00017	0.00050		mg/L	1	6/14/2017 7:20:43 PM	C43513
Selenium	0.0017	0.00039	0.0010		mg/L	1	6/14/2017 7:20:43 PM	C43513
Uranium	0.0023	0.000050	0.00050		mg/L	1	6/15/2017 6:49:00 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0028	0.0015	0.0050	J	mg/L	5	6/16/2017 10:17:32 AM	32237
Lead	0.00055	0.00048	0.0025	J	mg/L	5	6/16/2017 10:17:32 AM	32237
Selenium	ND	0.0036	0.0050		mg/L	5	6/16/2017 10:17:32 AM	32237
Uranium	0.0021	0.00077	0.0025	J	mg/L	5	6/16/2017 10:17:32 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000071	0.000037	0.00020	J	mg/L	1	6/15/2017 2:10:18 PM	32299

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: WEST LDU
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 11:15:00 AM
Lab ID: 1706127-010
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **DJF**	
Benzene	93	0.12	2.0	D	µg/L	2	6/7/2017 10:33:24 AM	B43333
Toluene	4.1	0.13	2.0	D	µg/L	2	6/7/2017 10:33:24 AM	B43333
Ethylbenzene	15	0.19	2.0	D	µg/L	2	6/7/2017 10:33:24 AM	B43333
Methyl tert-butyl ether (MTBE)	2.5	0.48	2.0	D	µg/L	2	6/7/2017 10:33:24 AM	B43333
Xylenes, Total	16	0.64	3.0	D	µg/L	2	6/7/2017 10:33:24 AM	B43333
Surr: 1,2-Dichloroethane-d4	98.3	0	70-130	D	%Rec	2	6/7/2017 10:33:24 AM	B43333
Surr: 4-Bromofluorobenzene	94.6	0	70-130	D	%Rec	2	6/7/2017 10:33:24 AM	B43333
Surr: Dibromofluoromethane	94.4	0	70-130	D	%Rec	2	6/7/2017 10:33:24 AM	B43333
Surr: Toluene-d8	102	0	70-130	D	%Rec	2	6/7/2017 10:33:24 AM	B43333

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017
Lab ID: 1706127-011
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/6/2017 5:20:10 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/6/2017 5:20:10 PM	32115
Surr: DNOP	125	0	72.4-157		%Rec	1	6/6/2017 5:20:10 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.065	0.025	0.050		mg/L	1	6/6/2017 3:53:56 PM	R43288
Surr: BFB	124	0	52.3-138		%Rec	1	6/6/2017 3:53:56 PM	R43288
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.74	0.044	0.10		mg/L	1	6/7/2017 3:07:18 AM	R43284
Chloride	240	5.0	10		mg/L	20	6/7/2017 3:19:43 AM	R43284
Bromide	1.4	0.014	0.10		mg/L	1	6/7/2017 3:07:18 AM	R43284
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/7/2017 3:07:18 AM	R43284
Sulfate	90	1.9	10		mg/L	20	6/7/2017 3:19:43 AM	R43284
Nitrate+Nitrite as N	0.58	0.13	1.0	J	mg/L	5	6/7/2017 5:11:27 AM	R43284
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.089	0.00085	0.0020		mg/L	1	6/7/2017 3:54:09 PM	A43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 3:54:09 PM	A43320
Calcium	16	0.078	1.0		mg/L	1	6/7/2017 3:54:09 PM	A43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 3:54:09 PM	A43320
Copper	0.0042	0.0032	0.0060	J	mg/L	1	6/7/2017 3:54:09 PM	A43320
Iron	ND	0.016	0.020		mg/L	1	6/7/2017 3:54:09 PM	A43320
Magnesium	2.9	0.25	1.0		mg/L	1	6/7/2017 3:54:09 PM	A43320
Manganese	0.12	0.00038	0.0020	*	mg/L	1	6/7/2017 3:54:09 PM	A43320
Potassium	1.7	0.11	1.0		mg/L	1	6/7/2017 3:54:09 PM	A43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 3:54:09 PM	A43320
Sodium	450	1.6	10		mg/L	10	6/7/2017 3:56:14 PM	A43320
Zinc	0.0048	0.0011	0.010	J	mg/L	1	6/7/2017 3:54:09 PM	A43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.10	0.00093	0.0020		mg/L	1	6/13/2017 5:30:18 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:30:18 PM	32237
Chromium	0.0014	0.0011	0.0060	J	mg/L	1	6/13/2017 5:30:18 PM	32237
Copper	0.0081	0.0017	0.0060		mg/L	1	6/13/2017 5:30:18 PM	32237
Iron	0.78	0.010	0.020	*	mg/L	1	6/13/2017 5:30:18 PM	32237
Manganese	0.13	0.0011	0.0020	*	mg/L	1	6/13/2017 5:30:18 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:30:18 PM	32237
Zinc	0.0077	0.0028	0.010	J	mg/L	1	6/13/2017 5:30:18 PM	32237
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0020	0.00089	0.0050	J	mg/L	5	6/15/2017 6:52:03 PM	B43553

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00029	0.00017	0.00050	J	mg/L	1	6/14/2017 7:23:47 PM	C43513
Selenium	0.0043	0.0019	0.0050	J	mg/L	5	6/15/2017 6:52:03 PM	B43553
Uranium	0.029	0.00025	0.0025		mg/L	5	6/15/2017 6:52:03 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0015	0.0015	0.0050	J	mg/L	5	6/16/2017 10:29:37 AM	32237
Lead	0.0016	0.000095	0.00050		mg/L	1	6/14/2017 10:42:19 AM	32237
Selenium	0.0038	0.0036	0.0050	J	mg/L	5	6/16/2017 10:29:37 AM	32237
Uranium	0.032	0.00077	0.0025	*	mg/L	5	6/16/2017 10:29:37 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:12:15 PM	32299
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Acenaphthylene	ND	3.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Aniline	ND	3.1	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Anthracene	ND	3.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Azobenzene	ND	4.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Benzoic acid	9.8	3.9	20	J	µg/L	1	6/8/2017 9:35:18 PM	32109
Benzyl alcohol	ND	4.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Bis(2-ethylhexyl)phthalate	6.1	4.8	10	J	µg/L	1	6/8/2017 9:35:18 PM	32109
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Carbazole	ND	4.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
4-Chloroaniline	ND	3.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2-Chlorophenol	ND	7.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Chrysene	ND	3.8	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/8/2017 9:35:18 PM	32109

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Dibenzofuran	ND	4.1	10		µg/L	1	6/8/2017 9:35:18 PM	32109
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/8/2017 9:35:18 PM	32109
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 9:35:18 PM	32109
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Diethyl phthalate	ND	4.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/8/2017 9:35:18 PM	32109
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/8/2017 9:35:18 PM	32109
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/8/2017 9:35:18 PM	32109
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/8/2017 9:35:18 PM	32109
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Fluoranthene	ND	4.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Fluorene	ND	4.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Hexachloroethane	ND	1.2	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Isophorone	ND	4.4	10		µg/L	1	6/8/2017 9:35:18 PM	32109
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2-Methylphenol	ND	3.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/8/2017 9:35:18 PM	32109
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Naphthalene	ND	2.9	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2-Nitroaniline	ND	4.9	10		µg/L	1	6/8/2017 9:35:18 PM	32109
3-Nitroaniline	ND	4.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
4-Nitroaniline	ND	4.0	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Nitrobenzene	ND	3.6	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2-Nitrophenol	ND	5.2	10		µg/L	1	6/8/2017 9:35:18 PM	32109
4-Nitrophenol	ND	5.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Pentachlorophenol	ND	4.9	20		µg/L	1	6/8/2017 9:35:18 PM	32109
Phenanthrene	ND	4.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Phenol	ND	3.1	10		µg/L	1	6/8/2017 9:35:18 PM	32109

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Pyridine	ND	2.3	10		µg/L	1	6/8/2017 9:35:18 PM	32109
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/8/2017 9:35:18 PM	32109
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/8/2017 9:35:18 PM	32109
Surr: 2-Fluorophenol	40.3	0	15-98.1		%Rec	1	6/8/2017 9:35:18 PM	32109
Surr: Phenol-d5	29.1	0	15-80.7		%Rec	1	6/8/2017 9:35:18 PM	32109
Surr: 2,4,6-Tribromophenol	67.8	0	15-112		%Rec	1	6/8/2017 9:35:18 PM	32109
Surr: Nitrobenzene-d5	67.2	0	27.2-90.7		%Rec	1	6/8/2017 9:35:18 PM	32109
Surr: 2-Fluorobiphenyl	64.9	0	23.3-85.6		%Rec	1	6/8/2017 9:35:18 PM	32109
Surr: 4-Terphenyl-d14	52.9	0	27.6-107		%Rec	1	6/8/2017 9:35:18 PM	32109
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Methyl tert-butyl ether (MTBE)	41	0.24	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Acetone	2.3	0.82	10	J	µg/L	1	6/6/2017 4:20:49 AM	W43271
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 4:20:49 AM	W43271
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 4:20:49 AM	W43271
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 4:20:49 AM	W43271
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 4:20:49 AM	W43271
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
sec-Butylbenzene	0.45	0.11	1.0	J	µg/L	1	6/6/2017 4:20:49 AM	W43271
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:49 AM	W43271
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 4:20:49 AM	W43271
Surr: 1,2-Dichloroethane-d4	99.0	0	70-130		%Rec	1	6/6/2017 4:20:49 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017
Lab ID: 1706127-011
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	98.6	0	70-130		%Rec	1	6/6/2017 4:20:49 AM	W43271
Surr: Dibromofluoromethane	99.9	0	70-130		%Rec	1	6/6/2017 4:20:49 AM	W43271
Surr: Toluene-d8	101	0	70-130		%Rec	1	6/6/2017 4:20:49 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:00:00 AM
Lab ID: 1706127-012
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.17	0.062	1.0	J	µg/L	1	6/6/2017 4:49:09 AM	W43271
Toluene	0.42	0.064	1.0	J	µg/L	1	6/6/2017 4:49:09 AM	W43271
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Acetone	2.5	0.82	10	J	µg/L	1	6/6/2017 4:49:09 AM	W43271
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 4:49:09 AM	W43271
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 4:49:09 AM	W43271
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 4:49:09 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR GW
Collection Date: 6/2/2017 7:00:00 AM
Lab ID: 1706127-012
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 4:49:09 AM	W43271
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 4:49:09 AM	W43271
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 4:49:09 AM	W43271
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 4:49:09 AM	W43271
Surr: 1,2-Dichloroethane-d4	99.4	0	70-130		%Rec	1	6/6/2017 4:49:09 AM	W43271
Surr: 4-Bromofluorobenzene	96.4	0	70-130		%Rec	1	6/6/2017 4:49:09 AM	W43271
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	6/6/2017 4:49:09 AM	W43271
Surr: Toluene-d8	100	0	70-130		%Rec	1	6/6/2017 4:49:09 AM	W43271

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd QTR GW
Collection Date:
Lab ID: 1706127-013
Matrix: TRIP BLANK
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Acetone	ND	0.82	10		µg/L	1	6/6/2017 10:38:31 AM	A43303
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 10:38:31 AM	A43303
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 10:38:31 AM	A43303
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 10:38:31 AM	A43303

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd QTR GW
Collection Date:
Lab ID: 1706127-013
Matrix: TRIP BLANK
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 10:38:31 AM	A43303
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 10:38:31 AM	A43303
Methylene Chloride	0.18	0.11	3.0	J	µg/L	1	6/6/2017 10:38:31 AM	A43303
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 10:38:31 AM	A43303
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 10:38:31 AM	A43303
Surr: 1,2-Dichloroethane-d4	94.2	0	70-130		%Rec	1	6/6/2017 10:38:31 AM	A43303
Surr: 4-Bromofluorobenzene	95.3	0	70-130		%Rec	1	6/6/2017 10:38:31 AM	A43303
Surr: Dibromofluoromethane	95.2	0	70-130		%Rec	1	6/6/2017 10:38:31 AM	A43303
Surr: Toluene-d8	101	0	70-130		%Rec	1	6/6/2017 10:38:31 AM	A43303

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.111		0.00500	1	06/07/2017 16:08	WG936499

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1440		20.0	2	06/06/2017 21:22	WG986427

QUALITY CONTROL SUMMARY

L913821-02

Method Blank (MB)

(MB) R3223622-1 06/06/17 21:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
COD	U		3	10.0

L913695-03 Original Sample (OS) • Duplicate (DUP)

(OS) L913695-03 06/06/17 21:18 • (DUP) R3223622-4 06/06/17 21:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	U	0.000	1	0		20

L913827-01 Original Sample (OS) • Duplicate (DUP)

(OS) L913827-01 06/06/17 21:24 • (DUP) R3223622-7 06/06/17 21:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
COD	48.0	49.0	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3223622-2 06/06/17 21:16 • (LCSD) R3223622-3 06/06/17 21:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
COD	242	239	230	99	95	90-110			4	20

L913826-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L913826-01 06/06/17 21:23 • (MS) R3223622-5 06/06/17 21:23 • (MSD) R3223622-6 06/06/17 21:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
COD	400	75.3	455	447	95	93	1	80-120			2	20

Method Blank (MB)

(MB) R3223865-1 06/07/17 15:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L913919-05 Original Sample (OS) • Duplicate (DUP)

(OS) L913919-05 06/07/17 16:20 • (DUP) R3223865-5 06/07/17 16:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L913766-01 Original Sample (OS) • Duplicate (DUP)

(OS) L913766-01 06/07/17 16:27 • (DUP) R3223865-8 06/07/17 16:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	0.222	0.216	5	3		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3223865-2 06/07/17 15:50 • (LCSD) R3223865-3 06/07/17 15:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.113	0.101	113	101	85-115			11	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363773** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363775** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	96.5	50	150			J
Cadmium	0.0022	0.0020	0.002000	0	109	50	150			
Calcium	0.52	1.0	0.5000	0	105	50	150			J
Chromium	0.0057	0.0060	0.006000	0	94.5	50	150			J
Copper	0.0065	0.0060	0.006000	0	108	50	150			
Iron	0.021	0.020	0.02000	0	103	50	150			
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Manganese	0.0021	0.0020	0.002000	0	105	50	150			
Potassium	0.51	1.0	0.5000	0	101	50	150			J
Silver	0.0050	0.0050	0.005000	0	100	50	150			
Sodium	0.53	1.0	0.5000	0	105	50	150			J
Zinc	0.0051	0.010	0.005000	0	103	50	150			J

Sample ID **1706127-010CMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **WEST LDU**	Batch ID: **A43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363917** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.55	0.0020	0.5000	0.1084	87.6	70	130			
Cadmium	0.45	0.0020	0.5000	0	90.1	70	130			
Chromium	0.77	0.0060	0.5000	0.3333	87.2	70	130			
Copper	0.48	0.0060	0.5000	0	95.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**1706127-010CMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**WEST LDU**	Batch ID:	**A43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1363917**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.088	0.0050	0.1000	0.001120	87.1	70	130			
Zinc	0.47	0.010	0.5000	0.05209	84.4	70	130			

Sample ID	**1706127-010CMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**WEST LDU**	Batch ID:	**A43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1363918**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.55	0.0020	0.5000	0.1084	89.0	70	130	1.29	20	
Cadmium	0.46	0.0020	0.5000	0	92.1	70	130	2.18	20	
Chromium	0.77	0.0060	0.5000	0.3333	87.9	70	130	0.463	20	
Copper	0.49	0.0060	0.5000	0	97.2	70	130	1.33	20	
Silver	0.089	0.0050	0.1000	0.001120	88.2	70	130	1.25	20	
Zinc	0.49	0.010	0.5000	0.05209	87.1	70	130	2.89	20	

Sample ID	**MB-E**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**E43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1364419**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.13	1.0								J
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID	**LCSLL-E**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**E43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1364420**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.51	1.0	0.5000	0	103	50	150			J
Iron	0.021	0.020	0.02000	0	107	50	150			
Manganese	0.0019	0.0020	0.002000	0	95.0	50	150			J
Sodium	0.50	1.0	0.5000	0	101	50	150			J

Sample ID	**LCS-E**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**E43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1364421**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **LCS-E**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **E43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1364421** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	100	85	115			
Iron	0.49	0.020	0.5000	0	97.2	85	115			
Manganese	0.48	0.0020	0.5000	0	96.2	85	115			
Sodium	50	1.0	50.00	0	99.3	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43373**	RunNo: **43373**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365750** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43373**	RunNo: **43373**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365751** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.52	1.0	0.5000	0	103	50	150			J
Iron	0.022	0.020	0.02000	0	112	50	150			
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Potassium	0.54	1.0	0.5000	0	108	50	150			J
Sodium	0.52	1.0	0.5000	0	105	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43373**	RunNo: **43373**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365752** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	102	85	115			
Iron	0.48	0.020	0.5000	0	95.5	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Potassium	50	1.0	50.00	0	99.6	85	115			
Sodium	50	1.0	50.00	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MB-32236**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**32236**	RunNo:	**43471**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/13/2017**	SeqNo:	**1368785**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								

Sample ID	**LCSLL-32236**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**32236**	RunNo:	**43471**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/13/2017**	SeqNo:	**1368786**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Cadmium	0.0020	0.0020	0.002000	0	98.5	50	150			J
Chromium	0.0060	0.0060	0.006000	0	100	50	150			
Iron	0.018	0.020	0.02000	0	89.8	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Silver	0.0053	0.0050	0.005000	0	105	50	150			

Sample ID	**LCS-32236**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**32236**	RunNo:	**43471**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/13/2017**	SeqNo:	**1368787**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.0	85	115			
Chromium	0.48	0.0060	0.5000	0	97.0	85	115			
Iron	0.47	0.020	0.5000	0	93.4	85	115			
Manganese	0.48	0.0020	0.5000	0	95.4	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			

Sample ID	**1706127-007EMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**STP1-NW**	Batch ID:	**32236**	RunNo:	**43471**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/13/2017**	SeqNo:	**1368802**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.63	0.0020	0.5000	0.1629	94.3	70	130			
Cadmium	0.49	0.0020	0.5000	0	97.6	70	130			
Chromium	0.47	0.0060	0.5000	0.002700	93.9	70	130			
Manganese	0.52	0.0020	0.5000	0.06173	92.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**1706127-007EMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**STP1-NW**	Batch ID: **32236**		RunNo: **43471**					
Prep Date:	**6/12/2017**	Analysis Date: **6/13/2017**		SeqNo: **1368802**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	104	70	130			

Sample ID	**1706127-007EMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**STP1-NW**	Batch ID: **32236**		RunNo: **43471**					
Prep Date:	**6/12/2017**	Analysis Date: **6/13/2017**		SeqNo: **1368803**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.63	0.0020	0.5000	0.1629	93.1	70	130	0.929	20	
Cadmium	0.49	0.0020	0.5000	0	97.8	70	130	0.238	20	
Chromium	0.47	0.0060	0.5000	0.002700	93.7	70	130	0.263	20	
Manganese	0.52	0.0020	0.5000	0.06173	91.7	70	130	0.552	20	
Silver	0.10	0.0050	0.1000	0	104	70	130	0.337	20	

Sample ID	**MB-32237**	SampType: **MBLK**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID: **32237**		RunNo: **43471**					
Prep Date:	**6/12/2017**	Analysis Date: **6/13/2017**		SeqNo: **1368831**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LCSLL-32237**	SampType: **LCSLL**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID: **32237**		RunNo: **43471**					
Prep Date:	**6/12/2017**	Analysis Date: **6/13/2017**		SeqNo: **1368832**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	78.5	50	150			J
Cadmium	0.0017	0.0020	0.002000	0	83.5	50	150			J
Chromium	0.0058	0.0060	0.006000	0	96.5	50	150			J
Copper	0.0068	0.0060	0.006000	0	113	50	150			
Iron	0.017	0.020	0.02000	0	85.4	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Silver	0.0050	0.0050	0.005000	0	101	50	150			
Zinc	0.0055	0.010	0.005000	0	110	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **LCS-32237**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32237**	RunNo: **43471**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368833** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.7	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.4	85	115			
Chromium	0.47	0.0060	0.5000	0	94.9	85	115			
Copper	0.49	0.0060	0.5000	0	98.2	85	115			
Iron	0.45	0.020	0.5000	0	90.6	85	115			
Manganese	0.47	0.0020	0.5000	0	94.1	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.46	0.010	0.5000	0	91.4	85	115			

Sample ID **1706127-009DMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **EAST LDU**	Batch ID: **32237**	RunNo: **43471**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.70	0.0020	0.5000	0.2304	92.9	70	130			
Cadmium	0.48	0.0020	0.5000	0	95.9	70	130			
Chromium	0.52	0.0060	0.5000	0.05033	93.8	70	130			
Copper	0.50	0.0060	0.5000	0.002360	98.7	70	130			
Iron	0.75	0.020	0.5000	0.3157	87.6	70	130			
Manganese	0.59	0.0020	0.5000	0.1314	92.0	70	130			
Silver	0.099	0.0050	0.1000	0	99.4	70	130			
Zinc	0.47	0.010	0.5000	0.01347	90.9	70	130			

Sample ID **1706127-009DMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **EAST LDU**	Batch ID: **32237**	RunNo: **43471**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.71	0.0020	0.5000	0.2304	95.7	70	130	2.01	20	
Cadmium	0.49	0.0020	0.5000	0	97.4	70	130	1.53	20	
Chromium	0.53	0.0060	0.5000	0.05033	95.3	70	130	1.41	20	
Copper	0.50	0.0060	0.5000	0.002360	100	70	130	1.68	20	
Iron	0.76	0.020	0.5000	0.3157	89.2	70	130	1.06	20	
Manganese	0.60	0.0020	0.5000	0.1314	94.4	70	130	2.01	20	
Silver	0.10	0.0050	0.1000	0	100	70	130	0.792	20	
Zinc	0.48	0.010	0.5000	0.01347	92.5	70	130	1.69	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MB-32236**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**32236**	RunNo:	**43525**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1370902**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								

Sample ID	**LCSLL-32236**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**32236**	RunNo:	**43525**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1370903**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0072	0.0060	0.006000	0	119	50	150			

Sample ID	**LCS-32236**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**32236**	RunNo:	**43525**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1370904**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.49	0.0060	0.5000	0	97.4	85	115			

Sample ID	**1706127-007EMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**STP1-NW**	Batch ID:	**32236**	RunNo:	**43525**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1370911**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	103	70	130			

Sample ID	**1706127-007EMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**STP1-NW**	Batch ID:	**32236**	RunNo:	**43525**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1370915**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	102	70	130	0.696	20	

Sample ID	**MB-32327**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**32327**	RunNo:	**43557**					
Prep Date:	**6/16/2017**	Analysis Date:	**6/16/2017**	SeqNo:	**1373444**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**LLLCS-32327**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID: **32327**			RunNo: **43557**					
Prep Date:	**6/16/2017**	Analysis Date: **6/16/2017**			SeqNo: **1373445**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0056	0.010	0.005000	0	112	50	150			J

Sample ID	**LCS-32327**	SampType: **LCS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID: **32327**			RunNo: **43557**					
Prep Date:	**6/16/2017**	Analysis Date: **6/16/2017**			SeqNo: **1373446**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.47	0.010	0.5000	0	94.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370566** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.0	85	115			
Lead	0.012	0.00050	0.01250	0	93.0	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370567** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.7	85	115			
Lead	0.012	0.00050	0.01250	0	92.4	85	115			
Selenium	0.023	0.0010	0.02500	0	92.0	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370568** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	93.7	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.8	50	150			J

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370569** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00090	0.0010	0.001000	0	90.4	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.3	50	150			J
Selenium	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370570** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370571** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43553**	RunNo: **43553**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371730** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.3	85	115			
Selenium	0.025	0.0010	0.02500	0	99.0	85	115			
Uranium	0.012	0.00050	0.01250	0	94.5	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43553**	RunNo: **43553**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371731** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.3	85	115			
Selenium	0.024	0.0010	0.02500	0	97.5	85	115			
Uranium	0.012	0.00050	0.01250	0	93.3	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43553**	RunNo: **43553**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	95.6	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.5	50	150			J
Selenium	0.00096	0.0010	0.001000	0	95.9	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.9	50	150			J

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43553**	RunNo: **43553**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371734** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	95.9	50	150			J
Selenium	0.00093	0.0010	0.001000	0	93.1	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B43553**	RunNo:	**43553**					
Prep Date:		Analysis Date:	**6/15/2017**	SeqNo:	**1371734**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00046	0.00050	0.0005000	0	92.6	50	150			J

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**A43553**	RunNo:	**43553**					
Prep Date:		Analysis Date:	**6/15/2017**	SeqNo:	**1371736**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B43553**	RunNo:	**43553**					
Prep Date:		Analysis Date:	**6/15/2017**	SeqNo:	**1371737**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**1706127-002ELLMS**	SampType:	**MS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**OAPIS-1**	Batch ID:	**A43553**	RunNo:	**43553**					
Prep Date:		Analysis Date:	**6/15/2017**	SeqNo:	**1371758**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.064	0.0025	0.06250	0	103	70	130			
Uranium	0.083	0.0025	0.06250	0.01318	111	70	130			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B43632**	RunNo:	**43632**					
Prep Date:		Analysis Date:	**6/19/2017**	SeqNo:	**1374733**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	90.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B43632**	RunNo:	**43632**					
Prep Date:		Analysis Date:	**6/19/2017**	SeqNo:	**1374736**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00088	0.0010	0.001000	0	87.8	50	150			J

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B43632**	RunNo:	**43632**					
Prep Date:		Analysis Date:	**6/19/2017**	SeqNo:	**1374739**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**1706127-002FLLMS**	SampType:	**MSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**OAPIS-1**	Batch ID:	**32236**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369639**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.024	0.00050	0.01250	0.01150	101	70	130			

Sample ID	**MB-32236**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32236**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369657**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MB-32237**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32237**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369658**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-32236**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32236**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369659**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	103	85	115			
Lead	0.012	0.00050	0.01250	0	99.4	85	115			
Selenium	0.025	0.0010	0.02500	0	99.2	85	115			

Sample ID	**MSLCS-32237**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32237**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369660**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.012	0.00050	0.01250	0	99.0	85	115			
Selenium	0.025	0.0010	0.02500	0	98.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MSLCSLL-32236**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**32236**		RunNo:	**43489**				
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**		SeqNo:	**1369661**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	106	50	150			
Lead	0.00047	0.00050	0.0005000	0	94.8	50	150			J
Selenium	0.0011	0.0010	0.001000	0	107	50	150			

Sample ID	**MSLCSLL-32237**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**32237**		RunNo:	**43489**				
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**		SeqNo:	**1369662**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	98.5	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.4	50	150			J
Selenium	0.00092	0.0010	0.001000	0	91.6	50	150			J

Sample ID	**MB-32237**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**32237**		RunNo:	**43564**				
Prep Date:	**6/12/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1372366**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID	**MSLCS-32237**	SampType:	**LCS**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**LCSW**	Batch ID:	**32237**		RunNo:	**43564**				
Prep Date:	**6/12/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1372367**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	99.3	85	115			

Sample ID	**MSLCSLL-32237**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**32237**		RunNo:	**43564**				
Prep Date:	**6/12/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1372368**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00049	0.00050	0.0005000	0	97.3	50	150			J

Sample ID	**MB-32236**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**32236**		RunNo:	**43564**				
Prep Date:	**6/12/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1372369**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MSLCS-32236**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32236**	RunNo:	**43564**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/16/2017**	SeqNo:	**1372370**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.013	0.00050	0.01250	0	100	85	115			

Sample ID	**MSLCSLL-32236**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**32236**	RunNo:	**43564**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/16/2017**	SeqNo:	**1372371**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00048	0.00050	0.0005000	0	96.8	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MB-32299**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**32299**	RunNo:	**43533**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1371175**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-32299**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**32299**	RunNo:	**43533**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1371176**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.2	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**
27-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43284**	RunNo: **43284**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363536** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43284**	RunNo: **43284**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363537** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	107	90	110			
Chloride	4.7	0.50	5.000	0	94.7	90	110			
Bromide	2.4	0.10	2.500	0	97.8	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.9	90	110			
Sulfate	9.7	0.50	10.00	0	96.8	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.5	90	110			

Sample ID **1706127-005DMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **NAPIS-3**	Batch ID: **R43284**	RunNo: **43284**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363571** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.7210	89.2	68.4	112			
Bromide	3.6	0.10	2.500	1.395	88.2	77	108			

Sample ID **1706127-005DMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **NAPIS-3**	Batch ID: **R43284**	RunNo: **43284**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363572** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.2	0.10	0.5000	0.7210	91.8	68.4	112	1.11	20	
Bromide	3.7	0.10	2.500	1.395	90.3	77	108	1.48	20	

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43563**	RunNo: **43563**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1372229** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**
27-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43563**	RunNo: **43563**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1372229** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43563**	RunNo: **43563**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1372230** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43686**	RunNo: **43686**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1376095** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43686**	RunNo: **43686**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1376096** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **LCS-32115**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32115**	RunNo: **43268**
Prep Date: **6/5/2017**	Analysis Date: **6/6/2017**	SeqNo: **1362740** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.9	1.0	5.000	0	97.4	82.8	146			
Surr: DNOP	0.47		0.5000		93.0	72.4	157			

Sample ID **MB-32115**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32115**	RunNo: **43268**
Prep Date: **6/5/2017**	Analysis Date: **6/6/2017**	SeqNo: **1362741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		107	72.4	157			

Sample ID **1706127-002BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **OAPIS-1**	Batch ID: **32115**	RunNo: **43268**
Prep Date: **6/5/2017**	Analysis Date: **6/6/2017**	SeqNo: **1362865** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	14	1.0	5.000	9.296	96.0	87.2	145			
Surr: DNOP	0.56		0.5000		112	72.4	157			

Sample ID **1706127-002BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **OAPIS-1**	Batch ID: **32115**	RunNo: **43268**
Prep Date: **6/5/2017**	Analysis Date: **6/6/2017**	SeqNo: **1362866** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	14	1.0	5.000	9.296	104	87.2	145	2.71	20	
Surr: DNOP	0.58		0.5000		116	72.4	157	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R43288**	RunNo: **43288**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363150** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	22		20.00		109	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R43288**	RunNo: **43288**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363151** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0	110	79.1	123			
Surr: BFB	25		20.00		123	52.3	138			

Sample ID **1706127-002AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OAPIS-1**	Batch ID: **R43288**	RunNo: **43288**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363158** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	3.8	0.25	2.500	1.293	98.3	53.2	134			
Surr: BFB	150		100.0		154	52.3	138			S

Sample ID **1706127-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OAPIS-1**	Batch ID: **R43288**	RunNo: **43288**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363159** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	3.8	0.25	2.500	1.293	98.4	53.2	134	0.107	20	
Surr: BFB	150		100.0		153	52.3	138	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **C43303**	RunNo: **43303**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363800** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.1	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.9	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.7	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **C43303**	RunNo: **43303**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363801** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	97.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.8	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	9.9		10.00		98.8	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B43333**	RunNo: **43333**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1364263** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.4	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.0	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**
27-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B43333**	RunNo: **43333**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1364264** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	20	1.0	20.00	0	98.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.2	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.1	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT
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WO#: **1706127**
27-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43271**	RunNo: **43271**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1362055** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43271**	RunNo: **43271**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1362055** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.9	70	130			
Surr: Toluene-d8	9.9		10.00		99.5	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43271**	RunNo: **43271**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1362056** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43271**	RunNo: **43271**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1362056** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	95.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.2	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A43303**	RunNo: **43303**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363201** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.19	2.0								J
1-Methylnaphthalene	0.20	4.0								J
2-Methylnaphthalene	0.20	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A43303**	RunNo: **43303**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363201** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	0.17	3.0								J
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A43303**	RunNo: **43303**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363201** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.3		10.00		92.9	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.7	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A43303**	RunNo: **43303**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363202** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	20	1.0	20.00	0	97.6	70	130			
Chlorobenzene	19	1.0	20.00	0	95.7	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	89.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.8	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.8	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	9.9		10.00		98.8	70	130			

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365694** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	98.2	70	130			
Ethylbenzene	20	1.0	20.00	0	98.8	70	130			
Methyl tert-butyl ether (MTBE)	37	1.0	40.00	0	93.3	70	130			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	98.0	70	130			
1,3,5-Trimethylbenzene	19	1.0	20.00	0	96.4	70	130			
1,2-Dichloroethane (EDC)	19	1.0	20.00	0	93.4	62.2	143			
1,2-Dibromoethane (EDB)	19	1.0	20.00	0	93.0	70	130			
Naphthalene	17	2.0	20.00	0	83.4	70	130			
1-Methylnaphthalene	16	4.0	20.00	0	81.5	60	140			
2-Methylnaphthalene	12	4.0	20.00	0	61.9	60	140			
Acetone	38	10	40.00	0	94.5	60	140			
Bromobenzene	19	1.0	20.00	0	97.5	70	130			
Bromodichloromethane	20	1.0	20.00	0	102	70	130			
Bromoform	18	1.0	20.00	0	91.3	70	130			
Bromomethane	14	3.0	20.00	0	67.8	60	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365694** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Butanone	42	10	40.00	0	105	60	140			
Carbon disulfide	40	10	40.00	0	99.1	60	140			
Carbon Tetrachloride	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	99.6	70	130			
Chloroethane	21	2.0	20.00	0	103	60	140			
Chloroform	21	1.0	20.00	0	103	70	130			
Chloromethane	16	3.0	20.00	0	79.8	60	140			
2-Chlorotoluene	19	1.0	20.00	0	97.2	70	130			
4-Chlorotoluene	20	1.0	20.00	0	97.6	70	130			
cis-1,2-DCE	21	1.0	20.00	0	105	70	130			
cis-1,3-Dichloropropene	18	1.0	20.00	0	90.9	70	130			
1,2-Dibromo-3-chloropropane	18	2.0	20.00	0	88.1	70	130			
Dibromochloromethane	18	1.0	20.00	0	89.7	70	130			
Dibromomethane	20	1.0	20.00	0	98.7	70	130			
1,2-Dichlorobenzene	19	1.0	20.00	0	94.4	70	130			
1,3-Dichlorobenzene	20	1.0	20.00	0	97.5	70	130			
1,4-Dichlorobenzene	20	1.0	20.00	0	98.0	67.2	141			
Dichlorodifluoromethane	23	1.0	20.00	0	116	60	140			
1,1-Dichloroethane	20	1.0	20.00	0	98.7	52.6	157			
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			
1,2-Dichloropropane	20	1.0	20.00	0	98.3	63.7	138			
1,3-Dichloropropane	18	1.0	20.00	0	92.2	70	130			
2,2-Dichloropropane	20	2.0	20.00	0	101	70	130			
1,1-Dichloropropene	20	1.0	20.00	0	100	70	130			
Hexachlorobutadiene	16	1.0	20.00	0	80.6	70	130			
2-Hexanone	34	10	40.00	0	86.1	60	140			
Isopropylbenzene	20	1.0	20.00	0	99.3	70	130			
4-Isopropyltoluene	20	1.0	20.00	0	99.2	70	130			
4-Methyl-2-pentanone	35	10	40.00	0	87.4	60	140			
Methylene Chloride	20	3.0	20.00	0	100	70	130			
n-Butylbenzene	18	3.0	20.00	0	92.4	70	130			
n-Propylbenzene	19	1.0	20.00	0	96.8	70	130			
sec-Butylbenzene	19	1.0	20.00	0	94.3	70	130			
Styrene	20	1.0	20.00	0	98.6	70	130			
tert-Butylbenzene	19	1.0	20.00	0	97.5	70	130			
1,1,1,2-Tetrachloroethane	19	1.0	20.00	0	94.6	70	130			
1,1,2,2-Tetrachloroethane	19	2.0	20.00	0	93.8	65.9	133			
Tetrachloroethene (PCE)	21	1.0	20.00	0	104	70	130			
trans-1,2-DCE	20	1.0	20.00	0	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365694** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	17	1.0	20.00	0	85.7	70	130			
1,2,3-Trichlorobenzene	17	1.0	20.00	0	84.4	70	130			
1,2,4-Trichlorobenzene	17	1.0	20.00	0	86.3	70	130			
1,1,1-Trichloroethane	20	1.0	20.00	0	100	70	130			
1,1,2-Trichloroethane	18	1.0	20.00	0	91.9	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	99.8	70	130			
Trichlorofluoromethane	21	1.0	20.00	0	105	70	130			
1,2,3-Trichloropropane	19	2.0	20.00	0	94.0	69.7	129			
Vinyl chloride	19	1.0	20.00	0	96.2	70	130			
Xylenes, Total	59	1.5	60.00	0	99.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365697** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.14	2.0								J
1-Methylnaphthalene	0.35	4.0								J
2-Methylnaphthalene	0.38	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365697** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	0.13	3.0								J
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**
27-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365697** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **lcs-32109**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32109**	RunNo: **43321**
Prep Date: **6/5/2017**	Analysis Date: **6/7/2017**	SeqNo: **1364380** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	52	10	100.0	0	52.1	41.2	98.9			
4-Chloro-3-methylphenol	110	10	200.0	0	56.0	29.1	111			
2-Chlorophenol	100	10	200.0	0	50.3	23.3	108			
1,4-Dichlorobenzene	47	10	100.0	0	47.2	29.4	84.5			
2,4-Dinitrotoluene	43	10	100.0	0	43.2	36.6	88.7			
N-Nitrosodi-n-propylamine	55	10	100.0	0	55.3	46.9	106			
4-Nitrophenol	88	10	200.0	0	44.1	15	74.7			
Pentachlorophenol	98	20	200.0	0	48.8	28.1	85.4			
Phenol	93	10	200.0	0	46.6	15	78.2			
Pyrene	59	10	100.0	0	58.6	44.4	96.8			
1,2,4-Trichlorobenzene	55	10	100.0	0	54.7	34.3	89			
Surr: 2-Fluorophenol	91		200.0		45.7	15	98.1			
Surr: Phenol-d5	91		200.0		45.3	15	80.7			
Surr: 2,4,6-Tribromophenol	120		200.0		58.1	15	112			
Surr: Nitrobenzene-d5	55		100.0		54.7	27.2	90.7			
Surr: 2-Fluorobiphenyl	54		100.0		53.9	23.3	85.6			
Surr: 4-Terphenyl-d14	48		100.0		48.1	27.6	107			

Sample ID **lcsd-32109**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32109**	RunNo: **43321**
Prep Date: **6/5/2017**	Analysis Date: **6/7/2017**	SeqNo: **1364382** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	57	10	100.0	0	57.4	41.2	98.9	9.72	37.4	
4-Chloro-3-methylphenol	120	10	200.0	0	59.2	29.1	111	5.54	26.8	
2-Chlorophenol	120	10	200.0	0	58.2	23.3	108	14.6	30.3	
1,4-Dichlorobenzene	50	10	100.0	0	49.7	29.4	84.5	5.12	32	
2,4-Dinitrotoluene	49	10	100.0	0	49.3	36.6	88.7	13.3	36.7	
N-Nitrosodi-n-propylamine	57	10	100.0	0	56.9	46.9	106	2.78	29.9	
4-Nitrophenol	92	10	200.0	0	46.0	15	74.7	4.22	28.8	
Pentachlorophenol	100	20	200.0	0	52.2	28.1	85.4	6.67	38.2	
Phenol	96	10	200.0	0	47.8	15	78.2	2.50	39.8	
Pyrene	61	10	100.0	0	60.6	44.4	96.8	3.36	28.3	
1,2,4-Trichlorobenzene	57	10	100.0	0	57.0	34.3	89	3.97	39.8	
Surr: 2-Fluorophenol	100		200.0		50.5	15	98.1	0	0	
Surr: Phenol-d5	95		200.0		47.4	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		59.9	15	112	0	0	
Surr: Nitrobenzene-d5	61		100.0		61.5	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	57		100.0		57.1	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**
27-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **lcsd-32109**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32109**	RunNo: **43321**
Prep Date: **6/5/2017**	Analysis Date: **6/7/2017**	SeqNo: **1364382** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	50		100.0		50.1	27.6	107	0	0	

Sample ID **mb-32109**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32109**	RunNo: **43321**
Prep Date: **6/5/2017**	Analysis Date: **6/7/2017**	SeqNo: **1364384** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.0	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	4.9	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	5.8	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**
27-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **mb-32109**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32109**	RunNo: **43321**
Prep Date: **6/5/2017**	Analysis Date: **6/7/2017**	SeqNo: **1364384** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	4.9	20								J
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **mb-32109**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32109**	RunNo: **43321**
Prep Date: **6/5/2017**	Analysis Date: **6/7/2017**	SeqNo: **1364384** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	65		200.0		32.4	15	98.1			
Surr: Phenol-d5	55		200.0		27.5	15	80.7			
Surr: 2,4,6-Tribromophenol	110		200.0		54.7	15	112			
Surr: Nitrobenzene-d5	49		100.0		48.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	48		100.0		48.1	23.3	85.6			
Surr: 4-Terphenyl-d14	56		100.0		56.4	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **MB-1-32091**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **32091**	RunNo: **43382**							
Prep Date: **6/2/2017**	Analysis Date: **6/7/2017**	SeqNo: **1366057**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID **MB-2-32091**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **32091**	RunNo: **43382**							
Prep Date: **6/2/2017**	Analysis Date: **6/7/2017**	SeqNo: **1366058**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID **LCS-32091**	SampType: **LCS**	TestCode: **SM5210B: BOD**							
Client ID: **LCSW**	Batch ID: **32091**	RunNo: **43382**							
Prep Date: **6/2/2017**	Analysis Date: **6/7/2017**	SeqNo: **1366059**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	140	2.0	198.0	0	69.0	46.8	115			

Sample ID **LCSD-32091**	SampType: **LCSD**	TestCode: **SM5210B: BOD**							
Client ID: **LCSS02**	Batch ID: **32091**	RunNo: **43382**							
Prep Date: **6/2/2017**	Analysis Date: **6/7/2017**	SeqNo: **1366060**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	170	2.0	198.0	0	85.4	46.8	115	21.3	30.1	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706127**

27-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **MB-32183**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **32183**	RunNo: **43402**
Prep Date: **6/8/2017**	Analysis Date: **6/9/2017**	SeqNo: **1366371** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID **LCS-32183**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **32183**	RunNo: **43402**
Prep Date: **6/8/2017**	Analysis Date: **6/9/2017**	SeqNo: **1366372** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1706127** RcptNo: **1**

Received By: **Erin Melendrez** **6/2/2017 4:00:00 PM**

Completed By: **Ashley Gallegos** **6/4/2017 10:32:45 AM**

Reviewed By: SRE 06/05/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	~~Yes~~ ☑	No ☐ SRE	
9. Was preservative added to bottles?	Yes ☑	~~No~~ ☑ SRE	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 26, 1 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? yes
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SRE

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks: For metals analysis: Added 1 mL HNO_3 to -002F & -011F, and 0.4 mL HNO_3 to -011E for acceptable pH. Held for 24 hrs prior to analysis.

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

06/05/17 @ 1240 SRE

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush

Project Name:
2017 2ND QTR - GW

Project #:
QUARTERLY SAMPLING

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706127	8260B + MTBE	8015D EXTENDED	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major CATIONS/ANIONS	8270	CYANIDE	8011 FOR EDB	BOD/COD/TDS	8021R + MTBE					Air Bubbles (Y or N)
6/1/2017	700	H20	FIELD BLANK	3-40ML VOAS	HCL	-001	X														
6/1/2017	854	H20	OAPIS-1	MISC	MISC	002	X	X	X	X	X	X	X								
6/1/2017	1245	H20	NAPIS-2	MISC	MISC	003	X	X	X	X	X	X									
6/1/2017	1300	H20	KA-3	MISC	MISC	004	X	X	X	X	X	X									
6/2/2017	750	H20	NAPIS-3	MISC	MISC	005	X	X	X	X	X	X									
6/2/2017	854	H20	NAPIS-1	MISC	MISC	006	X	X	X	X	X	X									
6/2/2017	940	H20	STP1-NW	MISC	MISC	007	X	X	X	X	X										
6/2/2017	1037	H20	STP1 TO EP-2	MISC	MISC	008	X	X							X						
6/2/2017	1104	H20	EAST LDU	MISC	MISC	009		X	X	X						X					
6/2/2017	1115	H20	WEST LDU	MISC	MISC	-010		X	X	X						X					
6/2/2017		H20	DUPLICATE	MISC	MISC	-011	X	X	X	X	X	X									
6/2/2017	700	H20	FIELD BLANK	3-40ML VOAS	HCL	-012	X														
6/2/2017		H20	TRIP BLANK	3-40ML VOAS	HCL	-013	X														

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/2/2017	1300			6-2-17	1300
6/2/17	1600			06/02/17	1600

Remarks:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

June 26, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 2nd QTR GW OrderNo.: 1706133

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 6/2/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 7:00:00 AM
Lab ID: 1706133-001 **Matrix:** AQUEOUS **Received Date:** 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Toluene	0.18	0.064	1.0	J	µg/L	1	6/6/2017 4:20:00 PM	R43279
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Acetone	3.9	0.82	10	J	µg/L	1	6/6/2017 4:20:00 PM	R43279
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 4:20:00 PM	R43279
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 4:20:00 PM	R43279
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 4:20:00 PM	R43279

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 7:00:00 AM
Lab ID: 1706133-001 **Matrix:** AQUEOUS **Received Date:** 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 4:20:00 PM	R43279
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 4:20:00 PM	R43279
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 4:20:00 PM	R43279
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 4:20:00 PM	R43279
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	6/6/2017 4:20:00 PM	R43279
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	6/6/2017 4:20:00 PM	R43279
Surr: Dibromofluoromethane	117	0	70-130		%Rec	1	6/6/2017 4:20:00 PM	R43279
Surr: Toluene-d8	102	0	70-130		%Rec	1	6/6/2017 4:20:00 PM	R43279

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 11:40:00 AM
Lab ID: 1706133-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/7/2017 5:09:58 PM	32145
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.51	0.36	1.0	J	mg/L	1	6/7/2017 10:34:16 AM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/7/2017 10:34:16 AM	32115
Surr: DNOP	111	0	72.4-157		%Rec	1	6/7/2017 10:34:16 AM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.8	0.25	0.50		mg/L	10	6/5/2017 2:33:25 PM	G43256
Surr: BFB	111	0	52.3-138		%Rec	10	6/5/2017 2:33:25 PM	G43256
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.069	0.00085	0.0020		mg/L	1	6/7/2017 4:12:57 PM	B43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 4:12:57 PM	B43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 4:12:57 PM	B43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 4:12:57 PM	B43320
Iron	0.28	0.016	0.020		mg/L	1	6/7/2017 4:12:57 PM	B43320
Manganese	0.31	0.00038	0.0020	*	mg/L	1	6/7/2017 4:12:57 PM	B43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 4:12:57 PM	B43320
Zinc	0.024	0.0011	0.010		mg/L	1	6/7/2017 4:12:57 PM	B43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.070	0.00093	0.0020		mg/L	1	6/13/2017 5:34:16 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:34:16 PM	32237
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 5:34:16 PM	32237
Copper	ND	0.0017	0.0060		mg/L	1	6/13/2017 5:34:16 PM	32237
Iron	0.38	0.010	0.020	*	mg/L	1	6/13/2017 5:34:16 PM	32237
Manganese	0.32	0.0011	0.0020	*	mg/L	1	6/13/2017 5:34:16 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:34:16 PM	32237
Zinc	ND	0.0028	0.010		mg/L	1	6/13/2017 5:34:16 PM	32237
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0018	0.00089	0.0050	J	mg/L	5	6/15/2017 6:55:06 PM	B43553
Lead	ND	0.00017	0.00050		mg/L	1	6/14/2017 7:26:50 PM	C43513
Selenium	0.0038	0.0019	0.0050	J	mg/L	5	6/15/2017 6:55:06 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0017	0.0015	0.0050	J	mg/L	5	6/16/2017 10:35:38 AM	32237
Lead	ND	0.000095	0.00050		mg/L	1	6/14/2017 10:47:27 AM	32237
Selenium	ND	0.0036	0.0050		mg/L	5	6/16/2017 10:35:38 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:18:10 PM	32300

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 11:40:00 AM
Lab ID: 1706133-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Toluene	ND	0.64	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Ethylbenzene	ND	0.93	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Methyl tert-butyl ether (MTBE)	4000	24	100		µg/L	100	6/6/2017 4:44:00 PM	R43279
1,2,4-Trimethylbenzene	ND	1.1	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,3,5-Trimethylbenzene	ND	0.87	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Naphthalene	ND	1.1	20		µg/L	10	6/6/2017 5:07:00 PM	R43279
1-Methylnaphthalene	ND	1.6	40		µg/L	10	6/6/2017 5:07:00 PM	R43279
2-Methylnaphthalene	ND	1.5	40		µg/L	10	6/6/2017 5:07:00 PM	R43279
Acetone	14	8.2	100	J	µg/L	10	6/6/2017 5:07:00 PM	R43279
Bromobenzene	ND	1.4	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Bromodichloromethane	ND	1.8	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Bromoform	ND	2.1	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Bromomethane	ND	2.6	30		µg/L	10	6/6/2017 5:07:00 PM	R43279
2-Butanone	ND	11	100		µg/L	10	6/6/2017 5:07:00 PM	R43279
Carbon disulfide	ND	4.0	100		µg/L	10	6/6/2017 5:07:00 PM	R43279
Carbon Tetrachloride	ND	1.1	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Chlorobenzene	ND	1.1	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Chloroethane	ND	2.3	20		µg/L	10	6/6/2017 5:07:00 PM	R43279
Chloroform	ND	4.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Chloromethane	ND	2.9	30		µg/L	10	6/6/2017 5:07:00 PM	R43279
2-Chlorotoluene	ND	4.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
4-Chlorotoluene	ND	4.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
cis-1,2-DCE	ND	2.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	6/6/2017 5:07:00 PM	R43279
Dibromochloromethane	ND	0.72	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Dibromomethane	ND	0.91	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Dichlorodifluoromethane	ND	10	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,1-Dichloroethane	ND	4.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,1-Dichloroethene	ND	0.81	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2-Dichloropropane	ND	1.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,3-Dichloropropane	ND	1.7	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
2,2-Dichloropropane	ND	1.6	20		µg/L	10	6/6/2017 5:07:00 PM	R43279

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 11:40:00 AM
Lab ID: 1706133-002
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.93	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Hexachlorobutadiene	ND	8.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
2-Hexanone	ND	6.6	100		µg/L	10	6/6/2017 5:07:00 PM	R43279
Isopropylbenzene	ND	0.51	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
4-Isopropyltoluene	ND	0.96	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	6/6/2017 5:07:00 PM	R43279
Methylene Chloride	1.6	1.1	30	J	µg/L	10	6/6/2017 5:07:00 PM	R43279
n-Butylbenzene	ND	1.3	30		µg/L	10	6/6/2017 5:07:00 PM	R43279
n-Propylbenzene	ND	0.74	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
sec-Butylbenzene	ND	1.1	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Styrene	ND	1.6	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
tert-Butylbenzene	ND	1.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	6/6/2017 5:07:00 PM	R43279
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
trans-1,2-DCE	ND	1.8	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Trichlorofluoromethane	ND	1.8	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	6/6/2017 5:07:00 PM	R43279
Vinyl chloride	ND	1.8	10		µg/L	10	6/6/2017 5:07:00 PM	R43279
Xylenes, Total	ND	3.2	15		µg/L	10	6/6/2017 5:07:00 PM	R43279
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	10	6/6/2017 5:07:00 PM	R43279
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	10	6/6/2017 5:07:00 PM	R43279
Surr: Dibromofluoromethane	118	0	70-130		%Rec	10	6/6/2017 5:07:00 PM	R43279
Surr: Toluene-d8	99.8	0	70-130		%Rec	10	6/6/2017 5:07:00 PM	R43279

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 2:15:00 PM
Lab ID: 1706133-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/7/2017 5:25:16 PM	32145
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.6	0.36	1.0		mg/L	1	6/7/2017 11:02:31 AM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/7/2017 11:02:31 AM	32115
Surr: DNOP	114	0	72.4-157		%Rec	1	6/7/2017 11:02:31 AM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	35	1.2	2.5		mg/L	50	6/5/2017 2:57:08 PM	G43256
Surr: BFB	116	0	52.3-138		%Rec	50	6/5/2017 2:57:08 PM	G43256
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.2	0.0043	0.010	*	mg/L	5	6/7/2017 4:38:31 PM	B43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 4:26:53 PM	B43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 4:26:53 PM	B43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 4:26:53 PM	B43320
Iron	4.5	0.16	0.20	*	mg/L	10	6/7/2017 4:44:43 PM	B43320
Manganese	2.1	0.0019	0.010	*	mg/L	5	6/7/2017 4:38:31 PM	B43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 4:26:53 PM	B43320
Zinc	0.026	0.0011	0.010		mg/L	1	6/7/2017 4:26:53 PM	B43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.2	0.0093	0.020	*	mg/L	10	6/13/2017 5:46:06 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:38:06 PM	32237
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 5:38:06 PM	32237
Copper	ND	0.0017	0.0060		mg/L	1	6/13/2017 5:38:06 PM	32237
Iron	4.6	0.10	0.20	*	mg/L	10	6/13/2017 5:46:06 PM	32237
Manganese	2.1	0.011	0.020	*	mg/L	10	6/13/2017 5:46:06 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:38:06 PM	32237
Zinc	ND	0.0028	0.010		mg/L	1	6/13/2017 5:38:06 PM	32237
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0076	0.0018	0.010	J	mg/L	10	6/15/2017 6:58:10 PM	B43553
Lead	ND	0.00017	0.00050		mg/L	1	6/14/2017 7:29:53 PM	C43513
Selenium	0.0069	0.0039	0.010	J	mg/L	10	6/15/2017 6:58:10 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0074	0.0015	0.0050		mg/L	5	6/16/2017 10:38:39 AM	32237
Lead	0.00014	0.000095	0.00050	J	mg/L	1	6/14/2017 10:52:35 AM	32237
Selenium	0.0061	0.0036	0.0050		mg/L	5	6/16/2017 10:38:39 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:20:09 PM	32300

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 2:15:00 PM
Lab ID: 1706133-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	13000	31	500		µg/L	500	6/6/2017 5:31:00 PM	R43279
Toluene	4.0	3.2	50	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
Ethylbenzene	470	4.7	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Methyl tert-butyl ether (MTBE)	700	12	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2,4-Trimethylbenzene	11	5.6	50	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
1,3,5-Trimethylbenzene	ND	4.4	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Naphthalene	28	5.7	100	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
1-Methylnaphthalene	37	8.0	200	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
2-Methylnaphthalene	ND	7.6	200		µg/L	50	6/6/2017 5:55:00 PM	R43279
Acetone	ND	41	500		µg/L	50	6/6/2017 5:55:00 PM	R43279
Bromobenzene	ND	7.0	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Bromodichloromethane	ND	8.8	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Bromoform	ND	11	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Bromomethane	ND	13	150		µg/L	50	6/6/2017 5:55:00 PM	R43279
2-Butanone	ND	57	500		µg/L	50	6/6/2017 5:55:00 PM	R43279
Carbon disulfide	ND	20	500		µg/L	50	6/6/2017 5:55:00 PM	R43279
Carbon Tetrachloride	ND	5.5	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Chlorobenzene	ND	5.3	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Chloroethane	ND	12	100		µg/L	50	6/6/2017 5:55:00 PM	R43279
Chloroform	ND	20	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Chloromethane	ND	15	150		µg/L	50	6/6/2017 5:55:00 PM	R43279
2-Chlorotoluene	ND	20	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
4-Chlorotoluene	ND	20	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
cis-1,2-DCE	ND	10	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	6/6/2017 5:55:00 PM	R43279
Dibromochloromethane	ND	3.6	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Dibromomethane	ND	4.5	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,4-Dichlorobenzene	ND	20	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Dichlorodifluoromethane	ND	50	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,1-Dichloroethane	ND	20	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,1-Dichloroethene	ND	4.0	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2-Dichloropropane	ND	5.1	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,3-Dichloropropane	ND	8.4	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
2,2-Dichloropropane	ND	7.9	100		µg/L	50	6/6/2017 5:55:00 PM	R43279

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017 2nd QTR GW
Collection Date: 5/30/2017 2:15:00 PM
Lab ID: 1706133-003
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	4.6	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Hexachlorobutadiene	ND	40	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
2-Hexanone	ND	33	500		µg/L	50	6/6/2017 5:55:00 PM	R43279
Isopropylbenzene	14	2.6	50	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
4-Isopropyltoluene	ND	4.8	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
4-Methyl-2-pentanone	ND	35	500		µg/L	50	6/6/2017 5:55:00 PM	R43279
Methylene Chloride	7.3	5.4	150	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
n-Butylbenzene	ND	6.5	150		µg/L	50	6/6/2017 5:55:00 PM	R43279
n-Propylbenzene	21	3.7	50	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
sec-Butylbenzene	ND	5.5	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Styrene	ND	7.8	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
tert-Butylbenzene	ND	5.2	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	6/6/2017 5:55:00 PM	R43279
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
trans-1,2-DCE	ND	9.2	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Trichlorofluoromethane	ND	9.1	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
1,2,3-Trichloropropane	ND	19	100		µg/L	50	6/6/2017 5:55:00 PM	R43279
Vinyl chloride	ND	8.9	50		µg/L	50	6/6/2017 5:55:00 PM	R43279
Xylenes, Total	20	16	75	J	µg/L	50	6/6/2017 5:55:00 PM	R43279
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	50	6/6/2017 5:55:00 PM	R43279
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	50	6/6/2017 5:55:00 PM	R43279
Surr: Dibromofluoromethane	118	0	70-130		%Rec	50	6/6/2017 5:55:00 PM	R43279
Surr: Toluene-d8	103	0	70-130		%Rec	50	6/6/2017 5:55:00 PM	R43279

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 12:03:00 PM
Lab ID: 1706133-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/7/2017 5:40:33 PM	32145
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/7/2017 11:31:03 AM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/7/2017 11:31:03 AM	32115
Surr: DNOP	116	0	72.4-157		%Rec	1	6/7/2017 11:31:03 AM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.059	0.025	0.050		mg/L	1	6/5/2017 4:08:23 PM	G43256
Surr: BFB	111	0	52.3-138		%Rec	1	6/5/2017 4:08:23 PM	G43256
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.020	0.00085	0.0020		mg/L	1	6/7/2017 4:46:37 PM	B43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 4:46:37 PM	B43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 4:46:37 PM	B43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 4:46:37 PM	B43320
Iron	ND	0.016	0.020		mg/L	1	6/7/2017 4:46:37 PM	B43320
Manganese	0.019	0.00038	0.0020		mg/L	1	6/7/2017 4:46:37 PM	B43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 4:46:37 PM	B43320
Zinc	0.014	0.0011	0.010		mg/L	1	6/7/2017 4:46:37 PM	B43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.019	0.00093	0.0020		mg/L	1	6/13/2017 5:48:03 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:48:03 PM	32237
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 5:48:03 PM	32237
Copper	ND	0.0017	0.0060		mg/L	1	6/13/2017 5:48:03 PM	32237
Iron	ND	0.010	0.020		mg/L	1	6/13/2017 5:48:03 PM	32237
Manganese	0.019	0.0011	0.0020		mg/L	1	6/13/2017 5:48:03 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:48:03 PM	32237
Zinc	ND	0.0028	0.010		mg/L	1	6/13/2017 5:48:03 PM	32237
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00099	0.00018	0.0010	J	mg/L	1	6/15/2017 7:01:13 PM	B43553
Lead	ND	0.00017	0.00050		mg/L	1	6/15/2017 7:01:13 PM	B43553
Selenium	ND	0.0019	0.0050		mg/L	5	6/19/2017 4:42:30 PM	B43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00073	0.00030	0.0010	J	mg/L	1	6/16/2017 10:41:39 AM	32237
Lead	ND	0.000095	0.00050		mg/L	1	6/14/2017 10:57:44 AM	32237
Selenium	ND	0.00071	0.0010		mg/L	1	6/16/2017 10:41:39 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:22:08 PM	32300

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 12:03:00 PM
Lab ID: 1706133-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Methyl tert-butyl ether (MTBE)	58	0.24	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2-Dichloroethane (EDC)	0.84	0.40	1.0	J	µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Acetone	3.6	0.82	10	J	µg/L	1	6/6/2017 6:19:00 PM	R43279
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 6:19:00 PM	R43279
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 6:19:00 PM	R43279
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 6:19:00 PM	R43279

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 12:03:00 PM
Lab ID: 1706133-004
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 6:19:00 PM	R43279
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 6:19:00 PM	R43279
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 6:19:00 PM	R43279
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 6:19:00 PM	R43279
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	6/6/2017 6:19:00 PM	R43279
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	6/6/2017 6:19:00 PM	R43279
Surr: Dibromofluoromethane	119	0	70-130		%Rec	1	6/6/2017 6:19:00 PM	R43279
Surr: Toluene-d8	102	0	70-130		%Rec	1	6/6/2017 6:19:00 PM	R43279

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 8:20:00 AM
Lab ID: 1706133-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/7/2017 5:56:00 PM	32145
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.81	0.36	1.0	J	mg/L	1	6/7/2017 11:59:33 AM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/7/2017 11:59:33 AM	32115
Surr: DNOP	119	0	72.4-157		%Rec	1	6/7/2017 11:59:33 AM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.5	0.25	0.50		mg/L	10	6/5/2017 4:32:06 PM	G43256
Surr: BFB	110	0	52.3-138		%Rec	10	6/5/2017 4:32:06 PM	G43256
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00085	0.0020		mg/L	1	6/7/2017 4:50:36 PM	B43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 4:50:36 PM	B43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 4:50:36 PM	B43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 4:50:36 PM	B43320
Iron	0.068	0.016	0.020		mg/L	1	6/7/2017 4:50:36 PM	B43320
Manganese	0.045	0.00038	0.0020		mg/L	1	6/7/2017 4:50:36 PM	B43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 4:50:36 PM	B43320
Zinc	0.023	0.0011	0.010		mg/L	1	6/7/2017 4:50:36 PM	B43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00093	0.0020		mg/L	1	6/13/2017 5:52:11 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:52:11 PM	32237
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 5:52:11 PM	32237
Copper	ND	0.0017	0.0060		mg/L	1	6/20/2017 4:10:49 PM	32237
Iron	0.088	0.010	0.020		mg/L	1	6/13/2017 5:52:11 PM	32237
Manganese	0.047	0.0011	0.0020		mg/L	1	6/13/2017 5:52:11 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:52:11 PM	32237
Zinc	ND	0.0028	0.010		mg/L	1	6/13/2017 5:52:11 PM	32237
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0019	0.00089	0.0050	J	mg/L	5	6/15/2017 7:19:37 PM	B43553
Lead	0.00029	0.00017	0.00050	J	mg/L	1	6/15/2017 7:10:23 PM	B43553
Selenium	0.0041	0.0019	0.0050	J	mg/L	5	6/15/2017 7:19:37 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0015	0.0050		mg/L	5	6/16/2017 10:44:40 AM	32237
Lead	0.00031	0.000095	0.00050	J	mg/L	1	6/14/2017 11:02:52 AM	32237
Selenium	ND	0.0036	0.0050		mg/L	5	6/16/2017 10:44:40 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:24:09 PM	32300

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 8:20:00 AM
Lab ID: 1706133-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Toluene	ND	0.64	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Ethylbenzene	ND	0.93	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Methyl tert-butyl ether (MTBE)	3300	24	100		µg/L	100	6/6/2017 6:43:00 PM	R43279
1,2,4-Trimethylbenzene	ND	1.1	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,3,5-Trimethylbenzene	ND	0.87	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Naphthalene	ND	1.1	20		µg/L	10	6/6/2017 7:07:00 PM	R43279
1-Methylnaphthalene	ND	1.6	40		µg/L	10	6/6/2017 7:07:00 PM	R43279
2-Methylnaphthalene	ND	1.5	40		µg/L	10	6/6/2017 7:07:00 PM	R43279
Acetone	ND	8.2	100		µg/L	10	6/6/2017 7:07:00 PM	R43279
Bromobenzene	ND	1.4	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Bromodichloromethane	ND	1.8	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Bromoform	ND	2.1	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Bromomethane	ND	2.6	30		µg/L	10	6/6/2017 7:07:00 PM	R43279
2-Butanone	ND	11	100		µg/L	10	6/6/2017 7:07:00 PM	R43279
Carbon disulfide	ND	4.0	100		µg/L	10	6/6/2017 7:07:00 PM	R43279
Carbon Tetrachloride	ND	1.1	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Chlorobenzene	ND	1.1	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Chloroethane	ND	2.3	20		µg/L	10	6/6/2017 7:07:00 PM	R43279
Chloroform	ND	4.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Chloromethane	ND	2.9	30		µg/L	10	6/6/2017 7:07:00 PM	R43279
2-Chlorotoluene	ND	4.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
4-Chlorotoluene	ND	4.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
cis-1,2-DCE	ND	2.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	6/6/2017 7:07:00 PM	R43279
Dibromochloromethane	ND	0.72	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Dibromomethane	ND	0.91	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Dichlorodifluoromethane	ND	10	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,1-Dichloroethane	ND	4.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,1-Dichloroethene	ND	0.81	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2-Dichloropropane	ND	1.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,3-Dichloropropane	ND	1.7	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
2,2-Dichloropropane	ND	1.6	20		µg/L	10	6/6/2017 7:07:00 PM	R43279

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 8:20:00 AM
Lab ID: 1706133-005
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.93	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Hexachlorobutadiene	ND	8.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
2-Hexanone	ND	6.6	100		µg/L	10	6/6/2017 7:07:00 PM	R43279
Isopropylbenzene	ND	0.51	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
4-Isopropyltoluene	ND	0.96	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	6/6/2017 7:07:00 PM	R43279
Methylene Chloride	ND	1.1	30		µg/L	10	6/6/2017 7:07:00 PM	R43279
n-Butylbenzene	ND	1.3	30		µg/L	10	6/6/2017 7:07:00 PM	R43279
n-Propylbenzene	ND	0.74	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
sec-Butylbenzene	ND	1.1	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Styrene	ND	1.6	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
tert-Butylbenzene	ND	1.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	6/6/2017 7:07:00 PM	R43279
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
trans-1,2-DCE	ND	1.8	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Trichlorofluoromethane	ND	1.8	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	6/6/2017 7:07:00 PM	R43279
Vinyl chloride	ND	1.8	10		µg/L	10	6/6/2017 7:07:00 PM	R43279
Xylenes, Total	ND	3.2	15		µg/L	10	6/6/2017 7:07:00 PM	R43279
Surr: 1,2-Dichloroethane-d4	108	0	70-130		%Rec	10	6/6/2017 7:07:00 PM	R43279
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	10	6/6/2017 7:07:00 PM	R43279
Surr: Dibromofluoromethane	120	0	70-130		%Rec	10	6/6/2017 7:07:00 PM	R43279
Surr: Toluene-d8	102	0	70-130		%Rec	10	6/6/2017 7:07:00 PM	R43279

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-01
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 1:53:00 PM
Lab ID: 1706133-006
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/7/2017 6:11:24 PM	32145
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/7/2017 1:24:28 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/7/2017 1:24:28 PM	32115
Surr: DNOP	117	0	72.4-157		%Rec	1	6/7/2017 1:24:28 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/5/2017 4:55:54 PM	G43256
Surr: BFB	112	0	52.3-138		%Rec	1	6/5/2017 4:55:54 PM	G43256
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.18	0.044	0.10		mg/L	1	6/9/2017 1:49:17 PM	R43420
Chloride	91	5.0	10		mg/L	20	6/9/2017 2:01:41 PM	R43420
Bromide	0.28	0.014	0.10		mg/L	1	6/9/2017 1:49:17 PM	R43420
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/9/2017 1:49:17 PM	R43420
Sulfate	160	1.9	10		mg/L	20	6/9/2017 2:01:41 PM	R43420
Nitrate+Nitrite as N	0.28	0.13	1.0	J	mg/L	5	6/9/2017 2:38:55 PM	R43420
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.034	0.00085	0.0020		mg/L	1	6/7/2017 5:00:42 PM	B43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 5:00:42 PM	B43320
Calcium	2.2	0.078	1.0		mg/L	1	6/7/2017 5:00:42 PM	B43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 5:00:42 PM	B43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 5:00:42 PM	B43320
Iron	ND	0.016	0.020		mg/L	1	6/8/2017 6:28:25 PM	A43373
Magnesium	ND	0.25	1.0		mg/L	1	6/7/2017 5:00:42 PM	B43320
Manganese	0.0011	0.00038	0.0020	J	mg/L	1	6/7/2017 5:00:42 PM	B43320
Potassium	0.66	0.11	1.0	J	mg/L	1	6/7/2017 5:00:42 PM	B43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 5:00:42 PM	B43320
Sodium	300	1.6	10		mg/L	10	6/7/2017 5:02:42 PM	B43320
Zinc	0.020	0.0011	0.010		mg/L	1	6/7/2017 5:00:42 PM	B43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.036	0.00093	0.0020		mg/L	1	6/13/2017 5:56:02 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:56:02 PM	32237
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 5:56:02 PM	32237
Copper	0.0027	0.0017	0.0060	J	mg/L	1	6/13/2017 5:56:02 PM	32237
Iron	0.061	0.010	0.020		mg/L	1	6/13/2017 5:56:02 PM	32237
Manganese	0.0040	0.0011	0.0020		mg/L	1	6/13/2017 5:56:02 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:56:02 PM	32237
Zinc	0.0028	0.0028	0.010	J	mg/L	1	6/13/2017 5:56:02 PM	32237

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-01
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 1:53:00 PM
Lab ID: 1706133-006
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00098	0.00018	0.0010	J	mg/L	1	6/15/2017 7:22:41 PM	B43553
Lead	ND	0.00017	0.00050		mg/L	1	6/15/2017 7:22:41 PM	B43553
Selenium	0.0033	0.00039	0.0010		mg/L	1	6/15/2017 7:22:41 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00076	0.00030	0.0010	J	mg/L	1	6/16/2017 10:47:40 AM	32237
Lead	ND	0.000095	0.00050		mg/L	1	6/14/2017 11:08:01 AM	32237
Selenium	0.0028	0.00071	0.0010		mg/L	1	6/16/2017 10:47:40 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:30:12 PM	32300
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Methyl tert-butyl ether (MTBE)	1.6	0.24	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Acetone	5.2	0.82	10	J	µg/L	1	6/6/2017 7:30:00 PM	R43279
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 7:30:00 PM	R43279
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 7:30:00 PM	R43279
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 7:30:00 PM	R43279

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-01
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 1:53:00 PM
Lab ID: 1706133-006
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 7:30:00 PM	R43279
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 7:30:00 PM	R43279
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 7:30:00 PM	R43279
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 7:30:00 PM	R43279
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	6/6/2017 7:30:00 PM	R43279
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	6/6/2017 7:30:00 PM	R43279

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Client Sample ID: OW-01
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 1:53:00 PM
Lab ID: 1706133-006
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	115	0	70-130		%Rec	1	6/6/2017 7:30:00 PM	R43279
Surr: Toluene-d8	100	0	70-130		%Rec	1	6/6/2017 7:30:00 PM	R43279

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 3:05:00 PM
Lab ID: 1706133-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/7/2017 6:26:51 PM	32145
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/7/2017 1:52:28 PM	32115
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/7/2017 1:52:28 PM	32115
Surr: DNOP	119	0	72.4-157		%Rec	1	6/7/2017 1:52:28 PM	32115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.027	0.025	0.050	J	mg/L	1	6/5/2017 5:19:37 PM	G43256
Surr: BFB	114	0	52.3-138		%Rec	1	6/5/2017 5:19:37 PM	G43256
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.063	0.044	0.10	J	mg/L	1	6/9/2017 2:14:05 PM	R43420
Chloride	870	12	25		mg/L	50	6/16/2017 7:25:09 PM	R43601
Bromide	1.1	0.014	0.10		mg/L	1	6/9/2017 2:14:05 PM	R43420
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/9/2017 2:14:05 PM	R43420
Sulfate	180	1.9	10		mg/L	20	6/9/2017 2:26:30 PM	R43420
Nitrate+Nitrite as N	0.47	0.13	1.0	J	mg/L	5	6/9/2017 2:51:20 PM	R43420
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.056	0.00085	0.0020		mg/L	1	6/7/2017 5:04:27 PM	B43320
Cadmium	ND	0.0010	0.0020		mg/L	1	6/7/2017 5:04:27 PM	B43320
Calcium	95	0.078	1.0		mg/L	1	6/7/2017 5:04:27 PM	B43320
Chromium	ND	0.0010	0.0060		mg/L	1	6/7/2017 5:04:27 PM	B43320
Copper	ND	0.0032	0.0060		mg/L	1	6/7/2017 5:04:27 PM	B43320
Iron	ND	0.016	0.020		mg/L	1	6/8/2017 6:30:27 PM	A43373
Magnesium	17	0.25	1.0		mg/L	1	6/7/2017 5:04:27 PM	B43320
Manganese	0.074	0.00038	0.0020	*	mg/L	1	6/7/2017 5:04:27 PM	B43320
Potassium	1.3	0.11	1.0		mg/L	1	6/7/2017 5:04:27 PM	B43320
Silver	ND	0.00088	0.0050		mg/L	1	6/7/2017 5:04:27 PM	B43320
Sodium	600	1.6	10		mg/L	10	6/7/2017 5:06:23 PM	B43320
Zinc	0.023	0.0011	0.010		mg/L	1	6/7/2017 5:04:27 PM	B43320
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.057	0.00093	0.0020		mg/L	1	6/13/2017 5:59:50 PM	32237
Cadmium	ND	0.00058	0.0020		mg/L	1	6/13/2017 5:59:50 PM	32237
Chromium	ND	0.0011	0.0060		mg/L	1	6/13/2017 5:59:50 PM	32237
Copper	ND	0.0017	0.0060		mg/L	1	6/13/2017 5:59:50 PM	32237
Iron	ND	0.010	0.020		mg/L	1	6/13/2017 5:59:50 PM	32237
Manganese	0.075	0.0011	0.0020	*	mg/L	1	6/13/2017 5:59:50 PM	32237
Silver	ND	0.00042	0.0050		mg/L	1	6/13/2017 5:59:50 PM	32237
Zinc	ND	0.0028	0.010		mg/L	1	6/13/2017 5:59:50 PM	32237

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 3:05:00 PM
Lab ID: 1706133-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0018	0.00089	0.0050	J	mg/L	5	6/15/2017 7:31:51 PM	B43553
Lead	0.00025	0.00017	0.00050	J	mg/L	1	6/15/2017 7:28:47 PM	B43553
Selenium	0.012	0.0019	0.0050		mg/L	5	6/15/2017 7:31:51 PM	B43553
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0018	0.0015	0.0050	J	mg/L	5	6/16/2017 11:02:47 AM	32237
Lead	0.00023	0.000095	0.00050	J	mg/L	1	6/14/2017 11:13:09 AM	32237
Selenium	0.0096	0.00071	0.0010		mg/L	1	6/16/2017 10:59:46 AM	32237
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/15/2017 2:32:13 PM	32300
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Toluene	ND	0.064	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Methyl tert-butyl ether (MTBE)	22	0.24	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2-Dichloroethane (EDC)	0.45	0.40	1.0	J	µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Naphthalene	ND	0.11	2.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Acetone	5.0	0.82	10	J	µg/L	1	6/6/2017 7:55:00 PM	R43279
Bromobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Bromoform	ND	0.21	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Bromomethane	ND	0.26	3.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
2-Butanone	ND	1.1	10		µg/L	1	6/6/2017 7:55:00 PM	R43279
Carbon disulfide	ND	0.40	10		µg/L	1	6/6/2017 7:55:00 PM	R43279
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Chloroethane	ND	0.23	2.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Chloroform	ND	0.40	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Chloromethane	ND	0.29	3.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
cis-1,2-DCE	0.25	0.20	1.0	J	µg/L	1	6/6/2017 7:55:00 PM	R43279
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/6/2017 7:55:00 PM	R43279

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 3:05:00 PM
Lab ID: 1706133-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Dibromomethane	ND	0.091	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,1-Dichloroethane	1.1	0.40	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,1-Dichloroethene	0.90	0.081	1.0	J	µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
2-Hexanone	ND	0.66	10		µg/L	1	6/6/2017 7:55:00 PM	R43279
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/6/2017 7:55:00 PM	R43279
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Styrene	ND	0.16	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/6/2017 7:55:00 PM	R43279
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/6/2017 7:55:00 PM	R43279
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	6/6/2017 7:55:00 PM	R43279
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	6/6/2017 7:55:00 PM	R43279

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 2017 2nd QTR GW
Collection Date: 5/31/2017 3:05:00 PM
Lab ID: 1706133-007
Matrix: AQUEOUS
Received Date: 6/2/2017 4:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	120	0	70-130		%Rec	1	6/6/2017 7:55:00 PM	R43279
Surr: Toluene-d8	100	0	70-130		%Rec	1	6/6/2017 7:55:00 PM	R43279

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363774** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363780** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0024	0.0020	0.002000	0	119	50	150			
Cadmium	0.0024	0.0020	0.002000	0	123	50	150			
Calcium	0.55	1.0	0.5000	0	110	50	150			J
Chromium	0.0059	0.0060	0.006000	0	98.8	50	150			J
Copper	0.0065	0.0060	0.006000	0	108	50	150			
Iron	0.024	0.020	0.02000	0	120	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Potassium	0.54	1.0	0.5000	0	108	50	150			J
Silver	0.0051	0.0050	0.005000	0	103	50	150			
Sodium	0.53	1.0	0.5000	0	107	50	150			J
Zinc	0.0058	0.010	0.005000	0	116	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363781** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.2	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	97.0	85	115			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363781** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.49	0.0060	0.5000	0	98.4	85	115			
Iron	0.48	0.020	0.5000	0	95.9	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.48	0.0020	0.5000	0	95.6	85	115			
Potassium	49	1.0	50.00	0	98.9	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Zinc	0.47	0.010	0.5000	0	94.6	85	115			

Sample ID **1706133-002DMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **OW-29**	Batch ID: **B43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363933** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.06863	97.3	70	130			
Cadmium	0.50	0.0020	0.5000	0	99.9	70	130			
Chromium	0.49	0.0060	0.5000	0	98.3	70	130			
Copper	0.52	0.0060	0.5000	0	104	70	130			
Iron	0.75	0.020	0.5000	0.2810	94.3	70	130			
Manganese	0.78	0.0020	0.5000	0.3060	94.9	70	130			
Silver	0.095	0.0050	0.1000	0	95.4	70	130			
Zinc	0.51	0.010	0.5000	0.02390	98.1	70	130			

Sample ID **1706133-002DMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **OW-29**	Batch ID: **B43320**	RunNo: **43320**
Prep Date:	Analysis Date: **6/7/2017**	SeqNo: **1363934** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.06863	97.7	70	130	0.288	20	
Cadmium	0.50	0.0020	0.5000	0	100	70	130	0.210	20	
Chromium	0.50	0.0060	0.5000	0	99.1	70	130	0.821	20	
Copper	0.52	0.0060	0.5000	0	103	70	130	0.431	20	
Iron	0.75	0.020	0.5000	0.2810	93.3	70	130	0.651	20	
Manganese	0.78	0.0020	0.5000	0.3060	94.8	70	130	0.0256	20	
Silver	0.095	0.0050	0.1000	0	95.2	70	130	0.273	20	
Zinc	0.52	0.010	0.5000	0.02390	98.8	70	130	0.655	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**1706133-003DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-14**	Batch ID:	**B43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1364158**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	98.1	70	130			
Chromium	0.48	0.0060	0.5000	0	96.6	70	130			
Copper	0.52	0.0060	0.5000	0	105	70	130			
Silver	0.094	0.0050	0.1000	0	93.7	70	130			
Zinc	0.50	0.010	0.5000	0.02552	95.5	70	130			

Sample ID	**1706133-003DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-14**	Batch ID:	**B43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1364159**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	96.6	70	130	1.53	20	
Chromium	0.48	0.0060	0.5000	0	96.2	70	130	0.427	20	
Copper	0.51	0.0060	0.5000	0	102	70	130	2.31	20	
Silver	0.092	0.0050	0.1000	0	92.0	70	130	1.87	20	
Zinc	0.50	0.010	0.5000	0.02552	94.5	70	130	1.05	20	

Sample ID	**1706133-003DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-14**	Batch ID:	**B43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1364161**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	4.8	0.010	2.500	2.183	103	70	130			
Manganese	4.6	0.010	2.500	2.051	100	70	130			

Sample ID	**1706133-003DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-14**	Batch ID:	**B43320**		RunNo:	**43320**				
Prep Date:		Analysis Date:	**6/7/2017**		SeqNo:	**1364162**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	4.8	0.010	2.500	2.183	104	70	130	0.692	20	
Manganese	4.6	0.010	2.500	2.051	101	70	130	0.629	20	

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A43373**		RunNo:	**43373**				
Prep Date:		Analysis Date:	**6/8/2017**		SeqNo:	**1365750**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**LCSLL-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A43373**			RunNo: **43373**					
Prep Date:		Analysis Date: **6/8/2017**			SeqNo: **1365751**		Units: **mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.022	0.020	0.02000	0	112	50	150			

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A43373**			RunNo: **43373**					
Prep Date:		Analysis Date: **6/8/2017**			SeqNo: **1365752**		Units: **mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.48	0.020	0.5000	0	95.5	85	115			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **MB-32237**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **32237**	RunNo: **43471**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368831** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-32237**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **32237**	RunNo: **43471**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368832** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	78.5	50	150			J
Cadmium	0.0017	0.0020	0.002000	0	83.5	50	150			J
Chromium	0.0058	0.0060	0.006000	0	96.5	50	150			J
Copper	0.0068	0.0060	0.006000	0	113	50	150			
Iron	0.017	0.020	0.02000	0	85.4	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Silver	0.0050	0.0050	0.005000	0	101	50	150			
Zinc	0.0055	0.010	0.005000	0	110	50	150			J

Sample ID **LCS-32237**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32237**	RunNo: **43471**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368833** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.7	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.4	85	115			
Chromium	0.47	0.0060	0.5000	0	94.9	85	115			
Copper	0.49	0.0060	0.5000	0	98.2	85	115			
Iron	0.45	0.020	0.5000	0	90.6	85	115			
Manganese	0.47	0.0020	0.5000	0	94.1	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.46	0.010	0.5000	0	91.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370567** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	92.4	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370569** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	95.3	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C43513**	RunNo: **43513**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370571** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID **1706133-004DLLMS**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-13**	Batch ID: **B43553**	RunNo: **43553**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371695** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0.0009939	95.1	70	130	0.104	20	
Lead	0.012	0.00050	0.01250	0	98.2	70	130	0.864	20	

Sample ID **1706133-004DLLMS**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-13**	Batch ID: **B43553**	RunNo: **43553**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371696** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0.0009939	95.2	70	130			
Lead	0.012	0.00050	0.01250	0	97.3	70	130			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43553**	RunNo: **43553**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371731** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.3	85	115			
Lead	0.012	0.00050	0.01250	0	95.1	85	115			
Selenium	0.024	0.0010	0.02500	0	97.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B43553**		RunNo:	**43553**				
Prep Date:		Analysis Date:	**6/15/2017**		SeqNo:	**1371734**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	95.9	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.5	50	150			J
Selenium	0.00093	0.0010	0.001000	0	93.1	50	150			J

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B43553**		RunNo:	**43553**				
Prep Date:		Analysis Date:	**6/15/2017**		SeqNo:	**1371737**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**1706133-004DLLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**OW-13**	Batch ID:	**B43632**		RunNo:	**43632**				
Prep Date:		Analysis Date:	**6/19/2017**		SeqNo:	**1374678**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.12	0.0050	0.1250	0	92.8	70	130	3.61	20	

Sample ID	**1706133-004DLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**OW-13**	Batch ID:	**B43632**		RunNo:	**43632**				
Prep Date:		Analysis Date:	**6/19/2017**		SeqNo:	**1374679**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.11	0.0050	0.1250	0	89.5	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B43632**		RunNo:	**43632**				
Prep Date:		Analysis Date:	**6/19/2017**		SeqNo:	**1374733**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	90.4	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B43632**		RunNo:	**43632**				
Prep Date:		Analysis Date:	**6/19/2017**		SeqNo:	**1374736**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00088	0.0010	0.001000	0	87.8	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**
26-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374739** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MB-32237**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32237**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369658**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-32237**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32237**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369660**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.012	0.00050	0.01250	0	99.0	85	115			
Selenium	0.025	0.0010	0.02500	0	98.2	85	115			

Sample ID	**MSLCSLL-32237**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**32237**	RunNo:	**43489**					
Prep Date:	**6/12/2017**	Analysis Date:	**6/14/2017**	SeqNo:	**1369662**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	98.5	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.4	50	150			J
Selenium	0.00092	0.0010	0.001000	0	91.6	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MB-32300**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**32300**	RunNo:	**43533**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1372115**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-32300**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**32300**	RunNo:	**43533**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1372116**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	104	80	120			

Sample ID	**1706133-007FMS**	SampType:	**MS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**OW-10**	Batch ID:	**32300**	RunNo:	**43533**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1372125**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	75	125			

Sample ID	**1706133-007FMSD**	SampType:	**MSD**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**OW-10**	Batch ID:	**32300**	RunNo:	**43533**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1372126**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	75	125	0.342	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43420**	RunNo: **43420**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1367132** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43420**	RunNo: **43420**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1367133** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	107	90	110			
Chloride	4.8	0.50	5.000	0	96.4	90	110			
Bromide	2.5	0.10	2.500	0	99.0	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	101	90	110			
Sulfate	9.9	0.50	10.00	0	99.3	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.7	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43601**	RunNo: **43601**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1373580** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43601**	RunNo: **43601**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1373581** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID	**MB-32145**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**32145**	RunNo:	**43334**					
Prep Date:	**6/7/2017**	Analysis Date:	**6/7/2017**	SeqNo:	**1364477**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-32145**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**32145**	RunNo:	**43334**					
Prep Date:	**6/7/2017**	Analysis Date:	**6/7/2017**	SeqNo:	**1364479**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	106	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **LCS-32115**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32115**	RunNo: **43268**
Prep Date: **6/5/2017**	Analysis Date: **6/6/2017**	SeqNo: **1362740** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.9	1.0	5.000	0	97.4	82.8	146			
Surr: DNOP	0.47		0.5000		93.0	72.4	157			

Sample ID **MB-32115**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32115**	RunNo: **43268**
Prep Date: **6/5/2017**	Analysis Date: **6/6/2017**	SeqNo: **1362741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		107	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G43256**	RunNo: **43256**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1361982** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	22		20.00		112	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G43256**	RunNo: **43256**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1361984** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	99.0	79.1	123			
Surr: BFB	24		20.00		122	52.3	138			

Sample ID **1706133-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-14**	Batch ID: **G43256**	RunNo: **43256**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1361992** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	60	2.5	25.00	34.67	100	53.2	134			
Surr: BFB	1300		1000		126	52.3	138			

Sample ID **1706133-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-14**	Batch ID: **G43256**	RunNo: **43256**
Prep Date:	Analysis Date: **6/5/2017**	SeqNo: **1361993** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	60	2.5	25.00	34.67	100	53.2	134	0.100	20	
Surr: BFB	1300		1000		126	52.3	138	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**
26-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43279**	RunNo: **43279**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363259** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Ethylbenzene	21	1.0	20.00	0	104	70	130			
Methyl tert-butyl ether (MTBE)	38	1.0	40.00	0	95.6	70	130			
1,2,4-Trimethylbenzene	20	1.0	20.00	0	101	70	130			
1,3,5-Trimethylbenzene	20	1.0	20.00	0	99.6	70	130			
1,2-Dichloroethane (EDC)	19	1.0	20.00	0	97.0	62.2	143			
1,2-Dibromoethane (EDB)	19	1.0	20.00	0	96.4	70	130			
Naphthalene	17	2.0	20.00	0	86.0	70	130			
1-Methylnaphthalene	17	4.0	20.00	0	86.8	60	140			
2-Methylnaphthalene	13	4.0	20.00	0	66.8	60	140			
Acetone	37	10	40.00	0	92.2	60	140			
Bromobenzene	20	1.0	20.00	0	102	70	130			
Bromodichloromethane	21	1.0	20.00	0	105	70	130			
Bromoform	19	1.0	20.00	0	94.6	70	130			
Bromomethane	17	3.0	20.00	0	83.3	60	140			
2-Butanone	40	10	40.00	0	101	60	140			
Carbon disulfide	40	10	40.00	0	101	60	140			
Carbon Tetrachloride	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
Chloroethane	21	2.0	20.00	0	105	60	140			
Chloroform	21	1.0	20.00	0	106	70	130			
Chloromethane	16	3.0	20.00	0	77.7	60	140			
2-Chlorotoluene	20	1.0	20.00	0	100	70	130			
4-Chlorotoluene	20	1.0	20.00	0	100	70	130			
cis-1,2-DCE	21	1.0	20.00	0	107	70	130			
cis-1,3-Dichloropropene	19	1.0	20.00	0	94.5	70	130			
1,2-Dibromo-3-chloropropane	18	2.0	20.00	0	90.0	70	130			
Dibromochloromethane	19	1.0	20.00	0	92.8	70	130			
Dibromomethane	20	1.0	20.00	0	101	70	130			
1,2-Dichlorobenzene	20	1.0	20.00	0	99.3	70	130			
1,3-Dichlorobenzene	20	1.0	20.00	0	101	70	130			
1,4-Dichlorobenzene	20	1.0	20.00	0	101	67.2	141			
Dichlorodifluoromethane	24	1.0	20.00	0	119	60	140			
1,1-Dichloroethane	20	1.0	20.00	0	101	52.6	157			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
1,2-Dichloropropane	20	1.0	20.00	0	101	63.7	138			
1,3-Dichloropropane	19	1.0	20.00	0	95.1	70	130			
2,2-Dichloropropane	20	2.0	20.00	0	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43279**	RunNo: **43279**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363259** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	20	1.0	20.00	0	102	70	130			
Hexachlorobutadiene	17	1.0	20.00	0	84.8	70	130			
2-Hexanone	33	10	40.00	0	82.7	60	140			
Isopropylbenzene	21	1.0	20.00	0	103	70	130			
4-Isopropyltoluene	21	1.0	20.00	0	103	70	130			
4-Methyl-2-pentanone	35	10	40.00	0	87.5	60	140			
Methylene Chloride	21	3.0	20.00	0	103	70	130			
n-Butylbenzene	19	3.0	20.00	0	96.4	70	130			
n-Propylbenzene	20	1.0	20.00	0	99.9	70	130			
sec-Butylbenzene	20	1.0	20.00	0	98.6	70	130			
Styrene	21	1.0	20.00	0	103	70	130			
tert-Butylbenzene	20	1.0	20.00	0	100	70	130			
1,1,1,2-Tetrachloroethane	20	1.0	20.00	0	98.7	70	130			
1,1,2,2-Tetrachloroethane	19	2.0	20.00	0	95.4	65.9	133			
Tetrachloroethene (PCE)	21	1.0	20.00	0	107	70	130			
trans-1,2-DCE	21	1.0	20.00	0	104	70	130			
trans-1,3-Dichloropropene	18	1.0	20.00	0	89.8	70	130			
1,2,3-Trichlorobenzene	18	1.0	20.00	0	88.5	70	130			
1,2,4-Trichlorobenzene	18	1.0	20.00	0	90.0	70	130			
1,1,1-Trichloroethane	21	1.0	20.00	0	104	70	130			
1,1,2-Trichloroethane	19	1.0	20.00	0	94.1	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Trichlorofluoromethane	20	1.0	20.00	0	102	70	130			
1,2,3-Trichloropropane	19	2.0	20.00	0	94.3	69.7	129			
Vinyl chloride	20	1.0	20.00	0	99.2	70	130			
Xylenes, Total	62	1.5	60.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43279**	RunNo: **43279**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363261** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**
26-Jun-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43279**	RunNo: **43279**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363261** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706133**

26-Jun-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43279**	RunNo: **43279**
Prep Date:	Analysis Date: **6/6/2017**	SeqNo: **1363261** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	0.11	3.0								J
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1706133** RcptNo: **1**

Received By: **Erin Melendrez** **6/2/2017 4:00:00 PM**

Completed By: **Ashley Gallegos** **6/4/2017 10:55:20 AM**

Reviewed By: ENM 06/05/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 14 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? no
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SRR

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

Chain-of-Custody Record

Client: WESTERN REFINING - GALLUP REFINERY

Mailing Address: 92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
X Standard ☐ Rush

Project Name:
2017 - 2ND QTR - GW

Project #:
OW WELLS

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: X Yes ☐ No

Sample Temperature: 2.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706133	8260+MTBE	8015D (DRO/GRO/MRO)	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions		EPA METHOD 8011 FOR EDB								Air Bubbles (Y or N)
5/30/2017	700	aqueous	FIELD BLANK	3-40Ml VOAS	HCL	-001	X														
5/30/2017	1140	aqueous	OW-29	MISC	MISC	-002	X	X	X	X			X								
5/30/2017	1415	aqueous	OW-14	MISC	MISC	-003	X	X	X	X			X								
5/31/2017	1203	aqueous	OW-13	MISC	MISC	004	X	X	X	X			X								
5/31/2017	820	aqueous	OW-30	MISC	MISC	-005	X	X	X	X			X								
5/31/2017	1353	aqueous	OW-01	MISC	MISC	-006	X	X	X	X	X		X								
5/31/2017	1505	aqueous	OW-10	MISC	MISC	-007	X	X	X	X	X		X								
		aqueous		MISC	MISC	~~008~~															
~~2/27/2017~~		~~aqueous~~	~~TRIP BLANK~~	~~VOAS~~	~~HCL~~		*														

Date	Time	Relinquished by:	Received by:	Date	Time
6/2/17	1300		Eugenia Virgil	6-2-17	1300
6/2/17	1600			06/02/17	1600

Remarks:
DO NOT INCLUDE URANIUM "U" FOR WQCC METALS ANALYSIS

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 11, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 2nd Qtr MKTF OrderNo.: 1706384

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 12 sample(s) on 6/7/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 7:00:00 AM
Lab ID: 1706384-001 **Matrix:** AQUEOUS **Received Date:** 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.098	0.062	1.0	J	µg/L	1	6/9/2017 1:35:00 AM	W43347
Toluene	0.37	0.064	1.0	J	µg/L	1	6/9/2017 1:35:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2,4-Trimethylbenzene	0.13	0.11	1.0	J	µg/L	1	6/9/2017 1:35:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Naphthalene	0.14	0.11	2.0	J	µg/L	1	6/9/2017 1:35:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Acetone	3.9	0.82	10	J	µg/L	1	6/9/2017 1:35:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 1:35:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 1:35:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 1:35:00 AM	W43347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 7:00:00 AM
Lab ID: 1706384-001
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 1:35:00 AM	W43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 1:35:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 1:35:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 1:35:00 AM	W43347
Surr: 1,2-Dichloroethane-d4	98.5	0	70-130		%Rec	1	6/9/2017 1:35:00 AM	W43347
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	6/9/2017 1:35:00 AM	W43347
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/9/2017 1:35:00 AM	W43347
Surr: Toluene-d8	98.2	0	70-130		%Rec	1	6/9/2017 1:35:00 AM	W43347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd Qtr MKTF
Collection Date:
Lab ID: 1706384-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Acetone	3.4	0.82	10	J	µg/L	1	6/9/2017 2:47:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 2:47:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 2:47:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 2:47:00 AM	W43347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd Qtr MKTF
Collection Date:
Lab ID: 1706384-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 2:47:00 AM	W43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 2:47:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 2:47:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 2:47:00 AM	W43347
Surr: 1,2-Dichloroethane-d4	96.3	0	70-130		%Rec	1	6/9/2017 2:47:00 AM	W43347
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	6/9/2017 2:47:00 AM	W43347
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/9/2017 2:47:00 AM	W43347
Surr: Toluene-d8	98.6	0	70-130		%Rec	1	6/9/2017 2:47:00 AM	W43347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 8:45:00 AM
Lab ID: 1706384-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 10:46:15 AM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 10:46:15 AM	32186
Surr: DNOP	118	0	72.4-157		%Rec	1	6/9/2017 10:46:15 AM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/9/2017 11:21:24 AM	G43391
Surr: BFB	108	0	52.3-138		%Rec	1	6/9/2017 11:21:24 AM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.85	0.044	0.10		mg/L	1	6/15/2017 12:47:34 AM	R43515
Chloride	420	12	25		mg/L	50	6/23/2017 3:41:34 AM	R43718
Bromide	2.2	0.014	0.10		mg/L	1	6/15/2017 12:47:34 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 12:47:34 AM	R43515
Sulfate	160	1.9	10		mg/L	20	6/15/2017 12:59:59 AM	R43515
Nitrate+Nitrite as N	1.2	0.13	1.0		mg/L	5	6/15/2017 2:53:19 PM	R43554
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.046	0.00085	0.0020		mg/L	1	6/14/2017 3:14:25 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:14:25 PM	B43525
Calcium	43	0.078	1.0		mg/L	1	6/14/2017 3:14:25 PM	B43525
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:14:25 PM	B43525
Copper	0.010	0.0032	0.0060		mg/L	1	6/14/2017 3:14:25 PM	B43525
Iron	0.023	0.016	0.020		mg/L	1	6/14/2017 3:14:25 PM	B43525
Magnesium	8.9	0.25	1.0		mg/L	1	6/14/2017 3:14:25 PM	B43525
Manganese	0.0023	0.00038	0.0020		mg/L	1	6/14/2017 3:14:25 PM	B43525
Potassium	2.0	0.11	1.0		mg/L	1	6/14/2017 3:14:25 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:14:25 PM	B43525
Sodium	570	1.6	10		mg/L	10	6/14/2017 3:16:19 PM	B43525
Zinc	0.019	0.0011	0.010		mg/L	1	6/16/2017 5:52:49 PM	A43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.076	0.00093	0.0020		mg/L	1	6/16/2017 8:57:47 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 8:57:47 PM	32328
Chromium	ND	0.0011	0.0060		mg/L	1	6/16/2017 8:57:47 PM	32328
Copper	0.0032	0.0017	0.0060	J	mg/L	1	6/16/2017 8:57:47 PM	32328
Iron	1.6	0.051	0.10	*	mg/L	5	6/19/2017 1:56:01 PM	32328
Manganese	0.078	0.0011	0.0020	*	mg/L	1	6/16/2017 8:57:47 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 8:57:47 PM	32328
Zinc	0.0057	0.0028	0.010	J	mg/L	1	6/16/2017 8:57:47 PM	32328
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0040	0.00089	0.0050	J	mg/L	5	6/20/2017 5:14:22 PM	B43652

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 8:45:00 AM
Lab ID: 1706384-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 5:35:00 PM	B43632
Selenium	0.0086	0.0077	0.020	J	mg/L	20	6/20/2017 5:17:25 PM	B43652
Uranium	0.13	0.0010	0.010	*	mg/L	20	6/20/2017 5:17:25 PM	B43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0048	0.0030	0.010	J	mg/L	10	6/21/2017 11:11:32 AM	32328
Lead	0.0016	0.000095	0.00050		mg/L	1	6/21/2017 11:06:24 AM	32328
Selenium	0.012	0.0071	0.010		mg/L	10	6/21/2017 11:11:32 AM	32328
Uranium	0.16	0.0015	0.0050	*	mg/L	10	6/21/2017 11:11:32 AM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/21/2017 7:26:14 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Benzoic acid	7.0	3.9	20	J	µg/L	1	6/16/2017 1:30:00 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Bis(2-ethylhexyl)phthalate	5.4	4.8	10	J	µg/L	1	6/16/2017 1:30:00 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/16/2017 1:30:00 PM	32184

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 8:45:00 AM
Lab ID: 1706384-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 1:30:00 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 1:30:00 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 1:30:00 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 1:30:00 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 1:30:00 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 1:30:00 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 1:30:00 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 1:30:00 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 1:30:00 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 1:30:00 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 1:30:00 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 1:30:00 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Phenol	ND	3.1	10		µg/L	1	6/16/2017 1:30:00 PM	32184

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 8:45:00 AM
Lab ID: 1706384-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 1:30:00 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 1:30:00 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 1:30:00 PM	32184
Surr: 2-Fluorophenol	49.7	0	15-98.1		%Rec	1	6/16/2017 1:30:00 PM	32184
Surr: Phenol-d5	35.9	0	15-80.7		%Rec	1	6/16/2017 1:30:00 PM	32184
Surr: 2,4,6-Tribromophenol	76.5	0	15-112		%Rec	1	6/16/2017 1:30:00 PM	32184
Surr: Nitrobenzene-d5	84.4	0	27.2-90.7		%Rec	1	6/16/2017 1:30:00 PM	32184
Surr: 2-Fluorobiphenyl	82.2	0	23.3-85.6		%Rec	1	6/16/2017 1:30:00 PM	32184
Surr: 4-Terphenyl-d14	67.5	0	27.6-107		%Rec	1	6/16/2017 1:30:00 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Methyl tert-butyl ether (MTBE)	0.44	0.24	1.0	J	µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Acetone	3.3	0.82	10	J	µg/L	1	6/9/2017 3:10:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 3:10:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 3:10:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 8:45:00 AM
Lab ID: 1706384-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 3:10:00 AM	W43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 3:10:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 3:10:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 3:10:00 AM	W43347
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	1	6/9/2017 3:10:00 AM	W43347

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 8:45:00 AM
Lab ID: 1706384-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	6/9/2017 3:10:00 AM	W43347
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	6/9/2017 3:10:00 AM	W43347
Surr: Toluene-d8	98.9	0	70-130		%Rec	1	6/9/2017 3:10:00 AM	W43347

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 9:25:00 AM
Lab ID: 1706384-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 11:14:18 AM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 11:14:18 AM	32186
Surr: DNOP	116	0	72.4-157		%Rec	1	6/9/2017 11:14:18 AM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.030	0.025	0.050	J	mg/L	1	6/9/2017 11:45:02 AM	G43391
Surr: BFB	104	0	52.3-138		%Rec	1	6/9/2017 11:45:02 AM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.27	0.22	0.50	J	mg/L	5	6/22/2017 8:51:59 PM	R43718
Chloride	3800	120	250		mg/L	500	6/22/2017 9:04:24 PM	R43718
Bromide	3.3	0.29	2.0		mg/L	20	6/15/2017 1:24:49 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	5.0	10	H	mg/L	20	6/15/2017 1:24:49 AM	R43515
Sulfate	410	1.9	10		mg/L	20	6/15/2017 1:24:49 AM	R43515
Nitrate+Nitrite as N	2.5	0.52	4.0	J	mg/L	20	6/23/2017 6:16:13 PM	R43753
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.071	0.00085	0.0020		mg/L	1	6/14/2017 3:18:13 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:18:13 PM	B43525
Calcium	330	0.78	10		mg/L	10	6/14/2017 3:20:00 PM	B43525
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:18:13 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 3:18:13 PM	B43525
Iron	0.058	0.016	0.020		mg/L	1	6/14/2017 3:18:13 PM	B43525
Magnesium	60	0.25	1.0		mg/L	1	6/14/2017 3:18:13 PM	B43525
Manganese	0.064	0.00038	0.0020	*	mg/L	1	6/14/2017 3:18:13 PM	B43525
Potassium	13	0.11	1.0		mg/L	1	6/14/2017 3:18:13 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:18:13 PM	B43525
Sodium	2600	8.2	50		mg/L	50	7/3/2017 5:14:09 PM	B43974
Zinc	0.018	0.0011	0.010		mg/L	1	6/16/2017 5:54:43 PM	A43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.15	0.00093	0.0020		mg/L	1	6/16/2017 9:12:11 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:12:11 PM	32328
Chromium	0.0040	0.0011	0.0060	J	mg/L	1	6/16/2017 9:12:11 PM	32328
Copper	0.0029	0.0017	0.0060	J	mg/L	1	6/16/2017 9:12:11 PM	32328
Iron	4.8	0.051	0.10	*	mg/L	5	6/19/2017 2:01:50 PM	32328
Manganese	0.63	0.0011	0.0020	*	mg/L	1	6/16/2017 9:12:11 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:12:11 PM	32328
Zinc	0.017	0.0028	0.010		mg/L	1	6/16/2017 9:12:11 PM	32328
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.00089	0.0050	J	mg/L	5	6/20/2017 5:20:29 PM	B43652

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Collection Date: 6/5/2017 9:25:00 AM
Lab ID: 1706384-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	6/20/2017 5:20:29 PM	B43652
Selenium	0.011	0.0019	0.0050		mg/L	5	6/20/2017 5:20:29 PM	B43652
Uranium	0.058	0.0010	0.010	*	mg/L	20	6/20/2017 5:29:39 PM	B43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0042	0.0015	0.0050	J	mg/L	5	6/21/2017 11:16:41 AM	32328
Lead	0.0053	0.00048	0.0025		mg/L	5	6/21/2017 11:16:41 AM	32328
Selenium	0.011	0.0036	0.0050		mg/L	5	6/21/2017 11:16:41 AM	32328
Uranium	0.070	0.00077	0.0025	*	mg/L	5	6/21/2017 11:16:41 AM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000056	0.000037	0.00020	J	mg/L	1	6/21/2017 7:28:10 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Benzoic acid	6.8	3.9	20	J	µg/L	1	6/16/2017 1:58:16 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Bis(2-ethylhexyl)phthalate	5.3	4.8	10	J	µg/L	1	6/16/2017 1:58:16 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/16/2017 1:58:16 PM	32184

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 1:58:16 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 1:58:16 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 1:58:16 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 1:58:16 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 1:58:16 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 1:58:16 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 1:58:16 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 1:58:16 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 1:58:16 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 1:58:16 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 1:58:16 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 1:58:16 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Phenol	ND	3.1	10		µg/L	1	6/16/2017 1:58:16 PM	32184

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 1:58:16 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 1:58:16 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 1:58:16 PM	32184
Surr: 2-Fluorophenol	33.5	0	15-98.1		%Rec	1	6/16/2017 1:58:16 PM	32184
Surr: Phenol-d5	38.2	0	15-80.7		%Rec	1	6/16/2017 1:58:16 PM	32184
Surr: 2,4,6-Tribromophenol	63.9	0	15-112		%Rec	1	6/16/2017 1:58:16 PM	32184
Surr: Nitrobenzene-d5	79.7	0	27.2-90.7		%Rec	1	6/16/2017 1:58:16 PM	32184
Surr: 2-Fluorobiphenyl	83.6	0	23.3-85.6		%Rec	1	6/16/2017 1:58:16 PM	32184
Surr: 4-Terphenyl-d14	72.8	0	27.6-107		%Rec	1	6/16/2017 1:58:16 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Methyl tert-butyl ether (MTBE)	31	0.24	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Acetone	3.8	0.82	10	J	µg/L	1	6/9/2017 3:34:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 3:34:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 3:34:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,1-Dichloroethane	2.2	0.40	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,1-Dichloroethene	0.32	0.081	1.0	J	µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 3:34:00 AM	W43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 3:34:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 3:34:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 3:34:00 AM	W43347
Surr: 1,2-Dichloroethane-d4	96.0	0	70-130		%Rec	1	6/9/2017 3:34:00 AM	W43347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 9:25:00 AM
Lab ID: 1706384-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	6/9/2017 3:34:00 AM	W43347
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	6/9/2017 3:34:00 AM	W43347
Surr: Toluene-d8	99.0	0	70-130		%Rec	1	6/9/2017 3:34:00 AM	W43347

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:05:00 AM
Lab ID: 1706384-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/15/2017 12:09:45 PM	32301
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 11:42:25 AM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 11:42:25 AM	32186
Surr: DNOP	116	0	72.4-157		%Rec	1	6/9/2017 11:42:25 AM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.048	0.025	0.050	J	mg/L	1	6/9/2017 12:09:00 PM	G43391
Surr: BFB	102	0	52.3-138		%Rec	1	6/9/2017 12:09:00 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.0	0.044	0.10		mg/L	1	6/15/2017 1:37:13 AM	R43515
Chloride	620	12	25		mg/L	50	6/22/2017 9:16:48 PM	R43718
Bromide	0.78	0.014	0.10		mg/L	1	6/15/2017 1:37:13 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 1:37:13 AM	R43515
Sulfate	560	1.9	10		mg/L	20	6/15/2017 1:49:38 AM	R43515
Nitrate+Nitrite as N	0.30	0.13	1.0	J	mg/L	5	6/15/2017 3:18:08 PM	R43554
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.026	0.00085	0.0020		mg/L	1	6/14/2017 3:22:00 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:22:00 PM	B43525
Calcium	73	0.078	1.0		mg/L	1	6/14/2017 3:22:00 PM	B43525
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:22:00 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 3:22:00 PM	B43525
Iron	0.024	0.016	0.020		mg/L	1	6/14/2017 3:22:00 PM	B43525
Magnesium	15	0.25	1.0		mg/L	1	6/14/2017 3:22:00 PM	B43525
Manganese	0.017	0.00038	0.0020		mg/L	1	6/14/2017 3:22:00 PM	B43525
Potassium	0.33	0.11	1.0	J	mg/L	1	6/14/2017 3:22:00 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:22:00 PM	B43525
Sodium	760	1.6	10		mg/L	10	6/14/2017 3:23:57 PM	B43525
Zinc	0.014	0.0011	0.010		mg/L	1	6/16/2017 5:56:44 PM	A43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.26	0.00093	0.0020		mg/L	1	6/16/2017 9:14:02 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:14:02 PM	32328
Chromium	0.0077	0.0011	0.0060		mg/L	1	6/16/2017 9:14:02 PM	32328
Copper	0.0060	0.0017	0.0060		mg/L	1	6/16/2017 9:14:02 PM	32328
Iron	8.5	0.10	0.20	*	mg/L	10	6/19/2017 2:03:58 PM	32328
Manganese	0.38	0.0011	0.0020	*	mg/L	1	6/16/2017 9:14:02 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:14:02 PM	32328
Zinc	0.018	0.0028	0.010		mg/L	1	6/16/2017 9:14:02 PM	32328

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:05:00 AM
Lab ID: 1706384-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0015	0.00089	0.0050	J	mg/L	5	6/20/2017 5:41:57 PM	B43652
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 5:47:16 PM	B43632
Selenium	0.0044	0.00039	0.0010		mg/L	1	6/20/2017 5:38:54 PM	B43652
Uranium	0.039	0.00025	0.0025	*	mg/L	5	6/20/2017 5:41:57 PM	B43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0024	0.00030	0.0010		mg/L	1	6/23/2017 8:19:56 AM	32328
Lead	0.0070	0.000095	0.00050		mg/L	1	6/21/2017 11:32:10 AM	32328
Selenium	0.0035	0.00071	0.0010		mg/L	1	6/23/2017 8:19:56 AM	32328
Uranium	0.044	0.00077	0.0025	*	mg/L	5	6/21/2017 11:47:35 AM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000060	0.000037	0.00020	J	mg/L	1	6/21/2017 7:30:06 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Benzoic acid	6.6	3.9	20	J	µg/L	1	6/16/2017 2:26:17 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Bis(2-ethylhexyl)phthalate	13	4.8	10		µg/L	1	6/16/2017 2:26:17 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:05:00 AM
Lab ID: 1706384-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 2:26:17 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 2:26:17 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 2:26:17 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 2:26:17 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 2:26:17 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 2:26:17 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 2:26:17 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 2:26:17 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 2:26:17 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 2:26:17 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 2:26:17 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 2:26:17 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:05:00 AM
Lab ID: 1706384-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 2:26:17 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 2:26:17 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 2:26:17 PM	32184
Surr: 2-Fluorophenol	39.2	0	15-98.1		%Rec	1	6/16/2017 2:26:17 PM	32184
Surr: Phenol-d5	30.4	0	15-80.7		%Rec	1	6/16/2017 2:26:17 PM	32184
Surr: 2,4,6-Tribromophenol	69.7	0	15-112		%Rec	1	6/16/2017 2:26:17 PM	32184
Surr: Nitrobenzene-d5	68.0	0	27.2-90.7		%Rec	1	6/16/2017 2:26:17 PM	32184
Surr: 2-Fluorobiphenyl	69.0	0	23.3-85.6		%Rec	1	6/16/2017 2:26:17 PM	32184
Surr: 4-Terphenyl-d14	62.8	0	27.6-107		%Rec	1	6/16/2017 2:26:17 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.12	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Toluene	ND	0.13	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Ethylbenzene	ND	0.19	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Methyl tert-butyl ether (MTBE)	2.0	0.48	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2,4-Trimethylbenzene	ND	0.23	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.17	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2-Dichloroethane (EDC)	2.4	0.80	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.26	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Naphthalene	ND	0.23	4.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1-Methylnaphthalene	ND	0.32	8.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
2-Methylnaphthalene	ND	0.30	8.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Acetone	5.0	1.6	20	J	µg/L	2	6/9/2017 3:58:00 AM	W43347
Bromobenzene	ND	0.28	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Bromodichloromethane	ND	0.35	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Bromoform	ND	0.42	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Bromomethane	ND	0.51	6.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
2-Butanone	ND	2.3	20		µg/L	2	6/9/2017 3:58:00 AM	W43347
Carbon disulfide	ND	0.80	20		µg/L	2	6/9/2017 3:58:00 AM	W43347
Carbon Tetrachloride	ND	0.22	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Chlorobenzene	ND	0.21	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Chloroethane	ND	0.47	4.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Chloroform	ND	0.80	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Chloromethane	ND	0.59	6.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
2-Chlorotoluene	ND	0.80	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
4-Chlorotoluene	ND	0.80	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
cis-1,2-DCE	4.4	0.41	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:05:00 AM
Lab ID: 1706384-005 **Matrix:** AQUEOUS **Received Date:** 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.16	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2-Dibromo-3-chloropropane	ND	2.8	4.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Dibromochloromethane	ND	0.14	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Dibromomethane	ND	0.18	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2-Dichlorobenzene	ND	0.18	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,3-Dichlorobenzene	ND	0.30	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,4-Dichlorobenzene	ND	0.80	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Dichlorodifluoromethane	ND	2.0	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,1-Dichloroethane	57	0.80	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,1-Dichloroethene	4.4	0.16	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2-Dichloropropane	ND	0.20	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,3-Dichloropropane	ND	0.33	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
2,2-Dichloropropane	ND	0.31	4.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,1-Dichloropropene	ND	0.19	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Hexachlorobutadiene	ND	1.6	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
2-Hexanone	ND	1.3	20		µg/L	2	6/9/2017 3:58:00 AM	W43347
Isopropylbenzene	ND	0.10	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
4-Isopropyltoluene	ND	0.19	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	6/9/2017 3:58:00 AM	W43347
Methylene Chloride	1.0	0.22	6.0	J	µg/L	2	6/9/2017 3:58:00 AM	W43347
n-Butylbenzene	ND	0.26	6.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
n-Propylbenzene	ND	0.15	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
sec-Butylbenzene	ND	0.22	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Styrene	ND	0.31	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
tert-Butylbenzene	ND	0.21	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.21	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.27	4.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.26	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
trans-1,2-DCE	ND	0.37	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.44	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.23	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.28	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,1,1-Trichloroethane	0.72	0.15	2.0	J	µg/L	2	6/9/2017 3:58:00 AM	W43347
1,1,2-Trichloroethane	0.34	0.28	2.0	J	µg/L	2	6/9/2017 3:58:00 AM	W43347
Trichloroethene (TCE)	3.8	0.22	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Trichlorofluoromethane	ND	0.37	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
1,2,3-Trichloropropane	ND	0.78	4.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Vinyl chloride	ND	0.36	2.0		µg/L	2	6/9/2017 3:58:00 AM	W43347
Xylenes, Total	ND	0.64	3.0		µg/L	2	6/9/2017 3:58:00 AM	W43347

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:05:00 AM
Lab ID: 1706384-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	98.3	0	70-130		%Rec	2	6/9/2017 3:58:00 AM	W43347
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	2	6/9/2017 3:58:00 AM	W43347
Surr: Dibromofluoromethane	104	0	70-130		%Rec	2	6/9/2017 3:58:00 AM	W43347
Surr: Toluene-d8	99.7	0	70-130		%Rec	2	6/9/2017 3:58:00 AM	W43347

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:45:00 AM
Lab ID: 1706384-006
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.0	0.36	1.0		mg/L	1	6/9/2017 12:10:53 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 12:10:53 PM	32186
Surr: DNOP	115	0	72.4-157		%Rec	1	6/9/2017 12:10:53 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/9/2017 12:32:46 PM	G43391
Surr: BFB	102	0	52.3-138		%Rec	1	6/9/2017 12:32:46 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.68	0.044	0.10		mg/L	1	6/15/2017 2:02:02 AM	R43515
Chloride	150	5.0	10		mg/L	20	6/15/2017 2:14:27 AM	R43515
Bromide	0.55	0.014	0.10		mg/L	1	6/15/2017 2:02:02 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 2:02:02 AM	R43515
Sulfate	670	1.9	10		mg/L	20	6/15/2017 2:14:27 AM	R43515
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/22/2017 11:20:55 PM	R43718
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.031	0.00085	0.0020		mg/L	1	6/14/2017 3:25:51 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:25:51 PM	B43525
Calcium	76	0.078	1.0		mg/L	1	6/14/2017 3:25:51 PM	B43525
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:25:51 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 3:25:51 PM	B43525
Iron	0.029	0.016	0.020		mg/L	1	6/14/2017 3:25:51 PM	B43525
Magnesium	12	0.25	1.0		mg/L	1	6/14/2017 3:25:51 PM	B43525
Manganese	0.53	0.00038	0.0020	*	mg/L	1	6/14/2017 3:25:51 PM	B43525
Potassium	0.42	0.11	1.0	J	mg/L	1	6/14/2017 3:25:51 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:25:51 PM	B43525
Sodium	550	1.6	10		mg/L	10	6/14/2017 3:27:46 PM	B43525
Zinc	0.014	0.0011	0.010		mg/L	1	6/16/2017 5:58:37 PM	A43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.22	0.00093	0.0020		mg/L	1	6/16/2017 9:15:49 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:15:49 PM	32328
Chromium	0.0073	0.0011	0.0060		mg/L	1	6/16/2017 9:15:49 PM	32328
Copper	0.0075	0.0017	0.0060		mg/L	1	6/16/2017 9:15:49 PM	32328
Iron	5.5	0.10	0.20	*	mg/L	10	6/19/2017 2:05:56 PM	32328
Manganese	0.74	0.0011	0.0020	*	mg/L	1	6/16/2017 9:15:49 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:15:49 PM	32328
Zinc	0.011	0.0028	0.010		mg/L	1	6/16/2017 9:15:49 PM	32328
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0017	0.00018	0.0010		mg/L	1	6/20/2017 5:45:01 PM	B43652

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:45:00 AM
Lab ID: 1706384-006
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 5:50:20 PM	B43632
Selenium	0.0030	0.00039	0.0010		mg/L	1	6/20/2017 5:45:01 PM	B43652
Uranium	0.011	0.000050	0.00050		mg/L	1	6/19/2017 5:50:20 PM	B43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0022	0.00030	0.0010		mg/L	1	6/23/2017 8:28:58 AM	32328
Lead	0.0038	0.000095	0.00050		mg/L	1	6/21/2017 12:03:00 PM	32328
Selenium	0.0033	0.00071	0.0010		mg/L	1	6/23/2017 8:28:58 AM	32328
Uranium	0.012	0.00015	0.00050		mg/L	1	6/21/2017 12:03:00 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000057	0.000037	0.00020	J	mg/L	1	6/21/2017 7:32:03 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Benzoic acid	11	3.9	20	J	µg/L	1	6/16/2017 2:54:21 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Bis(2-ethylhexyl)phthalate	5.5	4.8	10	J	µg/L	1	6/16/2017 2:54:21 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Di-n-octyl phthalate	5.6	4.7	10	J	µg/L	1	6/16/2017 2:54:21 PM	32184

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:45:00 AM
Lab ID: 1706384-006
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 2:54:21 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 2:54:21 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 2:54:21 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 2:54:21 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 2:54:21 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 2:54:21 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 2:54:21 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 2:54:21 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 2:54:21 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 2:54:21 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 2:54:21 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 2:54:21 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Phenol	ND	3.1	10		µg/L	1	6/16/2017 2:54:21 PM	32184

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:45:00 AM
Lab ID: 1706384-006
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 2:54:21 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 2:54:21 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 2:54:21 PM	32184
Surr: 2-Fluorophenol	30.2	0	15-98.1		%Rec	1	6/16/2017 2:54:21 PM	32184
Surr: Phenol-d5	22.0	0	15-80.7		%Rec	1	6/16/2017 2:54:21 PM	32184
Surr: 2,4,6-Tribromophenol	66.4	0	15-112		%Rec	1	6/16/2017 2:54:21 PM	32184
Surr: Nitrobenzene-d5	69.3	0	27.2-90.7		%Rec	1	6/16/2017 2:54:21 PM	32184
Surr: 2-Fluorobiphenyl	70.4	0	23.3-85.6		%Rec	1	6/16/2017 2:54:21 PM	32184
Surr: 4-Terphenyl-d14	57.0	0	27.6-107		%Rec	1	6/16/2017 2:54:21 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Methyl tert-butyl ether (MTBE)	5.8	0.24	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2,4-Trimethylbenzene	0.15	0.11	1.0	J	µg/L	1	6/9/2017 4:22:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Acetone	2.5	0.82	10	J	µg/L	1	6/9/2017 4:22:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 4:22:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 4:22:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:45:00 AM
Lab ID: 1706384-006
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 4:22:00 AM	W43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 4:22:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 4:22:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 4:22:00 AM	W43347
Surr: 1,2-Dichloroethane-d4	94.0	0	70-130		%Rec	1	6/9/2017 4:22:00 AM	W43347

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 10:45:00 AM
Lab ID: 1706384-006
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	6/9/2017 4:22:00 AM	W43347
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	6/9/2017 4:22:00 AM	W43347
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	6/9/2017 4:22:00 AM	W43347

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 4:15:00 PM
Lab ID: 1706384-007
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	0.011	0.0064	0.010		µg/L	1	6/15/2017 12:24:58 PM	32301
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.8	0.36	1.0		mg/L	1	6/9/2017 12:39:17 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 12:39:17 PM	32186
Surr: DNOP	119	0	72.4-157		%Rec	1	6/9/2017 12:39:17 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	23	0.50	1.0		mg/L	20	6/9/2017 12:56:28 PM	G43391
Surr: BFB	122	0	52.3-138		%Rec	20	6/9/2017 12:56:28 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.044	0.10		mg/L	1	6/15/2017 2:51:41 AM	R43515
Chloride	620	12	25		mg/L	50	6/22/2017 9:29:13 PM	R43718
Bromide	0.42	0.014	0.10		mg/L	1	6/15/2017 2:51:41 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 2:51:41 AM	R43515
Sulfate	43	0.096	0.50		mg/L	1	6/15/2017 2:51:41 AM	R43515
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/23/2017 6:28:37 PM	R43753
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.25	0.00085	0.0020		mg/L	1	6/14/2017 3:37:45 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:37:45 PM	B43525
Calcium	120	0.78	10		mg/L	10	6/19/2017 2:57:52 PM	B43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:37:45 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 3:37:45 PM	B43525
Iron	0.21	0.016	0.020		mg/L	1	6/14/2017 3:37:45 PM	B43525
Magnesium	22	0.25	1.0		mg/L	1	6/14/2017 3:37:45 PM	B43525
Manganese	2.1	0.0038	0.020	*	mg/L	10	6/19/2017 2:57:52 PM	B43626
Potassium	2.0	0.11	1.0		mg/L	1	6/14/2017 3:37:45 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:37:45 PM	B43525
Sodium	550	1.6	10		mg/L	10	6/19/2017 2:57:52 PM	B43626
Zinc	0.015	0.0011	0.010		mg/L	1	6/16/2017 6:00:32 PM	A43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.27	0.00093	0.0020		mg/L	1	6/16/2017 9:17:36 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:17:36 PM	32328
Chromium	0.0021	0.0011	0.0060	J	mg/L	1	6/16/2017 9:17:36 PM	32328
Copper	0.0035	0.0017	0.0060	J	mg/L	1	6/16/2017 9:17:36 PM	32328
Iron	1.9	0.051	0.10	*	mg/L	5	6/19/2017 2:07:51 PM	32328
Manganese	2.1	0.0055	0.010	*	mg/L	5	6/19/2017 2:07:51 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:17:36 PM	32328
Zinc	0.0055	0.0028	0.010	J	mg/L	1	6/16/2017 9:17:36 PM	32328

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 4:15:00 PM
Lab ID: 1706384-007
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0029	0.00089	0.0050	J	mg/L	5	6/20/2017 5:48:04 PM	B43652
Lead	0.0012	0.00017	0.00050		mg/L	1	6/19/2017 5:53:23 PM	B43632
Selenium	0.0052	0.0019	0.0050		mg/L	5	6/20/2017 5:48:04 PM	B43652
Uranium	0.017	0.000050	0.00050		mg/L	1	6/19/2017 5:53:23 PM	B43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0029	0.0015	0.0050	J	mg/L	5	6/23/2017 8:31:59 AM	32328
Lead	0.0037	0.00048	0.0025		mg/L	5	6/21/2017 12:13:17 PM	32328
Selenium	0.0053	0.0036	0.0050		mg/L	5	6/23/2017 8:31:59 AM	32328
Uranium	0.017	0.00077	0.0025		mg/L	5	6/21/2017 12:13:17 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000045	0.000037	0.00020	J	mg/L	1	6/21/2017 7:35:43 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Benzoic acid	10	3.9	20	J	µg/L	1	6/16/2017 3:22:27 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Bis(2-ethylhexyl)phthalate	6.0	4.8	10	J	µg/L	1	6/16/2017 3:22:27 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 4:15:00 PM
Lab ID: 1706384-007
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 3:22:27 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 3:22:27 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 3:22:27 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 3:22:27 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 3:22:27 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 3:22:27 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 3:22:27 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 3:22:27 PM	32184
1-Methylnaphthalene	6.3	3.3	10	J	µg/L	1	6/16/2017 3:22:27 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 3:22:27 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Naphthalene	7.2	2.9	10	J	µg/L	1	6/16/2017 3:22:27 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 3:22:27 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 3:22:27 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 3:22:27 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 4:15:00 PM
Lab ID: 1706384-007
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	3.6	3.1	10	J	µg/L	1	6/16/2017 3:22:27 PM	32184
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 3:22:27 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 3:22:27 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 3:22:27 PM	32184
Surr: 2-Fluorophenol	36.3	0	15-98.1		%Rec	1	6/16/2017 3:22:27 PM	32184
Surr: Phenol-d5	28.0	0	15-80.7		%Rec	1	6/16/2017 3:22:27 PM	32184
Surr: 2,4,6-Tribromophenol	68.6	0	15-112		%Rec	1	6/16/2017 3:22:27 PM	32184
Surr: Nitrobenzene-d5	66.0	0	27.2-90.7		%Rec	1	6/16/2017 3:22:27 PM	32184
Surr: 2-Fluorobiphenyl	67.5	0	23.3-85.6		%Rec	1	6/16/2017 3:22:27 PM	32184
Surr: 4-Terphenyl-d14	59.2	0	27.6-107		%Rec	1	6/16/2017 3:22:27 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	6000	12	200		µg/L	200	6/9/2017 4:46:00 AM	W43347
Toluene	24	1.3	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Ethylbenzene	300	1.9	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Methyl tert-butyl ether (MTBE)	200	4.8	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2,4-Trimethylbenzene	4.2	2.3	20	J	µg/L	20	6/9/2017 5:10:00 AM	W43347
1,3,5-Trimethylbenzene	2.6	1.7	20	J	µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	8.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Naphthalene	9.4	2.3	40	J	µg/L	20	6/9/2017 5:10:00 AM	W43347
1-Methylnaphthalene	11	3.2	80	J	µg/L	20	6/9/2017 5:10:00 AM	W43347
2-Methylnaphthalene	ND	3.0	80		µg/L	20	6/9/2017 5:10:00 AM	W43347
Acetone	ND	16	200		µg/L	20	6/9/2017 5:10:00 AM	W43347
Bromobenzene	ND	2.8	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Bromodichloromethane	ND	3.5	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Bromoform	ND	4.2	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Bromomethane	ND	5.1	60		µg/L	20	6/9/2017 5:10:00 AM	W43347
2-Butanone	ND	23	200		µg/L	20	6/9/2017 5:10:00 AM	W43347
Carbon disulfide	ND	8.0	200		µg/L	20	6/9/2017 5:10:00 AM	W43347
Carbon Tetrachloride	ND	2.2	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Chlorobenzene	ND	2.1	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Chloroethane	ND	4.7	40		µg/L	20	6/9/2017 5:10:00 AM	W43347
Chloroform	ND	8.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Chloromethane	ND	5.9	60		µg/L	20	6/9/2017 5:10:00 AM	W43347
2-Chlorotoluene	ND	8.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
4-Chlorotoluene	ND	8.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
cis-1,2-DCE	29	4.1	20		µg/L	20	6/9/2017 5:10:00 AM	W43347

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 4:15:00 PM
Lab ID: 1706384-007
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	1.6	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	6/9/2017 5:10:00 AM	W43347
Dibromochloromethane	ND	1.4	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Dibromomethane	ND	1.8	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2-Dichlorobenzene	ND	1.8	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,3-Dichlorobenzene	ND	3.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Dichlorodifluoromethane	ND	20	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,1-Dichloroethane	88	8.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,1-Dichloroethene	39	1.6	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2-Dichloropropane	ND	2.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,3-Dichloropropane	ND	3.3	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
2,2-Dichloropropane	ND	3.1	40		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,1-Dichloropropene	ND	1.9	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Hexachlorobutadiene	ND	16	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
2-Hexanone	ND	13	200		µg/L	20	6/9/2017 5:10:00 AM	W43347
Isopropylbenzene	35	1.0	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
4-Isopropyltoluene	2.7	1.9	20	J	µg/L	20	6/9/2017 5:10:00 AM	W43347
4-Methyl-2-pentanone	ND	14	200		µg/L	20	6/9/2017 5:10:00 AM	W43347
Methylene Chloride	ND	2.2	60		µg/L	20	6/9/2017 5:10:00 AM	W43347
n-Butylbenzene	15	2.6	60	J	µg/L	20	6/9/2017 5:10:00 AM	W43347
n-Propylbenzene	89	1.5	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
sec-Butylbenzene	8.8	2.2	20	J	µg/L	20	6/9/2017 5:10:00 AM	W43347
Styrene	ND	3.1	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
tert-Butylbenzene	ND	2.1	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	2.1	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	6/9/2017 5:10:00 AM	W43347
Tetrachloroethene (PCE)	ND	2.6	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
trans-1,2-DCE	ND	3.7	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
trans-1,3-Dichloropropene	ND	4.4	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2,4-Trichlorobenzene	ND	2.8	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,1,1-Trichloroethane	ND	1.5	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Trichloroethene (TCE)	ND	2.2	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Trichlorofluoromethane	ND	3.7	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	6/9/2017 5:10:00 AM	W43347
Vinyl chloride	27	3.6	20		µg/L	20	6/9/2017 5:10:00 AM	W43347
Xylenes, Total	8.3	6.4	30	J	µg/L	20	6/9/2017 5:10:00 AM	W43347

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Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 4:15:00 PM
Lab ID: 1706384-007
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	93.2	0	70-130		%Rec	20	6/9/2017 5:10:00 AM	W43347
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	20	6/9/2017 5:10:00 AM	W43347
Surr: Dibromofluoromethane	100	0	70-130		%Rec	20	6/9/2017 5:10:00 AM	W43347
Surr: Toluene-d8	99.7	0	70-130		%Rec	20	6/9/2017 5:10:00 AM	W43347

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:05:00 PM
Lab ID: 1706384-008
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/15/2017 12:40:17 PM	32301
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.2	0.36	1.0		mg/L	1	6/9/2017 1:07:22 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 1:07:22 PM	32186
Surr: DNOP	119	0	72.4-157		%Rec	1	6/9/2017 1:07:22 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	8.4	0.12	0.25		mg/L	5	6/9/2017 2:07:38 PM	G43391
Surr: BFB	156	0	52.3-138	S	%Rec	5	6/9/2017 2:07:38 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.054	0.044	0.10	J	mg/L	1	6/15/2017 3:16:29 AM	R43515
Chloride	420	12	25		mg/L	50	6/22/2017 9:41:38 PM	R43718
Bromide	0.26	0.014	0.10		mg/L	1	6/15/2017 3:16:29 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 3:16:29 AM	R43515
Sulfate	130	1.9	10		mg/L	20	6/15/2017 3:28:54 AM	R43515
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/23/2017 6:41:02 PM	R43753
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.18	0.00085	0.0020		mg/L	1	6/14/2017 3:41:36 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:41:36 PM	B43525
Calcium	99	0.78	10		mg/L	10	6/14/2017 3:43:38 PM	B43525
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:41:36 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 3:41:36 PM	B43525
Iron	0.57	0.016	0.020	*	mg/L	1	6/14/2017 3:41:36 PM	B43525
Magnesium	20	0.25	1.0		mg/L	1	6/14/2017 3:41:36 PM	B43525
Manganese	2.3	0.0038	0.020	*	mg/L	10	6/14/2017 3:43:38 PM	B43525
Potassium	0.89	0.11	1.0	J	mg/L	1	6/14/2017 3:41:36 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:41:36 PM	B43525
Sodium	510	1.6	10		mg/L	10	6/14/2017 3:43:38 PM	B43525
Zinc	0.014	0.0011	0.010		mg/L	1	6/16/2017 6:02:25 PM	A43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.28	0.00093	0.0020		mg/L	1	6/16/2017 9:19:35 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:19:35 PM	32328
Chromium	0.0052	0.0011	0.0060	J	mg/L	1	6/16/2017 9:19:35 PM	32328
Copper	0.0080	0.0017	0.0060		mg/L	1	6/16/2017 9:19:35 PM	32328
Iron	4.8	0.051	0.10	*	mg/L	5	6/19/2017 2:09:48 PM	32328
Manganese	2.9	0.0055	0.010	*	mg/L	5	6/19/2017 2:09:48 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:19:35 PM	32328
Zinc	0.0084	0.0028	0.010	J	mg/L	1	6/16/2017 9:19:35 PM	32328

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Collection Date: 6/5/2017 12:05:00 PM
Lab ID: 1706384-008
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0047	0.00018	0.0010		mg/L	1	6/20/2017 5:51:07 PM	B43652
Lead	0.00027	0.00017	0.00050	J	mg/L	1	6/19/2017 5:56:26 PM	B43632
Selenium	0.0044	0.00039	0.0010		mg/L	1	6/20/2017 5:51:07 PM	B43652
Uranium	0.027	0.00025	0.0025		mg/L	5	6/20/2017 5:54:10 PM	B43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0047	0.00030	0.0010		mg/L	1	6/23/2017 8:34:59 AM	32328
Lead	0.0070	0.000095	0.00050		mg/L	1	6/21/2017 12:28:45 PM	32328
Selenium	0.0034	0.00071	0.0010		mg/L	1	6/23/2017 8:34:59 AM	32328
Uranium	0.032	0.00077	0.0025	*	mg/L	5	6/21/2017 12:33:53 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000056	0.000037	0.00020	J	mg/L	1	6/21/2017 7:37:41 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Benzoic acid	8.3	3.9	20	J	µg/L	1	6/16/2017 3:50:31 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Bis(2-ethylhexyl)phthalate	5.0	4.8	10	J	µg/L	1	6/16/2017 3:50:31 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:05:00 PM
Lab ID: 1706384-008
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	4.9	4.7	10	J	µg/L	1	6/16/2017 3:50:31 PM	32184
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 3:50:31 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 3:50:31 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 3:50:31 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 3:50:31 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 3:50:31 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 3:50:31 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 3:50:31 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 3:50:31 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 3:50:31 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 3:50:31 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 3:50:31 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 3:50:31 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:05:00 PM
Lab ID: 1706384-008
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	7.6	3.1	10	J	µg/L	1	6/16/2017 3:50:31 PM	32184
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 3:50:31 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 3:50:31 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 3:50:31 PM	32184
Surr: 2-Fluorophenol	31.8	0	15-98.1		%Rec	1	6/16/2017 3:50:31 PM	32184
Surr: Phenol-d5	26.4	0	15-80.7		%Rec	1	6/16/2017 3:50:31 PM	32184
Surr: 2,4,6-Tribromophenol	65.2	0	15-112		%Rec	1	6/16/2017 3:50:31 PM	32184
Surr: Nitrobenzene-d5	60.5	0	27.2-90.7		%Rec	1	6/16/2017 3:50:31 PM	32184
Surr: 2-Fluorobiphenyl	61.7	0	23.3-85.6		%Rec	1	6/16/2017 3:50:31 PM	32184
Surr: 4-Terphenyl-d14	54.6	0	27.6-107		%Rec	1	6/16/2017 3:50:31 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	620	3.1	50		µg/L	50	6/9/2017 5:34:00 AM	W43347
Toluene	2.8	0.32	5.0	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
Ethylbenzene	21	0.47	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Methyl tert-butyl ether (MTBE)	120	1.2	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2,4-Trimethylbenzene	1.3	0.56	5.0	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2-Dichloroethane (EDC)	6.4	2.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Naphthalene	2.2	0.57	10	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
1-Methylnaphthalene	3.1	0.80	20	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
2-Methylnaphthalene	ND	0.76	20		µg/L	5	6/9/2017 5:57:00 AM	W43347
Acetone	ND	4.1	50		µg/L	5	6/9/2017 5:57:00 AM	W43347
Bromobenzene	ND	0.70	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Bromodichloromethane	ND	0.88	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Bromoform	ND	1.1	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Bromomethane	ND	1.3	15		µg/L	5	6/9/2017 5:57:00 AM	W43347
2-Butanone	ND	5.7	50		µg/L	5	6/9/2017 5:57:00 AM	W43347
Carbon disulfide	ND	2.0	50		µg/L	5	6/9/2017 5:57:00 AM	W43347
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Chlorobenzene	ND	0.53	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Chloroethane	ND	1.2	10		µg/L	5	6/9/2017 5:57:00 AM	W43347
Chloroform	ND	2.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Chloromethane	ND	1.5	15		µg/L	5	6/9/2017 5:57:00 AM	W43347
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
cis-1,2-DCE	24	1.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:05:00 PM
Lab ID: 1706384-008
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	6/9/2017 5:57:00 AM	W43347
Dibromochloromethane	ND	0.36	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Dibromomethane	ND	0.45	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,1-Dichloroethane	160	2.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,1-Dichloroethene	86	0.40	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
2,2-Dichloropropane	ND	0.79	10		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
2-Hexanone	ND	3.3	50		µg/L	5	6/9/2017 5:57:00 AM	W43347
Isopropylbenzene	22	0.26	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
4-Isopropyltoluene	ND	0.48	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	6/9/2017 5:57:00 AM	W43347
Methylene Chloride	ND	0.54	15		µg/L	5	6/9/2017 5:57:00 AM	W43347
n-Butylbenzene	8.3	0.65	15	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
n-Propylbenzene	19	0.37	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
sec-Butylbenzene	3.6	0.55	5.0	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
Styrene	ND	0.78	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	6/9/2017 5:57:00 AM	W43347
Tetrachloroethene (PCE)	0.76	0.65	5.0	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,1,1-Trichloroethane	17	0.36	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,1,2-Trichloroethane	1.3	0.70	5.0	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
Trichloroethene (TCE)	19	0.56	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	6/9/2017 5:57:00 AM	W43347
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	6/9/2017 5:57:00 AM	W43347
Vinyl chloride	0.96	0.89	5.0	J	µg/L	5	6/9/2017 5:57:00 AM	W43347
Xylenes, Total	3.0	1.6	7.5	J	µg/L	5	6/9/2017 5:57:00 AM	W43347

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-25
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:05:00 PM
Lab ID: 1706384-008
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	88.8	0	70-130		%Rec	5	6/9/2017 5:57:00 AM	W43347
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	5	6/9/2017 5:57:00 AM	W43347
Surr: Dibromofluoromethane	96.2	0	70-130		%Rec	5	6/9/2017 5:57:00 AM	W43347
Surr: Toluene-d8	101	0	70-130		%Rec	5	6/9/2017 5:57:00 AM	W43347

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 1:40:00 PM
Lab ID: 1706384-009
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 1:35:28 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 1:35:28 PM	32186
Surr: DNOP	117	0	72.4-157		%Rec	1	6/9/2017 1:35:28 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/9/2017 2:31:22 PM	G43391
Surr: BFB	105	0	52.3-138		%Rec	1	6/9/2017 2:31:22 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.87	2.0		mg/L	20	6/15/2017 3:53:43 AM	R43515
Chloride	4400	120	250		mg/L	500	6/22/2017 9:54:03 PM	R43718
Bromide	2.8	0.29	2.0		mg/L	20	6/15/2017 3:53:43 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 3:41:18 AM	R43515
Sulfate	580	1.9	10		mg/L	20	6/15/2017 3:53:43 AM	R43515
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	6/23/2017 6:53:26 PM	R43753
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.079	0.00085	0.0020		mg/L	1	6/14/2017 3:45:33 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:45:33 PM	B43525
Calcium	330	0.78	10		mg/L	10	6/14/2017 3:47:32 PM	B43525
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:45:33 PM	B43525
Copper	0.0081	0.0032	0.0060		mg/L	1	6/14/2017 3:45:33 PM	B43525
Iron	0.053	0.016	0.020		mg/L	1	6/14/2017 3:45:33 PM	B43525
Magnesium	65	0.25	1.0		mg/L	1	6/14/2017 3:45:33 PM	B43525
Manganese	0.090	0.00038	0.0020	*	mg/L	1	6/14/2017 3:45:33 PM	B43525
Potassium	6.3	0.11	1.0		mg/L	1	6/14/2017 3:45:33 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:45:33 PM	B43525
Sodium	2500	8.2	50		mg/L	50	6/16/2017 6:24:06 PM	B43557
Zinc	0.018	0.0011	0.010		mg/L	1	6/16/2017 6:22:06 PM	B43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.15	0.00093	0.0020		mg/L	1	6/16/2017 9:21:21 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:21:21 PM	32328
Chromium	0.0018	0.0011	0.0060	J	mg/L	1	6/16/2017 9:21:21 PM	32328
Copper	ND	0.0017	0.0060		mg/L	1	6/16/2017 9:21:21 PM	32328
Iron	3.7	0.051	0.10	*	mg/L	5	6/19/2017 2:13:41 PM	32328
Manganese	0.13	0.0011	0.0020	*	mg/L	1	6/16/2017 9:21:21 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:21:21 PM	32328
Zinc	0.013	0.0028	0.010		mg/L	1	6/16/2017 9:21:21 PM	32328
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0023	0.00089	0.0050	J	mg/L	5	6/20/2017 5:57:14 PM	B43652

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J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 1:40:00 PM
Lab ID: 1706384-009
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	6/20/2017 5:57:14 PM	B43652
Selenium	0.0075	0.0039	0.010	J	mg/L	10	6/20/2017 6:00:17 PM	B43652
Uranium	0.058	0.00025	0.0025	*	mg/L	5	6/20/2017 5:57:14 PM	B43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0038	0.0015	0.0050	J	mg/L	5	6/23/2017 8:44:03 AM	32328
Lead	0.0052	0.00048	0.0025		mg/L	5	6/21/2017 12:39:02 PM	32328
Selenium	0.0089	0.0036	0.0050		mg/L	5	6/23/2017 8:44:03 AM	32328
Uranium	0.063	0.00077	0.0025	*	mg/L	5	6/21/2017 12:39:02 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000066	0.000037	0.00020	J	mg/L	1	6/21/2017 7:39:39 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Benzoic acid	8.5	3.9	20	J	µg/L	1	6/16/2017 4:18:35 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Bis(2-ethylhexyl)phthalate	8.2	4.8	10	J	µg/L	1	6/16/2017 4:18:35 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Di-n-octyl phthalate	5.3	4.7	10	J	µg/L	1	6/16/2017 4:18:35 PM	32184

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 1:40:00 PM
Lab ID: 1706384-009
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 4:18:35 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 4:18:35 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 4:18:35 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 4:18:35 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 4:18:35 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 4:18:35 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 4:18:35 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 4:18:35 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 4:18:35 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 4:18:35 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 4:18:35 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 4:18:35 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Phenol	ND	3.1	10		µg/L	1	6/16/2017 4:18:35 PM	32184

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 1:40:00 PM
Lab ID: 1706384-009
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 4:18:35 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 4:18:35 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 4:18:35 PM	32184
Surr: 2-Fluorophenol	42.1	0	15-98.1		%Rec	1	6/16/2017 4:18:35 PM	32184
Surr: Phenol-d5	34.1	0	15-80.7		%Rec	1	6/16/2017 4:18:35 PM	32184
Surr: 2,4,6-Tribromophenol	62.0	0	15-112		%Rec	1	6/16/2017 4:18:35 PM	32184
Surr: Nitrobenzene-d5	69.4	0	27.2-90.7		%Rec	1	6/16/2017 4:18:35 PM	32184
Surr: 2-Fluorobiphenyl	71.5	0	23.3-85.6		%Rec	1	6/16/2017 4:18:35 PM	32184
Surr: 4-Terphenyl-d14	53.5	0	27.6-107		%Rec	1	6/16/2017 4:18:35 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Methyl tert-butyl ether (MTBE)	0.46	0.24	1.0	J	µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Acetone	4.6	0.82	10	J	µg/L	1	6/9/2017 6:21:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 6:21:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 6:21:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 1:40:00 PM
Lab ID: 1706384-009
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,1-Dichloroethane	0.66	0.40	1.0	J	µg/L	1	6/9/2017 6:21:00 AM	W43347
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 6:21:00 AM	W43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 6:21:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 6:21:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 6:21:00 AM	W43347
Surr: 1,2-Dichloroethane-d4	97.1	0	70-130		%Rec	1	6/9/2017 6:21:00 AM	W43347

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-40
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 1:40:00 PM
Lab ID: 1706384-009
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	6/9/2017 6:21:00 AM	W43347
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	6/9/2017 6:21:00 AM	W43347
Surr: Toluene-d8	98.8	0	70-130		%Rec	1	6/9/2017 6:21:00 AM	W43347

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 2:45:00 PM
Lab ID: 1706384-010
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/15/2017 12:55:39 PM	32301
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.47	0.36	1.0	J	mg/L	1	6/9/2017 2:03:35 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 2:03:35 PM	32186
Surr: DNOP	117	0	72.4-157		%Rec	1	6/9/2017 2:03:35 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.15	0.025	0.050		mg/L	1	6/9/2017 2:55:04 PM	G43391
Surr: BFB	114	0	52.3-138		%Rec	1	6/9/2017 2:55:04 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.044	0.10		mg/L	1	6/15/2017 4:06:08 AM	R43515
Chloride	1200	25	50		mg/L	100	6/22/2017 10:06:27 PM	R43718
Bromide	1.4	0.014	0.10		mg/L	1	6/15/2017 4:06:08 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 4:06:08 AM	R43515
Sulfate	98	1.9	10		mg/L	20	6/15/2017 4:18:33 AM	R43515
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/23/2017 7:05:50 PM	R43753
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.14	0.00085	0.0020		mg/L	1	6/14/2017 3:49:26 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:49:26 PM	B43525
Calcium	210	0.78	10		mg/L	10	6/14/2017 3:51:20 PM	B43525
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 3:49:26 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 3:49:26 PM	B43525
Iron	ND	0.016	0.020		mg/L	1	6/14/2017 3:49:26 PM	B43525
Magnesium	45	0.25	1.0		mg/L	1	6/14/2017 3:49:26 PM	B43525
Manganese	0.013	0.00038	0.0020		mg/L	1	6/14/2017 3:49:26 PM	B43525
Potassium	1.4	0.11	1.0		mg/L	1	6/14/2017 3:49:26 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:49:26 PM	B43525
Sodium	600	1.6	10		mg/L	10	6/14/2017 3:51:20 PM	B43525
Zinc	0.012	0.0011	0.010		mg/L	1	6/16/2017 6:26:01 PM	B43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.16	0.00093	0.0020		mg/L	1	6/16/2017 9:23:00 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:23:00 PM	32328
Chromium	0.0019	0.0011	0.0060	J	mg/L	1	6/16/2017 9:23:00 PM	32328
Copper	ND	0.0017	0.0060		mg/L	1	6/16/2017 9:23:00 PM	32328
Iron	1.3	0.051	0.10	*	mg/L	5	6/19/2017 2:21:49 PM	32328
Manganese	0.053	0.0011	0.0020	*	mg/L	1	6/16/2017 9:23:00 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:23:00 PM	32328
Zinc	0.0052	0.0028	0.010	J	mg/L	1	6/16/2017 9:23:00 PM	32328

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Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0025	0.00089	0.0050	J	mg/L	5	6/20/2017 6:03:20 PM	B43652
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 7:16:29 PM	D43632
Selenium	0.0072	0.0019	0.0050		mg/L	5	6/20/2017 6:03:20 PM	B43652
Uranium	0.046	0.00025	0.0025	*	mg/L	5	6/20/2017 6:03:20 PM	B43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0026	0.0015	0.0050	J	mg/L	5	6/23/2017 8:47:04 AM	32328
Lead	0.0014	0.00048	0.0025	J	mg/L	5	6/21/2017 12:44:10 PM	32328
Selenium	0.0069	0.0036	0.0050		mg/L	5	6/23/2017 8:47:04 AM	32328
Uranium	0.051	0.00077	0.0025	*	mg/L	5	6/21/2017 12:44:10 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000059	0.000037	0.00020	J	mg/L	1	6/21/2017 7:45:41 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Benzoic acid	6.9	3.9	20	J	µg/L	1	6/16/2017 4:46:43 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Bis(2-ethylhexyl)phthalate	7.5	4.8	10	J	µg/L	1	6/16/2017 4:46:43 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	4.7	4.7	10	J	µg/L	1	6/16/2017 4:46:43 PM	32184
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 4:46:43 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 4:46:43 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 4:46:43 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 4:46:43 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 4:46:43 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 4:46:43 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 4:46:43 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 4:46:43 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 4:46:43 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 4:46:43 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 4:46:43 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 4:46:43 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 4:46:43 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 4:46:43 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 4:46:43 PM	32184
Surr: 2-Fluorophenol	2.69	0	15-98.1	S	%Rec	1	6/16/2017 4:46:43 PM	32184
Surr: Phenol-d5	2.22	0	15-80.7	S	%Rec	1	6/16/2017 4:46:43 PM	32184
Surr: 2,4,6-Tribromophenol	3.03	0	15-112	S	%Rec	1	6/16/2017 4:46:43 PM	32184
Surr: Nitrobenzene-d5	82.7	0	27.2-90.7		%Rec	1	6/16/2017 4:46:43 PM	32184
Surr: 2-Fluorobiphenyl	75.2	0	23.3-85.6		%Rec	1	6/16/2017 4:46:43 PM	32184
Surr: 4-Terphenyl-d14	64.8	0	27.6-107		%Rec	1	6/16/2017 4:46:43 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.66	0.062	1.0	J	µg/L	1	6/9/2017 6:45:00 AM	W43347
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Methyl tert-butyl ether (MTBE)	72	0.24	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2-Dichloroethane (EDC)	22	0.40	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Acetone	ND	0.82	10		µg/L	1	6/9/2017 6:45:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 6:45:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 6:45:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Chloroform	0.47	0.40	1.0	J	µg/L	1	6/9/2017 6:45:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
cis-1,2-DCE	1.7	0.20	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,1-Dichloroethane	36	0.40	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,1-Dichloroethene	70	0.081	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 6:45:00 AM	W43347
Isopropylbenzene	1.1	0.051	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 6:45:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
n-Butylbenzene	0.24	0.13	3.0	J	µg/L	1	6/9/2017 6:45:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
sec-Butylbenzene	0.36	0.11	1.0	J	µg/L	1	6/9/2017 6:45:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,1,1-Trichloroethane	5.1	0.073	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,1,2-Trichloroethane	2.3	0.14	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Trichloroethene (TCE)	4.3	0.11	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 6:45:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 6:45:00 AM	W43347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-31
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 2:45:00 PM
Lab ID: 1706384-010
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	94.9	0	70-130		%Rec	1	6/9/2017 6:45:00 AM	W43347
Surr: 4-Bromofluorobenzene	106	0	70-130		%Rec	1	6/9/2017 6:45:00 AM	W43347
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	6/9/2017 6:45:00 AM	W43347
Surr: Toluene-d8	101	0	70-130		%Rec	1	6/9/2017 6:45:00 AM	W43347

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 3:50:00 PM
Lab ID: 1706384-011
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 2:31:56 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 2:31:56 PM	32186
Surr: DNOP	117	0	72.4-157		%Rec	1	6/9/2017 2:31:56 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/9/2017 3:18:44 PM	G43391
Surr: BFB	103	0	52.3-138		%Rec	1	6/9/2017 3:18:44 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.044	0.10		mg/L	1	6/15/2017 4:30:56 AM	R43515
Chloride	1300	25	50		mg/L	100	6/22/2017 10:43:41 PM	R43718
Bromide	0.40	0.014	0.10		mg/L	1	6/15/2017 4:30:56 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 4:30:56 AM	R43515
Sulfate	80	1.9	10		mg/L	20	6/15/2017 4:43:21 AM	R43515
Nitrate+Nitrite as N	7.6	0.13	1.0		mg/L	5	6/23/2017 7:18:15 PM	R43753
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.14	0.00085	0.0020		mg/L	1	6/14/2017 3:53:16 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 3:53:16 PM	B43525
Calcium	33	0.078	1.0		mg/L	1	6/14/2017 3:53:16 PM	B43525
Chromium	0.011	0.0010	0.0060		mg/L	1	6/14/2017 3:53:16 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 3:53:16 PM	B43525
Iron	0.044	0.016	0.020		mg/L	1	6/14/2017 3:53:16 PM	B43525
Magnesium	2.9	0.25	1.0		mg/L	1	6/14/2017 3:53:16 PM	B43525
Manganese	0.0029	0.00038	0.0020		mg/L	1	6/14/2017 3:53:16 PM	B43525
Potassium	2.4	0.11	1.0		mg/L	1	6/14/2017 3:53:16 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/14/2017 3:53:16 PM	B43525
Sodium	1000	3.3	20		mg/L	20	6/16/2017 6:29:54 PM	B43557
Zinc	0.012	0.0011	0.010		mg/L	1	6/16/2017 6:27:56 PM	B43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.21	0.00093	0.0020		mg/L	1	6/16/2017 9:24:59 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:24:59 PM	32328
Chromium	0.016	0.0011	0.0060		mg/L	1	6/16/2017 9:24:59 PM	32328
Copper	0.0031	0.0017	0.0060	J	mg/L	1	6/16/2017 9:24:59 PM	32328
Iron	4.1	0.051	0.10	*	mg/L	5	6/19/2017 2:23:35 PM	32328
Manganese	0.14	0.0011	0.0020	*	mg/L	1	6/16/2017 9:24:59 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:24:59 PM	32328
Zinc	0.014	0.0028	0.010		mg/L	1	6/16/2017 9:24:59 PM	32328
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0035	0.00089	0.0050	J	mg/L	5	6/20/2017 6:18:40 PM	B43652

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 3:50:00 PM
Lab ID: 1706384-011
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	6/20/2017 6:18:40 PM	B43652
Selenium	0.012	0.00039	0.0010		mg/L	1	6/19/2017 7:19:32 PM	D43632
Uranium	0.13	0.0010	0.010	*	mg/L	20	6/20/2017 6:21:43 PM	B43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0039	0.00030	0.0010		mg/L	1	6/23/2017 8:53:05 AM	32328
Lead	0.0052	0.000095	0.00050		mg/L	1	6/21/2017 12:54:27 PM	32328
Selenium	0.011	0.00071	0.0010		mg/L	1	6/23/2017 8:53:05 AM	32328
Uranium	0.13	0.0015	0.0050	*	mg/L	10	6/21/2017 12:59:35 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000058	0.000037	0.00020	J	mg/L	1	6/21/2017 7:47:41 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Benzoic acid	7.0	3.9	20	J	µg/L	1	6/16/2017 5:15:03 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Bis(2-ethylhexyl)phthalate	6.7	4.8	10	J	µg/L	1	6/16/2017 5:15:03 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Di-n-octyl phthalate	4.7	4.7	10	J	µg/L	1	6/16/2017 5:15:03 PM	32184

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 3:50:00 PM
Lab ID: 1706384-011
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 5:15:03 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 5:15:03 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 5:15:03 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 5:15:03 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 5:15:03 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 5:15:03 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 5:15:03 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 5:15:03 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 5:15:03 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 5:15:03 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 5:15:03 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 5:15:03 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Phenol	ND	3.1	10		µg/L	1	6/16/2017 5:15:03 PM	32184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 3:50:00 PM
Lab ID: 1706384-011
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 5:15:03 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 5:15:03 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 5:15:03 PM	32184
Surr: 2-Fluorophenol	40.6	0	15-98.1		%Rec	1	6/16/2017 5:15:03 PM	32184
Surr: Phenol-d5	31.5	0	15-80.7		%Rec	1	6/16/2017 5:15:03 PM	32184
Surr: 2,4,6-Tribromophenol	61.6	0	15-112		%Rec	1	6/16/2017 5:15:03 PM	32184
Surr: Nitrobenzene-d5	73.3	0	27.2-90.7		%Rec	1	6/16/2017 5:15:03 PM	32184
Surr: 2-Fluorobiphenyl	68.1	0	23.3-85.6		%Rec	1	6/16/2017 5:15:03 PM	32184
Surr: 4-Terphenyl-d14	53.1	0	27.6-107		%Rec	1	6/16/2017 5:15:03 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Acetone	3.8	0.82	10	J	µg/L	1	6/9/2017 7:09:00 AM	W43347
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 7:09:00 AM	W43347
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 7:09:00 AM	W43347
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 3:50:00 PM
Lab ID: 1706384-011
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 7:09:00 AM	W43347
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 7:09:00 AM	W43347
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 7:09:00 AM	W43347
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 7:09:00 AM	W43347
Surr: 1,2-Dichloroethane-d4	95.8	0	70-130		%Rec	1	6/9/2017 7:09:00 AM	W43347

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 3:50:00 PM
Lab ID: 1706384-011
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	6/9/2017 7:09:00 AM	W43347
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	6/9/2017 7:09:00 AM	W43347
Surr: Toluene-d8	96.8	0	70-130		%Rec	1	6/9/2017 7:09:00 AM	W43347

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:20:00 PM
Lab ID: 1706384-012
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/15/2017 1:11:02 PM	32301
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.2	0.36	1.0		mg/L	1	6/9/2017 3:00:21 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 3:00:21 PM	32186
Surr: DNOP	117	0	72.4-157		%Rec	1	6/9/2017 3:00:21 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	8.0	0.12	0.25		mg/L	5	6/9/2017 3:42:34 PM	G43391
Surr: BFB	151	0	52.3-138	S	%Rec	5	6/9/2017 3:42:34 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.044	0.10		mg/L	1	6/15/2017 5:20:36 AM	R43515
Chloride	400	12	25		mg/L	50	6/22/2017 10:56:05 PM	R43718
Bromide	ND	0.014	0.10		mg/L	1	6/15/2017 5:20:36 AM	R43515
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 5:20:36 AM	R43515
Sulfate	120	1.9	10		mg/L	20	6/15/2017 5:33:00 AM	R43515
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/23/2017 7:30:39 PM	R43753
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.19	0.00085	0.0020		mg/L	1	6/14/2017 4:05:28 PM	B43525
Cadmium	ND	0.0010	0.0020		mg/L	1	6/14/2017 4:05:28 PM	B43525
Calcium	110	0.78	10		mg/L	10	6/16/2017 6:51:27 PM	B43557
Chromium	ND	0.0010	0.0060		mg/L	1	6/14/2017 4:05:28 PM	B43525
Copper	ND	0.0032	0.0060		mg/L	1	6/14/2017 4:05:28 PM	B43525
Iron	0.50	0.016	0.020	*	mg/L	1	6/14/2017 4:05:28 PM	B43525
Magnesium	21	0.25	1.0		mg/L	1	6/14/2017 4:05:28 PM	B43525
Manganese	2.3	0.0038	0.020	*	mg/L	10	6/16/2017 6:51:27 PM	B43557
Potassium	0.91	0.11	1.0	J	mg/L	1	6/14/2017 4:05:28 PM	B43525
Silver	ND	0.00088	0.0050		mg/L	1	6/16/2017 6:31:46 PM	B43557
Sodium	550	1.6	10		mg/L	10	6/16/2017 6:51:27 PM	B43557
Zinc	0.016	0.0011	0.010		mg/L	1	6/16/2017 6:31:46 PM	B43557
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.26	0.00093	0.0020		mg/L	1	6/16/2017 9:33:09 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:33:09 PM	32328
Chromium	0.0036	0.0011	0.0060	J	mg/L	1	6/16/2017 9:33:09 PM	32328
Copper	0.0074	0.0017	0.0060		mg/L	1	6/16/2017 9:33:09 PM	32328
Iron	3.8	0.051	0.10	*	mg/L	5	6/19/2017 2:25:35 PM	32328
Manganese	2.7	0.0055	0.010	*	mg/L	5	6/19/2017 2:25:35 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:33:09 PM	32328
Zinc	0.0080	0.0028	0.010	J	mg/L	1	6/16/2017 9:33:09 PM	32328

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:20:00 PM
Lab ID: 1706384-012
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0043	0.00018	0.0010		mg/L	1	6/20/2017 6:47:32 PM	C43652
Lead	0.00039	0.00017	0.00050	J	mg/L	1	6/19/2017 7:22:35 PM	D43632
Selenium	0.0036	0.00039	0.0010		mg/L	1	6/19/2017 7:22:35 PM	D43632
Uranium	0.026	0.00025	0.0025		mg/L	5	6/20/2017 6:50:35 PM	C43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0057	0.0015	0.0050		mg/L	5	6/23/2017 8:56:06 AM	32328
Lead	0.0052	0.00048	0.0025		mg/L	5	6/21/2017 1:04:44 PM	32328
Selenium	0.0057	0.0036	0.0050		mg/L	5	6/23/2017 8:56:06 AM	32328
Uranium	0.031	0.00077	0.0025	*	mg/L	5	6/21/2017 1:04:44 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000052	0.000037	0.00020	J	mg/L	1	6/21/2017 7:49:41 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Benzoic acid	11	3.9	20	J	µg/L	1	6/16/2017 5:43:44 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Bis(2-ethylhexyl)phthalate	13	4.8	10		µg/L	1	6/16/2017 5:43:44 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:20:00 PM
Lab ID: 1706384-012
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 5:43:44 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 5:43:44 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 5:43:44 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 5:43:44 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 5:43:44 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 5:43:44 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 5:43:44 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 5:43:44 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 5:43:44 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 5:43:44 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 5:43:44 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 5:43:44 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184

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Client Sample ID: DUPLICATE
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:20:00 PM
Lab ID: 1706384-012
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	8.6	3.1	10	J	µg/L	1	6/16/2017 5:43:44 PM	32184
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 5:43:44 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 5:43:44 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 5:43:44 PM	32184
Surr: 2-Fluorophenol	40.2	0	15-98.1		%Rec	1	6/16/2017 5:43:44 PM	32184
Surr: Phenol-d5	29.8	0	15-80.7		%Rec	1	6/16/2017 5:43:44 PM	32184
Surr: 2,4,6-Tribromophenol	64.8	0	15-112		%Rec	1	6/16/2017 5:43:44 PM	32184
Surr: Nitrobenzene-d5	72.0	0	27.2-90.7		%Rec	1	6/16/2017 5:43:44 PM	32184
Surr: 2-Fluorobiphenyl	72.0	0	23.3-85.6		%Rec	1	6/16/2017 5:43:44 PM	32184
Surr: 4-Terphenyl-d14	58.2	0	27.6-107		%Rec	1	6/16/2017 5:43:44 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	570	3.1	50		µg/L	50	6/9/2017 7:32:00 AM	W43347
Toluene	2.5	0.32	5.0	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
Ethylbenzene	18	0.47	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Methyl tert-butyl ether (MTBE)	130	1.2	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2,4-Trimethylbenzene	1.1	0.56	5.0	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2-Dichloroethane (EDC)	6.6	2.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Naphthalene	2.0	0.57	10	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
1-Methylnaphthalene	2.9	0.80	20	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
2-Methylnaphthalene	ND	0.76	20		µg/L	5	6/9/2017 7:56:00 AM	W43347
Acetone	ND	4.1	50		µg/L	5	6/9/2017 7:56:00 AM	W43347
Bromobenzene	ND	0.70	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Bromodichloromethane	ND	0.88	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Bromoform	ND	1.1	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Bromomethane	ND	1.3	15		µg/L	5	6/9/2017 7:56:00 AM	W43347
2-Butanone	ND	5.7	50		µg/L	5	6/9/2017 7:56:00 AM	W43347
Carbon disulfide	ND	2.0	50		µg/L	5	6/9/2017 7:56:00 AM	W43347
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Chlorobenzene	ND	0.53	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Chloroethane	ND	1.2	10		µg/L	5	6/9/2017 7:56:00 AM	W43347
Chloroform	ND	2.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Chloromethane	ND	1.5	15		µg/L	5	6/9/2017 7:56:00 AM	W43347
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
cis-1,2-DCE	24	1.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:20:00 PM
Lab ID: 1706384-012
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	6/9/2017 7:56:00 AM	W43347
Dibromochloromethane	ND	0.36	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Dibromomethane	ND	0.45	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,1-Dichloroethane	160	2.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,1-Dichloroethene	87	0.40	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
2,2-Dichloropropane	ND	0.79	10		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
2-Hexanone	ND	3.3	50		µg/L	5	6/9/2017 7:56:00 AM	W43347
Isopropylbenzene	20	0.26	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
4-Isopropyltoluene	0.49	0.48	5.0	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	6/9/2017 7:56:00 AM	W43347
Methylene Chloride	ND	0.54	15		µg/L	5	6/9/2017 7:56:00 AM	W43347
n-Butylbenzene	7.2	0.65	15	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
n-Propylbenzene	16	0.37	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
sec-Butylbenzene	3.4	0.55	5.0	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
Styrene	ND	0.78	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	6/9/2017 7:56:00 AM	W43347
Tetrachloroethene (PCE)	0.81	0.65	5.0	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,1,1-Trichloroethane	18	0.36	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,1,2-Trichloroethane	1.2	0.70	5.0	J	µg/L	5	6/9/2017 7:56:00 AM	W43347
Trichloroethene (TCE)	19	0.56	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	6/9/2017 7:56:00 AM	W43347
Vinyl chloride	ND	0.89	5.0		µg/L	5	6/9/2017 7:56:00 AM	W43347
Xylenes, Total	2.6	1.6	7.5	J	µg/L	5	6/9/2017 7:56:00 AM	W43347

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 2nd Qtr MKTF
Collection Date: 6/5/2017 12:20:00 PM
Lab ID: 1706384-012
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	91.3	0	70-130		%Rec	5	6/9/2017 7:56:00 AM	W43347
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	5	6/9/2017 7:56:00 AM	W43347
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	6/9/2017 7:56:00 AM	W43347
Surr: Toluene-d8	100	0	70-130		%Rec	5	6/9/2017 7:56:00 AM	W43347

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**1706384-011DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-44**	Batch ID:	**B43525**		RunNo:	**43525**				
Prep Date:		Analysis Date:	**6/14/2017**		SeqNo:	**1371000**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.63	0.0020	0.5000	0.1428	97.5	70	130			
Cadmium	0.51	0.0020	0.5000	0	101	70	130			
Calcium	80	1.0	50.00	32.74	95.0	70	130			
Chromium	0.50	0.0060	0.5000	0.01101	98.4	70	130			
Copper	0.55	0.0060	0.5000	0	109	70	130			
Iron	0.52	0.020	0.5000	0.04378	94.9	70	130			
Magnesium	54	1.0	50.00	2.942	102	70	130			
Manganese	0.48	0.0020	0.5000	0.002900	96.0	70	130			
Potassium	51	1.0	50.00	2.426	97.5	70	130			
Silver	0.11	0.0050	0.1000	0	105	70	130			

Sample ID	**1706384-011DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MKTF-44**	Batch ID:	**B43525**		RunNo:	**43525**				
Prep Date:		Analysis Date:	**6/14/2017**		SeqNo:	**1371004**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.0020	0.5000	0.1428	98.5	70	130	0.803	20	
Cadmium	0.51	0.0020	0.5000	0	102	70	130	0.557	20	
Calcium	82	1.0	50.00	32.74	99.1	70	130	2.55	20	
Chromium	0.51	0.0060	0.5000	0.01101	99.0	70	130	0.644	20	
Copper	0.55	0.0060	0.5000	0	111	70	130	0.984	20	
Iron	0.54	0.020	0.5000	0.04378	98.7	70	130	3.54	20	
Magnesium	55	1.0	50.00	2.942	105	70	130	2.52	20	
Manganese	0.49	0.0020	0.5000	0.002900	97.0	70	130	1.07	20	
Potassium	52	1.0	50.00	2.426	100	70	130	2.38	20	
Silver	0.11	0.0050	0.1000	0	106	70	130	0.379	20	

Sample ID	**1706384-012EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**DUPLICATE**	Batch ID:	**B43525**		RunNo:	**43525**				
Prep Date:		Analysis Date:	**6/14/2017**		SeqNo:	**1371006**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.67	0.0020	0.5000	0.1869	96.7	70	130			
Cadmium	0.50	0.0020	0.5000	0	100	70	130			
Chromium	0.49	0.0060	0.5000	0	97.6	70	130			
Copper	0.55	0.0060	0.5000	0	109	70	130			
Iron	0.97	0.020	0.5000	0.4993	93.8	70	130			
Magnesium	73	1.0	50.00	20.61	105	70	130			
Potassium	51	1.0	50.00	0.9072	100	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **1706384-012EMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **DUPLICATE**	Batch ID: **B43525**	RunNo: **43525**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1371007** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.67	0.0020	0.5000	0.1869	96.5	70	130	0.124	20	
Cadmium	0.50	0.0020	0.5000	0	101	70	130	0.364	20	
Chromium	0.49	0.0060	0.5000	0	97.6	70	130	0.00205	20	
Copper	0.55	0.0060	0.5000	0	110	70	130	0.805	20	
Iron	0.98	0.020	0.5000	0.4993	96.9	70	130	1.60	20	
Magnesium	72	1.0	50.00	20.61	104	70	130	1.02	20	
Potassium	51	1.0	50.00	0.9072	99.4	70	130	0.825	20	

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43525**	RunNo: **43525**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1371017** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43525**	RunNo: **43525**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1371018** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	79.5	50	150			J
Cadmium	0.0014	0.0020	0.002000	0	72.0	50	150			J
Calcium	0.49	1.0	0.5000	0	98.1	50	150			J
Chromium	0.0063	0.0060	0.006000	0	105	50	150			
Copper	0.0082	0.0060	0.006000	0	138	50	150			
Iron	0.026	0.020	0.02000	0	130	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0019	0.0020	0.002000	0	96.5	50	150			J
Potassium	0.50	1.0	0.5000	0	100	50	150			J
Silver	0.0045	0.0050	0.005000	0	90.0	50	150			J

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43525**	RunNo: **43525**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1371018** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.53	1.0	0.5000	0	105	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43525**	RunNo: **43525**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1371019** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.2	85	115			
Cadmium	0.47	0.0020	0.5000	0	94.3	85	115			
Calcium	47	1.0	50.00	0	93.8	85	115			
Chromium	0.47	0.0060	0.5000	0	93.7	85	115			
Copper	0.48	0.0060	0.5000	0	97.0	85	115			
Iron	0.47	0.020	0.5000	0	93.3	85	115			
Magnesium	49	1.0	50.00	0	98.7	85	115			
Manganese	0.46	0.0020	0.5000	0	92.2	85	115			
Potassium	48	1.0	50.00	0	96.0	85	115			
Silver	0.096	0.0050	0.1000	0	96.4	85	115			
Sodium	49	1.0	50.00	0	98.6	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43557**	RunNo: **43557**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1372654** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43557**	RunNo: **43557**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1372655** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0056	0.010	0.005000	0	111	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43557**	RunNo: **43557**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1372656** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.47	0.010	0.5000	0	94.7	85	115			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**MB-B**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B43557**	RunNo:	**43557**					
Prep Date:		Analysis Date:	**6/16/2017**	SeqNo:	**1372693**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	**LLLCS-B**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B43557**	RunNo:	**43557**					
Prep Date:		Analysis Date:	**6/16/2017**	SeqNo:	**1372694**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.50	1.0	0.5000	0	101	50	150			J
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Silver	0.0049	0.0050	0.005000	0	98.8	50	150			J
Sodium	0.58	1.0	0.5000	0	116	50	150			J
Zinc	0.0055	0.010	0.005000	0	111	50	150			J

Sample ID	**LCS-B**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B43557**	RunNo:	**43557**					
Prep Date:		Analysis Date:	**6/16/2017**	SeqNo:	**1372695**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	48	1.0	50.00	0	96.3	85	115			
Manganese	0.47	0.0020	0.5000	0	93.1	85	115			
Silver	0.10	0.0050	0.1000	0	99.8	85	115			
Sodium	50	1.0	50.00	0	99.3	85	115			
Zinc	0.45	0.010	0.5000	0	90.0	85	115			

Sample ID	**1706384-012EMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**DUPLICATE**	Batch ID:	**B43557**	RunNo:	**43557**					
Prep Date:		Analysis Date:	**6/16/2017**	SeqNo:	**1372724**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.078	0.0050	0.1000	0	77.5	70	130			
Zinc	0.47	0.010	0.5000	0.01551	91.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**1706384-012EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**DUPLICATE**	Batch ID:	**B43557**		RunNo:	**43557**				
Prep Date:		Analysis Date:	**6/16/2017**		SeqNo:	**1372725**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.075	0.0050	0.1000	0	75.1	70	130	3.15	20	
Zinc	0.48	0.010	0.5000	0.01551	92.1	70	130	0.341	20	

Sample ID	**MB-B**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B43626**		RunNo:	**43626**				
Prep Date:		Analysis Date:	**6/19/2017**		SeqNo:	**1374380**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.088	1.0								J
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID	**LLLCS-B**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B43626**		RunNo:	**43626**				
Prep Date:		Analysis Date:	**6/19/2017**		SeqNo:	**1374381**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.54	1.0	0.5000	0	109	50	150			J
Manganese	0.0020	0.0020	0.002000	0	98.5	50	150			J
Sodium	0.62	1.0	0.5000	0	124	50	150			J

Sample ID	**LCS-B**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B43626**		RunNo:	**43626**				
Prep Date:		Analysis Date:	**6/19/2017**		SeqNo:	**1374382**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	52	1.0	50.00	0	104	85	115			
Manganese	0.48	0.0020	0.5000	0	96.8	85	115			
Sodium	52	1.0	50.00	0	103	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **MB-32328**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **32328**	RunNo: **43557**
Prep Date: **6/16/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373373** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	0.0021	0.0060								J
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-32328**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **32328**	RunNo: **43557**
Prep Date: **6/16/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373374** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0015	0.0020	0.002000	0	74.5	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	92.5	50	150			J
Chromium	0.0064	0.0060	0.006000	0	106	50	150			
Copper	0.0080	0.0060	0.006000	0	134	50	150			
Iron	0.013	0.020	0.02000	0	63.6	50	150			J
Manganese	0.0018	0.0020	0.002000	0	92.5	50	150			J
Silver	0.0035	0.0050	0.005000	0	69.4	50	150			J
Zinc	0.0047	0.010	0.005000	0	94.4	50	150			J

Sample ID **LCS-32328**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32328**	RunNo: **43557**
Prep Date: **6/16/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373375** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.46	0.0020	0.5000	0	92.6	85	115			
Cadmium	0.46	0.0020	0.5000	0	91.8	85	115			
Chromium	0.46	0.0060	0.5000	0	91.7	85	115			
Copper	0.47	0.0060	0.5000	0	93.4	85	115			
Iron	0.44	0.020	0.5000	0	88.9	85	115			
Manganese	0.45	0.0020	0.5000	0	90.3	85	115			
Silver	0.093	0.0050	0.1000	0	93.1	85	115			
Zinc	0.44	0.010	0.5000	0	88.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**1706384-003EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-28**	Batch ID:	**32328**		RunNo:	**43557**				
Prep Date:	**6/16/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373377**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.54	0.0020	0.5000	0.07603	92.1	70	130			
Cadmium	0.46	0.0020	0.5000	0	92.9	70	130			
Chromium	0.46	0.0060	0.5000	0	92.1	70	130			
Copper	0.50	0.0060	0.5000	0.003150	99.7	70	130			
Manganese	0.53	0.0020	0.5000	0.07816	90.0	70	130			
Silver	0.096	0.0050	0.1000	0	95.6	70	130			
Zinc	0.45	0.010	0.5000	0.005670	89.3	70	130			

Sample ID	**1706384-003EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-28**	Batch ID:	**32328**		RunNo:	**43557**				
Prep Date:	**6/16/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373381**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.54	0.0020	0.5000	0.07603	92.9	70	130	0.732	20	
Cadmium	0.47	0.0020	0.5000	0	94.7	70	130	1.94	20	
Chromium	0.47	0.0060	0.5000	0	93.5	70	130	1.50	20	
Copper	0.50	0.0060	0.5000	0.003150	100	70	130	0.396	20	
Manganese	0.53	0.0020	0.5000	0.07816	90.7	70	130	0.661	20	
Silver	0.096	0.0050	0.1000	0	96.5	70	130	0.916	20	
Zinc	0.46	0.010	0.5000	0.005670	90.4	70	130	1.20	20	

Sample ID	**1706384-003EMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-28**	Batch ID:	**32328**		RunNo:	**43626**				
Prep Date:	**6/16/2017**	Analysis Date:	**6/19/2017**		SeqNo:	**1374353**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	2.2	0.10	0.5000	1.565	124	70	130			

Sample ID	**1706384-003EMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-28**	Batch ID:	**32328**		RunNo:	**43626**				
Prep Date:	**6/16/2017**	Analysis Date:	**6/19/2017**		SeqNo:	**1374354**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	2.2	0.10	0.5000	1.565	119	70	130	1.16	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.4	85	115			
Uranium	0.012	0.00050	0.01250	0	92.4	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374735** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.6	85	115			
Selenium	0.023	0.0010	0.02500	0	91.8	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374736** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	95.8	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.6	50	150			J

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374738** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	97.4	50	150			J
Selenium	0.00090	0.0010	0.001000	0	90.3	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374739** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **1706384-004DMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-27**	Batch ID: **B43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375560** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.11	0.0050	0.1250	0.003322	89.2	70	130	0.838	20	
Lead	0.063	0.0025	0.06250	0	101	70	130	0.230	20	
Selenium	0.11	0.0050	0.1250	0.01136	81.2	70	130	0.721	20	

Sample ID **1706384-004DMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-27**	Batch ID: **B43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375561** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.003322	90.0	70	130			
Lead	0.063	0.0025	0.06250	0	101	70	130			
Selenium	0.11	0.0050	0.1250	0.01136	81.9	70	130			

Sample ID **1706384-010EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-31**	Batch ID: **B43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375572** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.002503	91.3	70	130			
Selenium	0.12	0.0050	0.1250	0.007183	88.1	70	130			
Uranium	0.11	0.0025	0.06250	0.04650	99.7	70	130			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375614** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	90.3	85	115			
Lead	0.012	0.00050	0.01250	0	92.1	85	115			
Selenium	0.023	0.0010	0.02500	0	93.9	85	115			
Uranium	0.011	0.00050	0.01250	0	90.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375616** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.022	0.0010	0.02500	0	87.5	85	115			
Uranium	0.011	0.00050	0.01250	0	91.3	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375618** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00088	0.0010	0.001000	0	88.5	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.0	50	150			J
Selenium	0.00096	0.0010	0.001000	0	95.8	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.2	50	150			J

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00089	0.0010	0.001000	0	88.8	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.5	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375622** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375625** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**MB-32328**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32328**	RunNo:	**43684**					
Prep Date:	**6/16/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1376057**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-32328**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32328**	RunNo:	**43684**					
Prep Date:	**6/16/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1376059**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.9	85	115			
Lead	0.012	0.00050	0.01250	0	97.7	85	115			
Selenium	0.023	0.0010	0.02500	0	93.3	85	115			
Uranium	0.012	0.00050	0.01250	0	97.7	85	115			

Sample ID	**MSLLLCS-32328**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**32328**	RunNo:	**43684**					
Prep Date:	**6/16/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1376061**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00088	0.0010	0.001000	0	88.3	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.7	50	150			J
Selenium	0.00093	0.0010	0.001000	0	93.3	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.0	50	150			J

Sample ID	**1706384-005FMSDL**	SampType:	**MSDLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**MKTF-30**	Batch ID:	**32328**	RunNo:	**43684**					
Prep Date:	**6/16/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1376418**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.059	0.0025	0.01250	0.04413	116	70	130	1.56	20	

Sample ID	**1706384-005FMSDL**	SampType:	**MSDLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**MKTF-30**	Batch ID:	**32328**	RunNo:	**43684**					
Prep Date:	**6/16/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1376419**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.018	0.00050	0.01250	0.006999	88.1	70	130	0.0232	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **1706384-005FMSLL** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-30** Batch ID: **32328** RunNo: **43684**
Prep Date: **6/16/2017** Analysis Date: **6/21/2017** SeqNo: **1376420** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.060	0.0025	0.01250	0.04413	124	70	130			

Sample ID **1706384-005FMSLL** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-30** Batch ID: **32328** RunNo: **43684**
Prep Date: **6/16/2017** Analysis Date: **6/21/2017** SeqNo: **1376421** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.018	0.00050	0.01250	0.006999	88.1	70	130			

Sample ID **1706384-010FMSLL** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-31** Batch ID: **32328** RunNo: **43684**
Prep Date: **6/16/2017** Analysis Date: **6/21/2017** SeqNo: **1376429** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.015	0.0025	0.01250	0.001354	106	70	130			
Uranium	0.064	0.0025	0.01250	0.05055	111	70	130			

Sample ID **1706384-005FMSDL** SampType: **MSDLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-30** Batch ID: **32328** RunNo: **43749**
Prep Date: **6/16/2017** Analysis Date: **6/23/2017** SeqNo: **1378038** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0.002431	81.0	70	130	0.848	20	
Selenium	0.021	0.0010	0.02500	0.003464	69.9	70	130	4.68	20	S

Sample ID **1706384-005FMSLL** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-30** Batch ID: **32328** RunNo: **43749**
Prep Date: **6/16/2017** Analysis Date: **6/23/2017** SeqNo: **1378039** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0.002431	81.8	70	130			
Selenium	0.022	0.0010	0.02500	0.003464	73.9	70	130			

Sample ID **1706384-010FMSLL** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-31** Batch ID: **32328** RunNo: **43749**
Prep Date: **6/16/2017** Analysis Date: **6/23/2017** SeqNo: **1378045** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0050	0.02500	0.002555	102	70	130			
Selenium	0.031	0.0050	0.02500	0.006922	97.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**MB-32383**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**32383**	RunNo:	**43665**					
Prep Date:	**6/20/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1375455**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-32383**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**32383**	RunNo:	**43665**					
Prep Date:	**6/20/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1375456**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43515**	RunNo: **43515**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370725** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43515**	RunNo: **43515**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370726** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	5.0	0.50	5.000	0	99.2	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.8	90	110			
Sulfate	10	0.50	10.00	0	101	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43554**	RunNo: **43554**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371783** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43554**	RunNo: **43554**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371784** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.4	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43718**	RunNo: **43718**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1378244** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43718**	RunNo: **43718**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1378245** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	107	90	110			
Chloride	4.8	0.50	5.000	0	95.1	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.6	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43753**	RunNo: **43753**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1379275** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43753**	RunNo: **43753**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1379276** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**MB-32301**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**32301**	RunNo:	**43547**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1371634**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-32301**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**32301**	RunNo:	**43547**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1371635**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **LCS-32186**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32186**	RunNo: **43380**
Prep Date: **6/8/2017**	Analysis Date: **6/9/2017**	SeqNo: **1366067** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	82.8	146			
Surr: DNOP	0.55		0.5000		109	72.4	157			

Sample ID **MB-32186**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32186**	RunNo: **43380**
Prep Date: **6/8/2017**	Analysis Date: **6/9/2017**	SeqNo: **1366068** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		108	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G43391**	RunNo: **43391**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1366619** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		107	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G43391**	RunNo: **43391**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1366620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	102	79.1	123			
Surr: BFB	23		20.00		116	52.3	138			

Sample ID **1706384-007AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-24**	Batch ID: **G43391**	RunNo: **43391**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1366632** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	33	1.0	10.00	22.93	99.8	53.2	134			
Surr: BFB	530		400.0		133	52.3	138			

Sample ID **1706384-007AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-24**	Batch ID: **G43391**	RunNo: **43391**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1366633** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	33	1.0	10.00	22.93	102	53.2	134	0.787	20	
Surr: BFB	550		400.0		137	52.3	138	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365694** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365697** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365725** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1365726** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1365726** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1365726** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	0.14	3.0								J
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID **1706384-001a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Field Blank**	Batch ID: **W43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1365728** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0.09800	106	70	130			
Toluene	21	1.0	20.00	0.3660	103	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **1706384-001a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Field Blank**	Batch ID: **W43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1365728** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8	10		10.00		99.5	70	130			

Sample ID **1706384-001A MSD**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Field Blank**	Batch ID: **W43347**	RunNo: **43347**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1365729** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0.09800	104	70	130	1.83	20	
Toluene	20	1.0	20.00	0.3660	100	70	130	2.14	20	
Chlorobenzene	20	1.0	20.00	0	102	70	130	2.23	20	
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130	3.02	20	
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130	1.99	20	
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		106	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		99.3	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **lcs-32184**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373214** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	74	10	100.0	0	74.4	41.2	98.9			
4-Chloro-3-methylphenol	140	10	200.0	0	70.8	29.1	111			
2-Chlorophenol	140	10	200.0	0	69.2	23.3	108			
1,4-Dichlorobenzene	62	10	100.0	0	61.6	29.4	84.5			
2,4-Dinitrotoluene	65	10	100.0	0	64.5	36.6	88.7			
N-Nitrosodi-n-propylamine	79	10	100.0	0	78.9	46.9	106			
4-Nitrophenol	110	10	200.0	0	53.3	15	74.7			
Pentachlorophenol	140	20	200.0	0	69.9	28.1	85.4			
Phenol	99	10	200.0	0	49.4	15	78.2			
Pyrene	78	10	100.0	0	78.2	44.4	96.8			
1,2,4-Trichlorobenzene	75	10	100.0	0	74.7	34.3	89			
Surr: 2-Fluorophenol	120		200.0		58.1	15	98.1			
Surr: Phenol-d5	99		200.0		49.6	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		82.2	15	112			
Surr: Nitrobenzene-d5	90		100.0		89.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	82		100.0		81.9	23.3	85.6			
Surr: 4-Terphenyl-d14	69		100.0		69.4	27.6	107			

Sample ID **lcsd-32184**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373215** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	73	10	100.0	0	73.3	41.2	98.9	1.46	37.4	
4-Chloro-3-methylphenol	140	10	200.0	0	71.3	29.1	111	0.690	26.8	
2-Chlorophenol	130	10	200.0	0	64.7	23.3	108	6.83	30.3	
1,4-Dichlorobenzene	58	10	100.0	0	58.2	29.4	84.5	5.68	32	
2,4-Dinitrotoluene	64	10	100.0	0	63.9	36.6	88.7	1.06	36.7	
N-Nitrosodi-n-propylamine	74	10	100.0	0	73.9	46.9	106	6.52	29.9	
4-Nitrophenol	97	10	200.0	0	48.6	15	74.7	9.09	28.8	
Pentachlorophenol	130	20	200.0	0	62.6	28.1	85.4	11.0	38.2	
Phenol	98	10	200.0	0	49.2	15	78.2	0.406	39.8	
Pyrene	77	10	100.0	0	76.9	44.4	96.8	1.68	28.3	
1,2,4-Trichlorobenzene	68	10	100.0	0	67.6	34.3	89	9.95	39.8	
Surr: 2-Fluorophenol	110		200.0		55.8	15	98.1	0	0	
Surr: Phenol-d5	100		200.0		49.9	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		73.7	15	112	0	0	
Surr: Nitrobenzene-d5	81		100.0		81.4	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	79		100.0		78.8	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **lcsd-32184**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373215** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	67		100.0		66.8	27.6	107	0	0	

Sample ID **mb-32184**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373216** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.8	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	6.5	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	5.1	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **mb-32184**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373216** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **mb-32184**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373216** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		54.7	15	98.1			
Surr: Phenol-d5	85		200.0		42.6	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		81.9	15	112			
Surr: Nitrobenzene-d5	85		100.0		85.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	81		100.0		81.2	23.3	85.6			
Surr: 4-Terphenyl-d14	68		100.0		67.6	27.6	107			

Sample ID **mb-32582**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390263** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		53.8	15	98.1			
Surr: Phenol-d5	88		200.0		43.9	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		67.6	15	112			
Surr: Nitrobenzene-d5	80		100.0		80.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	67		100.0		67.3	23.3	85.6			
Surr: 4-Terphenyl-d14	67		100.0		67.3	27.6	107			

Sample ID **mb-32651**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32651**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390264** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	100		200.0		49.8	15	98.1			
Surr: Phenol-d5	85		200.0		42.4	15	80.7			
Surr: 2,4,6-Tribromophenol	120		200.0		61.6	15	112			
Surr: Nitrobenzene-d5	78		100.0		77.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	71		100.0		71.1	23.3	85.6			
Surr: 4-Terphenyl-d14	61		100.0		61.2	27.6	107			

Sample ID **lcs-32582**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390265** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	92		200.0		45.9	15	98.1			
Surr: Phenol-d5	81		200.0		40.5	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		71.5	15	112			
Surr: Nitrobenzene-d5	72		100.0		71.8	27.2	90.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706384**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**lcs-32582**	SampType:	**LCS**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSW**	Batch ID:	**32582**		RunNo:	**44069**				
Prep Date:	**6/30/2017**	Analysis Date:	**7/7/2017**		SeqNo:	**1390265**	Units:	**%Rec**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	65		100.0		64.7	23.3	85.6			
Surr: 4-Terphenyl-d14	67		100.0		67.1	27.6	107			

Sample ID	**lcs-32651**	SampType:	**LCS**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSW**	Batch ID:	**32651**		RunNo:	**44069**				
Prep Date:	**7/6/2017**	Analysis Date:	**7/7/2017**		SeqNo:	**1390266**	Units:	**%Rec**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	85		200.0		42.4	15	98.1			
Surr: Phenol-d5	73		200.0		36.7	15	80.7			
Surr: 2,4,6-Tribromophenol	110		200.0		57.4	15	112			
Surr: Nitrobenzene-d5	71		100.0		71.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	65		100.0		65.4	23.3	85.6			
Surr: 4-Terphenyl-d14	57		100.0		56.7	27.6	107			

Sample ID	**lcsd-32582**	SampType:	**LCSD**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSS02**	Batch ID:	**32582**		RunNo:	**44069**				
Prep Date:	**6/30/2017**	Analysis Date:	**7/7/2017**		SeqNo:	**1390267**	Units:	**%Rec**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	100		200.0		51.6	15	98.1	0	0	
Surr: Phenol-d5	88		200.0		44.1	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		76.0	15	112	0	0	
Surr: Nitrobenzene-d5	77		100.0		77.5	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	69		100.0		69.3	23.3	85.6	0	0	
Surr: 4-Terphenyl-d14	68		100.0		68.0	27.6	107	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1706384** RcptNo: **1**

Received By: **Ashley Gallegos** 6/7/2017 3:55:00 PM

Completed By: **Ashley Gallegos** 6/7/2017 5:26:42 PM

Reviewed By: MJ/Re 06/07/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 10 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: MJ

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

Chain-of-Custody Record

Client:	Western Refining Company
	GALLUP REFINERY
Mailing Address:	92 GIANT CROSSING ROAD, GALLUP, NM 87301
Phone #:	505-722-3833
Email or Fax#:	505-863-0930
QA/QC Package	☐ Standard ☐ Level 4 (Full Validation)
Accreditation	☐ NELAP ☐ Other ☐ EDD (Type)

Turn-Around Time:	X Standard ☐ Rush
Project Name:	2017 2ND QTR (MKTF)
Project Manager:	C. JOHNSON (cheryl.johnson@wnr.com)
Sampler:	C. JOHNSON/G VIGIL
On Ice:	☒ Yes ☐ No
Sample Temperature:	3.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706384	8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Anions/Cations	8011/504.1	Air Bubbles (Y or N)
6/5/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X							
6/5/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X							
6/5/2017	845	AQUEOUS	MKTF-28	1L AMBER	None	-003	X	X	X	X	X	X		
6/5/2017	925	AQUEOUS	MKTF-27	MISC	MISC	-004	X	X	X	X	X	X		
6/5/2017	1005	AQUEOUS	MKTF-30	MISC	MISC	-005	X	X	X	X	X	X	X	
6/5/2017	1045	AQUEOUS	MKTF-29	MISC	MISC	-006	X	X	X	X	X	X	X	
6/5/2017	1615	AQUEOUS	MKTF-24	MISC	MISC	-007	X	X	X	X	X	X	X	
6/5/2017	1205	AQUEOUS	MKTF-25	MISC	MISC	-008	X	X	X	X	X	X	X	
6/5/2017	1340	AQUEOUS	MKTF-40	MISC	MISC	-009	X	X	X	X	X	X		
6/5/2017	1445	AQUEOUS	MKTF-31	MISC	MISC	-010	X	X	X	X	X	X	X	
6/5/2017	1550	AQUEOUS	MKTF-44	MISC	MISC	-011	X	X	X	X	X	X		
6/5/2017	1220	AQUEOUS	DUPLICATE	MISC	MISC	-012	X	X	X	X	X	X	X	
				MISC	MISC									

Date	Time	Relinquished by	Received by	Date	Time
6-7-17	1552 1320			06/07/17	1555
Date:	Time:	Relinquished by:	Received by	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 12, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 2nd Qtr MKTF OrderNo.: 1706386

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 6/7/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 7:00:00 AM
Lab ID: 1706386-001
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.11	0.062	1.0	J	µg/L	1	6/9/2017 11:33:00 PM	A43414
Toluene	0.36	0.064	1.0	J	µg/L	1	6/9/2017 11:33:00 PM	A43414
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Acetone	4.9	0.82	10	J	µg/L	1	6/9/2017 11:33:00 PM	A43414
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 11:33:00 PM	A43414
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 11:33:00 PM	A43414
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 11:33:00 PM	A43414

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 7:00:00 AM
Lab ID: 1706386-001
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 11:33:00 PM	A43414
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 11:33:00 PM	A43414
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 11:33:00 PM	A43414
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 11:33:00 PM	A43414
Surr: 1,2-Dichloroethane-d4	98.0	0	70-130		%Rec	1	6/9/2017 11:33:00 PM	A43414
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	6/9/2017 11:33:00 PM	A43414
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	6/9/2017 11:33:00 PM	A43414
Surr: Toluene-d8	98.2	0	70-130		%Rec	1	6/9/2017 11:33:00 PM	A43414

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 2:35:00 PM
Lab ID: 1706386-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 4:08:55 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 4:08:55 PM	32186
Surr: DNOP	109	0	72.4-157		%Rec	1	6/9/2017 4:08:55 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/9/2017 4:06:22 PM	G43391
Surr: BFB	107	0	52.3-138		%Rec	1	6/9/2017 4:06:22 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.87	2.0		mg/L	20	6/9/2017 2:15:27 AM	R43353
Chloride	12000	250	500		mg/L	1000	6/22/2017 1:50:09 AM	R43687
Bromide	8.6	0.29	2.0		mg/L	20	6/9/2017 2:15:27 AM	R43353
Phosphorus, Orthophosphate (As P)	ND	5.0	10	H	mg/L	20	6/9/2017 2:15:27 AM	R43353
Sulfate	980	96	500		mg/L	1000	6/22/2017 1:50:09 AM	R43687
Nitrate+Nitrite as N	23	1.3	10	*	mg/L	50	6/22/2017 2:52:12 AM	R43687
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.083	0.00085	0.0020		mg/L	1	7/3/2017 5:16:13 PM	B43974
Cadmium	ND	0.0010	0.0020		mg/L	1	7/3/2017 5:16:13 PM	B43974
Calcium	2100	7.8	100		mg/L	100	6/20/2017 4:31:01 PM	A43653
Chromium	ND	0.0010	0.0060		mg/L	1	7/3/2017 5:16:13 PM	B43974
Copper	ND	0.0032	0.0060		mg/L	1	7/3/2017 5:16:13 PM	B43974
Iron	0.028	0.016	0.020		mg/L	1	6/19/2017 3:29:32 PM	B43626
Magnesium	430	1.2	5.0		mg/L	5	6/22/2017 8:13:41 PM	B43729
Manganese	6.6	0.038	0.20	*	mg/L	100	6/20/2017 4:31:01 PM	A43653
Potassium	10	0.11	1.0		mg/L	1	6/19/2017 3:29:32 PM	B43626
Silver	ND	0.00088	0.0050		mg/L	1	7/3/2017 5:16:13 PM	B43974
Sodium	4600	16	100		mg/L	100	6/20/2017 4:31:01 PM	A43653
Zinc	0.017	0.0011	0.010		mg/L	1	7/3/2017 5:16:13 PM	B43974
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.16	0.00093	0.0020		mg/L	1	6/16/2017 9:34:49 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:34:49 PM	32328
Chromium	ND	0.0011	0.0060		mg/L	1	6/16/2017 9:34:49 PM	32328
Copper	ND	0.0017	0.0060		mg/L	1	6/16/2017 9:34:49 PM	32328
Iron	4.1	0.10	0.20	*	mg/L	10	6/19/2017 2:33:34 PM	32328
Manganese	7.1	0.011	0.020	*	mg/L	10	6/19/2017 2:33:34 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:34:49 PM	32328
Zinc	0.014	0.0028	0.010		mg/L	1	6/16/2017 9:34:49 PM	32328
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.018	0.10		mg/L	100	6/20/2017 6:56:42 PM	C43652

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 2:35:00 PM
Lab ID: 1706386-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.0017	0.0050		mg/L	10	6/20/2017 6:53:39 PM	C43652
Selenium	0.045	0.039	0.10	J	mg/L	100	6/20/2017 6:56:42 PM	C43652
Uranium	0.18	0.00050	0.0050	*	mg/L	10	6/20/2017 6:53:39 PM	C43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.013	0.0030	0.010	*	mg/L	10	6/21/2017 1:25:20 PM	32328
Lead	0.0048	0.00095	0.0050	J	mg/L	10	6/21/2017 1:25:20 PM	32328
Selenium	0.043	0.0071	0.010		mg/L	10	6/21/2017 1:25:20 PM	32328
Uranium	0.16	0.0015	0.0050	*	mg/L	10	6/21/2017 1:25:20 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/21/2017 7:51:42 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Benzoic acid	11	3.9	20	J	µg/L	1	6/16/2017 6:12:48 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Bis(2-ethylhexyl)phthalate	9.1	4.8	10	J	µg/L	1	6/16/2017 6:12:48 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Di-n-octyl phthalate	5.0	4.7	10	J	µg/L	1	6/16/2017 6:12:48 PM	32184

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 2:35:00 PM
Lab ID: 1706386-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 6:12:48 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 6:12:48 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 6:12:48 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 6:12:48 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 6:12:48 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 6:12:48 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 6:12:48 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 6:12:48 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 6:12:48 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 6:12:48 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 6:12:48 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 6:12:48 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Phenol	ND	3.1	10		µg/L	1	6/16/2017 6:12:48 PM	32184

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 2:35:00 PM
Lab ID: 1706386-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 6:12:48 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 6:12:48 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 6:12:48 PM	32184
Surr: 2-Fluorophenol	2.84	0	15-98.1	S	%Rec	1	6/16/2017 6:12:48 PM	32184
Surr: Phenol-d5	3.59	0	15-80.7	S	%Rec	1	6/16/2017 6:12:48 PM	32184
Surr: 2,4,6-Tribromophenol	3.00	0	15-112	S	%Rec	1	6/16/2017 6:12:48 PM	32184
Surr: Nitrobenzene-d5	85.8	0	27.2-90.7		%Rec	1	6/16/2017 6:12:48 PM	32184
Surr: 2-Fluorobiphenyl	82.2	0	23.3-85.6		%Rec	1	6/16/2017 6:12:48 PM	32184
Surr: 4-Terphenyl-d14	61.9	0	27.6-107		%Rec	1	6/16/2017 6:12:48 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Toluene	ND	0.064	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Naphthalene	ND	0.11	2.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Acetone	5.4	0.82	10	J	µg/L	1	6/9/2017 11:57:00 PM	A43414
Bromobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Bromoform	ND	0.21	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Bromomethane	ND	0.26	3.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
2-Butanone	ND	1.1	10		µg/L	1	6/9/2017 11:57:00 PM	A43414
Carbon disulfide	ND	0.40	10		µg/L	1	6/9/2017 11:57:00 PM	A43414
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Chloroethane	ND	0.23	2.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Chloroform	ND	0.40	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Chloromethane	ND	0.29	3.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 2:35:00 PM
Lab ID: 1706386-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Dibromomethane	ND	0.091	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
2-Hexanone	ND	0.66	10		µg/L	1	6/9/2017 11:57:00 PM	A43414
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/9/2017 11:57:00 PM	A43414
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Styrene	ND	0.16	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/9/2017 11:57:00 PM	A43414
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/9/2017 11:57:00 PM	A43414
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	6/9/2017 11:57:00 PM	A43414

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-43
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 2:35:00 PM
Lab ID: 1706386-002
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	6/9/2017 11:57:00 PM	A43414
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/9/2017 11:57:00 PM	A43414
Surr: Toluene-d8	98.4	0	70-130		%Rec	1	6/9/2017 11:57:00 PM	A43414

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:05:00 PM
Lab ID: 1706386-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	72	0.36	1.0		mg/L	1	6/9/2017 4:31:05 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 4:31:05 PM	32186
Surr: DNOP	124	0	72.4-157		%Rec	1	6/9/2017 4:31:05 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.15	0.025	0.050		mg/L	1	6/9/2017 4:30:09 PM	G43391
Surr: BFB	123	0	52.3-138		%Rec	1	6/9/2017 4:30:09 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.47	0.22	0.50	J	mg/L	5	6/22/2017 1:12:56 AM	R43687
Chloride	880	25	50		mg/L	100	6/22/2017 2:02:34 AM	R43687
Bromide	2.7	0.073	0.50		mg/L	5	6/9/2017 2:27:52 AM	R43353
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/9/2017 2:27:52 AM	R43353
Sulfate	110	0.48	2.5		mg/L	5	6/9/2017 2:27:52 AM	R43353
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/9/2017 4:31:58 AM	R43353
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.065	0.00085	0.0020		mg/L	1	6/19/2017 3:39:47 PM	B43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 3:39:47 PM	B43626
Calcium	20	0.078	1.0		mg/L	1	6/19/2017 3:39:47 PM	B43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 3:39:47 PM	B43626
Copper	0.0084	0.0032	0.0060		mg/L	1	6/19/2017 3:39:47 PM	B43626
Iron	0.21	0.016	0.020		mg/L	1	6/19/2017 3:39:47 PM	B43626
Magnesium	2.7	0.25	1.0		mg/L	1	6/19/2017 3:39:47 PM	B43626
Manganese	0.24	0.00038	0.0020	*	mg/L	1	6/19/2017 3:39:47 PM	B43626
Potassium	1.6	0.11	1.0		mg/L	1	6/19/2017 3:39:47 PM	B43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 3:39:47 PM	B43626
Sodium	680	1.6	10		mg/L	10	6/19/2017 3:41:42 PM	B43626
Zinc	0.016	0.0011	0.010		mg/L	1	6/19/2017 3:39:47 PM	B43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.082	0.00093	0.0020		mg/L	1	6/16/2017 9:41:39 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:41:39 PM	32328
Chromium	ND	0.0011	0.0060		mg/L	1	6/16/2017 9:41:39 PM	32328
Copper	0.0044	0.0017	0.0060	J	mg/L	1	6/16/2017 9:41:39 PM	32328
Iron	0.92	0.010	0.020	*	mg/L	1	6/16/2017 9:41:39 PM	32328
Manganese	0.25	0.0011	0.0020	*	mg/L	1	6/16/2017 9:41:39 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:41:39 PM	32328
Zinc	0.0029	0.0028	0.010	J	mg/L	1	6/16/2017 9:41:39 PM	32328
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0035	0.00089	0.0050	J	mg/L	5	6/20/2017 7:02:49 PM	C43652

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 7:28:42 PM	D43632
Selenium	0.0079	0.0019	0.0050		mg/L	5	6/20/2017 7:02:49 PM	C43652
Uranium	0.013	0.000050	0.00050		mg/L	1	6/19/2017 7:28:42 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0029	0.0015	0.0050	J	mg/L	5	6/21/2017 1:30:28 PM	32328
Lead	0.0014	0.00048	0.0025	J	mg/L	5	6/21/2017 1:30:28 PM	32328
Selenium	0.0054	0.0036	0.0050		mg/L	5	6/21/2017 1:30:28 PM	32328
Uranium	0.012	0.00077	0.0025		mg/L	5	6/21/2017 1:30:28 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000057	0.000037	0.00020	J	mg/L	1	6/21/2017 7:53:43 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Benzoic acid	ND	3.9	20		µg/L	1	6/20/2017 3:57:35 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/20/2017 3:57:35 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/20/2017 3:57:35 PM	32184

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/20/2017 3:57:35 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 3:57:35 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 3:57:35 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 3:57:35 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/20/2017 3:57:35 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 3:57:35 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 3:57:35 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 3:57:35 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/20/2017 3:57:35 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Naphthalene	12	2.9	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 3:57:35 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 3:57:35 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 3:57:35 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Phenol	ND	3.1	10		µg/L	1	6/20/2017 3:57:35 PM	32184

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 3:57:35 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 3:57:35 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 3:57:35 PM	32184
Surr: 2-Fluorophenol	45.6	0	15-98.1		%Rec	1	6/20/2017 3:57:35 PM	32184
Surr: Phenol-d5	37.3	0	15-80.7		%Rec	1	6/20/2017 3:57:35 PM	32184
Surr: 2,4,6-Tribromophenol	2.26	0	15-112	S	%Rec	1	6/20/2017 3:57:35 PM	32184
Surr: Nitrobenzene-d5	78.7	0	27.2-90.7		%Rec	1	6/20/2017 3:57:35 PM	32184
Surr: 2-Fluorobiphenyl	0	0	23.3-85.6	S	%Rec	1	6/20/2017 3:57:35 PM	32184
Surr: 4-Terphenyl-d14	44.5	0	27.6-107		%Rec	1	6/20/2017 3:57:35 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4.9	0.062	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Toluene	0.37	0.064	1.0	J	µg/L	1	6/10/2017 2:44:00 AM	A43414
Ethylbenzene	1.1	0.093	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Methyl tert-butyl ether (MTBE)	1.4	0.24	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2,4-Trimethylbenzene	4.7	0.11	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,3,5-Trimethylbenzene	2.4	0.087	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2-Dichloroethane (EDC)	1.5	0.40	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Naphthalene	16	0.11	2.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1-Methylnaphthalene	16	0.16	4.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
2-Methylnaphthalene	5.2	0.15	4.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Acetone	35	0.82	10		µg/L	1	6/10/2017 2:44:00 AM	A43414
Bromobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Bromoform	ND	0.21	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Bromomethane	ND	0.26	3.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
2-Butanone	9.9	1.1	10	J	µg/L	1	6/10/2017 2:44:00 AM	A43414
Carbon disulfide	ND	0.40	10		µg/L	1	6/10/2017 2:44:00 AM	A43414
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Chloroethane	ND	0.23	2.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Chloroform	ND	0.40	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Chloromethane	ND	0.29	3.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414

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EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Dibromomethane	ND	0.091	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
2-Hexanone	ND	0.66	10		µg/L	1	6/10/2017 2:44:00 AM	A43414
Isopropylbenzene	0.34	0.051	1.0	J	µg/L	1	6/10/2017 2:44:00 AM	A43414
4-Isopropyltoluene	3.2	0.096	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
4-Methyl-2-pentanone	1.8	0.71	10	J	µg/L	1	6/10/2017 2:44:00 AM	A43414
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
n-Propylbenzene	0.37	0.074	1.0	J	µg/L	1	6/10/2017 2:44:00 AM	A43414
sec-Butylbenzene	0.17	0.11	1.0	J	µg/L	1	6/10/2017 2:44:00 AM	A43414
Styrene	ND	0.16	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/10/2017 2:44:00 AM	A43414
Xylenes, Total	21	0.32	1.5		µg/L	1	6/10/2017 2:44:00 AM	A43414
Surr: 1,2-Dichloroethane-d4	94.9	0	70-130		%Rec	1	6/10/2017 2:44:00 AM	A43414

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-42
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:05:00 PM
Lab ID: 1706386-003
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	6/10/2017 2:44:00 AM	A43414
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	6/10/2017 2:44:00 AM	A43414
Surr: Toluene-d8	96.9	0	70-130		%Rec	1	6/10/2017 2:44:00 AM	A43414

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:35:00 PM
Lab ID: 1706386-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/15/2017 1:26:21 PM	32301
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 4:53:18 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 4:53:18 PM	32186
Surr: DNOP	123	0	72.4-157		%Rec	1	6/9/2017 4:53:18 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.71	0.025	0.050		mg/L	1	6/9/2017 4:53:57 PM	G43391
Surr: BFB	108	0	52.3-138		%Rec	1	6/9/2017 4:53:57 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.31	0.044	0.10		mg/L	1	6/22/2017 1:25:20 AM	R43687
Chloride	480	12	25		mg/L	50	6/22/2017 2:14:58 AM	R43687
Bromide	1.2	0.014	0.10		mg/L	1	6/9/2017 2:52:41 AM	R43353
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/9/2017 2:52:41 AM	R43353
Sulfate	92	1.9	10		mg/L	20	6/9/2017 3:05:06 AM	R43353
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/9/2017 4:44:22 AM	R43353
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.049	0.00085	0.0020		mg/L	1	6/19/2017 3:43:37 PM	B43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 3:43:37 PM	B43626
Calcium	30	0.078	1.0		mg/L	1	6/19/2017 3:43:37 PM	B43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 3:43:37 PM	B43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 3:43:37 PM	B43626
Iron	0.086	0.016	0.020		mg/L	1	6/19/2017 3:43:37 PM	B43626
Magnesium	6.0	0.25	1.0		mg/L	1	6/19/2017 3:43:37 PM	B43626
Manganese	0.050	0.00038	0.0020	*	mg/L	1	6/19/2017 3:43:37 PM	B43626
Potassium	0.74	0.11	1.0	J	mg/L	1	6/19/2017 3:43:37 PM	B43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 3:43:37 PM	B43626
Sodium	640	1.6	10		mg/L	10	6/19/2017 3:45:31 PM	B43626
Zinc	0.011	0.0011	0.010		mg/L	1	6/19/2017 3:43:37 PM	B43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.22	0.00093	0.0020		mg/L	1	6/16/2017 9:43:37 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:43:37 PM	32328
Chromium	0.0064	0.0011	0.0060		mg/L	1	6/16/2017 9:43:37 PM	32328
Copper	0.011	0.0017	0.0060		mg/L	1	6/16/2017 9:43:37 PM	32328
Iron	6.4	0.10	0.20	*	mg/L	10	6/19/2017 2:35:29 PM	32328
Manganese	0.23	0.0011	0.0020	*	mg/L	1	6/16/2017 9:43:37 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:43:37 PM	32328
Zinc	0.024	0.0028	0.010		mg/L	1	6/16/2017 9:43:37 PM	32328

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:35:00 PM
Lab ID: 1706386-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0041	0.00089	0.0050	J	mg/L	5	6/21/2017 7:04:02 PM	A43708
Lead	0.00035	0.00017	0.00050	J	mg/L	1	6/19/2017 7:31:46 PM	D43632
Selenium	0.0050	0.0019	0.0050	J	mg/L	5	6/20/2017 7:12:04 PM	C43652
Uranium	0.059	0.00025	0.0025	*	mg/L	5	6/20/2017 7:12:04 PM	C43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0046	0.0015	0.0050	J	mg/L	5	6/21/2017 1:35:37 PM	32328
Lead	0.0055	0.00048	0.0025		mg/L	5	6/21/2017 1:35:37 PM	32328
Selenium	0.0063	0.0036	0.0050		mg/L	5	6/21/2017 1:35:37 PM	32328
Uranium	0.065	0.00077	0.0025	*	mg/L	5	6/21/2017 1:35:37 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000068	0.000037	0.00020	J	mg/L	1	6/21/2017 7:55:43 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Benzoic acid	8.1	3.9	20	J	µg/L	1	6/16/2017 6:42:08 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Bis(2-ethylhexyl)phthalate	5.4	4.8	10	J	µg/L	1	6/16/2017 6:42:08 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:35:00 PM
Lab ID: 1706386-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 6:42:08 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 6:42:08 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 6:42:08 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 6:42:08 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 6:42:08 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 6:42:08 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 6:42:08 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 6:42:08 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 6:42:08 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 6:42:08 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 6:42:08 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 6:42:08 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:35:00 PM
Lab ID: 1706386-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 6:42:08 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 6:42:08 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 6:42:08 PM	32184
Surr: 2-Fluorophenol	46.8	0	15-98.1		%Rec	1	6/16/2017 6:42:08 PM	32184
Surr: Phenol-d5	38.4	0	15-80.7		%Rec	1	6/16/2017 6:42:08 PM	32184
Surr: 2,4,6-Tribromophenol	73.4	0	15-112		%Rec	1	6/16/2017 6:42:08 PM	32184
Surr: Nitrobenzene-d5	83.0	0	27.2-90.7		%Rec	1	6/16/2017 6:42:08 PM	32184
Surr: 2-Fluorobiphenyl	83.4	0	23.3-85.6		%Rec	1	6/16/2017 6:42:08 PM	32184
Surr: 4-Terphenyl-d14	67.9	0	27.6-107		%Rec	1	6/16/2017 6:42:08 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.42	0.062	1.0	J	µg/L	1	6/10/2017 3:32:00 AM	A43414
Toluene	ND	0.064	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Methyl tert-butyl ether (MTBE)	640	2.4	10		µg/L	10	6/10/2017 3:08:00 AM	A43414
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2-Dichloroethane (EDC)	19	0.40	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Naphthalene	ND	0.11	2.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Acetone	ND	0.82	10		µg/L	1	6/10/2017 3:32:00 AM	A43414
Bromobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Bromoform	ND	0.21	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Bromomethane	ND	0.26	3.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
2-Butanone	ND	1.1	10		µg/L	1	6/10/2017 3:32:00 AM	A43414
Carbon disulfide	ND	0.40	10		µg/L	1	6/10/2017 3:32:00 AM	A43414
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Chloroethane	ND	0.23	2.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Chloroform	ND	0.40	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Chloromethane	ND	0.29	3.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
cis-1,2-DCE	2.0	0.20	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:35:00 PM
Lab ID: 1706386-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Dibromomethane	ND	0.091	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,1-Dichloroethane	19	0.40	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,1-Dichloroethene	38	0.081	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
2-Hexanone	ND	0.66	10		µg/L	1	6/10/2017 3:32:00 AM	A43414
Isopropylbenzene	0.13	0.051	1.0	J	µg/L	1	6/10/2017 3:32:00 AM	A43414
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/10/2017 3:32:00 AM	A43414
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
sec-Butylbenzene	0.63	0.11	1.0	J	µg/L	1	6/10/2017 3:32:00 AM	A43414
Styrene	ND	0.16	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,1,1-Trichloroethane	0.57	0.073	1.0	J	µg/L	1	6/10/2017 3:32:00 AM	A43414
1,1,2-Trichloroethane	1.4	0.14	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Trichloroethene (TCE)	0.26	0.11	1.0	J	µg/L	1	6/10/2017 3:32:00 AM	A43414
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/10/2017 3:32:00 AM	A43414
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/10/2017 3:32:00 AM	A43414

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-32
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 3:35:00 PM
Lab ID: 1706386-004
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	93.4	0	70-130		%Rec	1	6/10/2017 3:32:00 AM	A43414
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	6/10/2017 3:32:00 AM	A43414
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	6/10/2017 3:32:00 AM	A43414
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	6/10/2017 3:32:00 AM	A43414

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 4:15:00 PM
Lab ID: 1706386-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0064	0.010		µg/L	1	6/15/2017 1:41:49 PM	32301
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/9/2017 5:15:34 PM	32186
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/9/2017 5:15:34 PM	32186
Surr: DNOP	119	0	72.4-157		%Rec	1	6/9/2017 5:15:34 PM	32186
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/9/2017 5:17:46 PM	G43391
Surr: BFB	105	0	52.3-138		%Rec	1	6/9/2017 5:17:46 PM	G43391
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.24	0.044	0.10		mg/L	1	6/22/2017 1:37:44 AM	R43687
Chloride	910	25	50		mg/L	100	6/22/2017 2:27:23 AM	R43687
Bromide	2.2	0.014	0.10		mg/L	1	6/9/2017 3:17:31 AM	R43353
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/9/2017 3:17:31 AM	R43353
Sulfate	66	1.9	10		mg/L	20	6/9/2017 3:29:55 AM	R43353
Nitrate+Nitrite as N	5.4	0.13	1.0		mg/L	5	6/9/2017 4:56:46 AM	R43353
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.056	0.00085	0.0020		mg/L	1	6/19/2017 3:47:25 PM	B43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 3:47:25 PM	B43626
Calcium	14	0.078	1.0		mg/L	1	6/19/2017 3:47:25 PM	B43626
Chromium	0.0017	0.0010	0.0060	J	mg/L	1	6/19/2017 3:47:25 PM	B43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 3:47:25 PM	B43626
Iron	0.14	0.016	0.020		mg/L	1	6/19/2017 3:47:25 PM	B43626
Magnesium	2.0	0.25	1.0		mg/L	1	6/19/2017 3:47:25 PM	B43626
Manganese	0.014	0.00038	0.0020		mg/L	1	6/19/2017 3:47:25 PM	B43626
Potassium	1.7	0.11	1.0		mg/L	1	6/19/2017 3:47:25 PM	B43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 3:47:25 PM	B43626
Sodium	610	1.6	10		mg/L	10	6/19/2017 3:49:22 PM	B43626
Zinc	0.018	0.0011	0.010		mg/L	1	6/19/2017 3:47:25 PM	B43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **TES**	
Barium	0.14	0.00093	0.0020		mg/L	1	6/16/2017 9:45:22 PM	32328
Cadmium	ND	0.00058	0.0020		mg/L	1	6/16/2017 9:45:22 PM	32328
Chromium	0.0038	0.0011	0.0060	J	mg/L	1	6/16/2017 9:45:22 PM	32328
Copper	0.0040	0.0017	0.0060	J	mg/L	1	6/16/2017 9:45:22 PM	32328
Iron	4.6	0.051	0.10	*	mg/L	5	6/19/2017 2:37:24 PM	32328
Manganese	0.16	0.0011	0.0020	*	mg/L	1	6/16/2017 9:45:22 PM	32328
Silver	ND	0.00042	0.0050		mg/L	1	6/16/2017 9:45:22 PM	32328
Zinc	0.015	0.0028	0.010		mg/L	1	6/16/2017 9:45:22 PM	32328

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 4:15:00 PM
Lab ID: 1706386-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0064	0.0018	0.010	J	mg/L	10	6/21/2017 7:07:05 PM	A43708
Lead	0.00055	0.00017	0.00050		mg/L	1	6/19/2017 7:34:49 PM	D43632
Selenium	0.044	0.0019	0.0050		mg/L	5	6/20/2017 7:15:07 PM	C43652
Uranium	0.020	0.000050	0.00050		mg/L	1	6/19/2017 7:34:49 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0063	0.0015	0.0050		mg/L	5	6/21/2017 1:40:45 PM	32328
Lead	0.0048	0.00048	0.0025		mg/L	5	6/21/2017 1:40:45 PM	32328
Selenium	0.044	0.0036	0.0050		mg/L	5	6/21/2017 1:40:45 PM	32328
Uranium	0.020	0.00077	0.0025		mg/L	5	6/21/2017 1:40:45 PM	32328
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000049	0.000037	0.00020	J	mg/L	1	6/21/2017 7:57:37 AM	32383
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Acenaphthylene	ND	3.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Aniline	ND	3.1	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Anthracene	ND	3.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Azobenzene	ND	4.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Benzoic acid	8.8	3.9	20	J	µg/L	1	6/16/2017 7:11:19 PM	32184
Benzyl alcohol	ND	4.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Bis(2-ethylhexyl)phthalate	6.3	4.8	10	J	µg/L	1	6/16/2017 7:11:19 PM	32184
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Carbazole	ND	4.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
4-Chloroaniline	ND	3.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2-Chlorophenol	ND	7.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Chrysene	ND	3.8	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 4:15:00 PM
Lab ID: 1706386-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	5.2	4.7	10	J	µg/L	1	6/16/2017 7:11:19 PM	32184
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Dibenzofuran	ND	4.1	10		µg/L	1	6/16/2017 7:11:19 PM	32184
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/16/2017 7:11:19 PM	32184
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 7:11:19 PM	32184
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Diethyl phthalate	ND	4.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/16/2017 7:11:19 PM	32184
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/16/2017 7:11:19 PM	32184
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/16/2017 7:11:19 PM	32184
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/16/2017 7:11:19 PM	32184
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Fluoranthene	ND	4.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Fluorene	ND	4.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Hexachloroethane	ND	1.2	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Isophorone	ND	4.4	10		µg/L	1	6/16/2017 7:11:19 PM	32184
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2-Methylphenol	ND	3.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/16/2017 7:11:19 PM	32184
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Naphthalene	ND	2.9	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2-Nitroaniline	ND	4.9	10		µg/L	1	6/16/2017 7:11:19 PM	32184
3-Nitroaniline	ND	4.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
4-Nitroaniline	ND	4.0	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Nitrobenzene	ND	3.6	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2-Nitrophenol	ND	5.2	10		µg/L	1	6/16/2017 7:11:19 PM	32184
4-Nitrophenol	ND	5.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Pentachlorophenol	ND	4.9	20		µg/L	1	6/16/2017 7:11:19 PM	32184
Phenanthrene	ND	4.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 4:15:00 PM
Lab ID: 1706386-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	3.1	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Pyrene	ND	4.4	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Pyridine	ND	2.3	10		µg/L	1	6/16/2017 7:11:19 PM	32184
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/16/2017 7:11:19 PM	32184
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/16/2017 7:11:19 PM	32184
Surr: 2-Fluorophenol	44.6	0	15-98.1		%Rec	1	6/16/2017 7:11:19 PM	32184
Surr: Phenol-d5	35.6	0	15-80.7		%Rec	1	6/16/2017 7:11:19 PM	32184
Surr: 2,4,6-Tribromophenol	72.1	0	15-112		%Rec	1	6/16/2017 7:11:19 PM	32184
Surr: Nitrobenzene-d5	81.7	0	27.2-90.7		%Rec	1	6/16/2017 7:11:19 PM	32184
Surr: 2-Fluorobiphenyl	78.4	0	23.3-85.6		%Rec	1	6/16/2017 7:11:19 PM	32184
Surr: 4-Terphenyl-d14	68.1	0	27.6-107		%Rec	1	6/16/2017 7:11:19 PM	32184
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Toluene	ND	0.064	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Methyl tert-butyl ether (MTBE)	1.2	0.24	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2-Dichloroethane (EDC)	2.7	0.40	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Naphthalene	ND	0.11	2.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Acetone	3.9	0.82	10	J	µg/L	1	6/10/2017 3:56:00 AM	A43414
Bromobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Bromoform	ND	0.21	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Bromomethane	ND	0.26	3.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
2-Butanone	ND	1.1	10		µg/L	1	6/10/2017 3:56:00 AM	A43414
Carbon disulfide	ND	0.40	10		µg/L	1	6/10/2017 3:56:00 AM	A43414
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Chloroethane	ND	0.23	2.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Chloroform	ND	0.40	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Chloromethane	ND	0.29	3.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 4:15:00 PM
Lab ID: 1706386-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Dibromomethane	ND	0.091	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,1-Dichloroethane	3.4	0.40	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,1-Dichloroethene	4.8	0.081	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
2-Hexanone	ND	0.66	10		µg/L	1	6/10/2017 3:56:00 AM	A43414
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/10/2017 3:56:00 AM	A43414
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Styrene	ND	0.16	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,1,2-Trichloroethane	0.47	0.14	1.0	J	µg/L	1	6/10/2017 3:56:00 AM	A43414
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/10/2017 3:56:00 AM	A43414
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/10/2017 3:56:00 AM	A43414

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-41
Project: 2017 2nd Qtr MKTF
Collection Date: 6/6/2017 4:15:00 PM
Lab ID: 1706386-005
Matrix: AQUEOUS
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	96.4	0	70-130		%Rec	1	6/10/2017 3:56:00 AM	A43414
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	6/10/2017 3:56:00 AM	A43414
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	6/10/2017 3:56:00 AM	A43414
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	6/10/2017 3:56:00 AM	A43414

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd Qtr MKTF
Collection Date:
Lab ID: 1706386-006
Matrix: TRIP BLANK
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Toluene	ND	0.064	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Naphthalene	ND	0.11	2.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Acetone	3.6	0.82	10	J	µg/L	1	6/10/2017 4:20:00 AM	A43414
Bromobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Bromoform	ND	0.21	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Bromomethane	ND	0.26	3.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
2-Butanone	ND	1.1	10		µg/L	1	6/10/2017 4:20:00 AM	A43414
Carbon disulfide	ND	0.40	10		µg/L	1	6/10/2017 4:20:00 AM	A43414
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Chloroethane	ND	0.23	2.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Chloroform	ND	0.40	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Chloromethane	ND	0.29	3.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Dibromomethane	ND	0.091	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/10/2017 4:20:00 AM	A43414

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd Qtr MKTF
Collection Date:
Lab ID: 1706386-006
Matrix: TRIP BLANK
Received Date: 6/7/2017 3:55:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
2-Hexanone	ND	0.66	10		µg/L	1	6/10/2017 4:20:00 AM	A43414
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
4-Methyl-2-pentanone	ND	0.71	10		ug/L	1	6/10/2017 4:20:00 AM	A43414
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Styrene	ND	0.16	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/10/2017 4:20:00 AM	A43414
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/10/2017 4:20:00 AM	A43414
Surr: 1,2-Dichloroethane-d4	96.8	0	70-130		%Rec	1	6/10/2017 4:20:00 AM	A43414
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	6/10/2017 4:20:00 AM	A43414
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	6/10/2017 4:20:00 AM	A43414
Surr: Toluene-d8	98.3	0	70-130		%Rec	1	6/10/2017 4:20:00 AM	A43414

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Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374380** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	0.088	1.0								J
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374381** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	93.5	50	150			J
Cadmium	0.0022	0.0020	0.002000	0	110	50	150			
Calcium	0.54	1.0	0.5000	0	109	50	150			J
Chromium	0.0061	0.0060	0.006000	0	102	50	150			
Copper	0.0064	0.0060	0.006000	0	106	50	150			
Iron	0.026	0.020	0.02000	0	130	50	150			
Magnesium	0.55	1.0	0.5000	0	111	50	150			J
Manganese	0.0020	0.0020	0.002000	0	98.5	50	150			J
Potassium	0.55	1.0	0.5000	0	110	50	150			J
Silver	0.0049	0.0050	0.005000	0	98.8	50	150			J
Sodium	0.62	1.0	0.5000	0	124	50	150			J
Zinc	0.0050	0.010	0.005000	0	101	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374382** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	52	1.0	50.00	0	104	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**
12-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374382** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Magnesium	52	1.0	50.00	0	105	85	115			
Manganese	0.48	0.0020	0.5000	0	96.8	85	115			
Potassium	51	1.0	50.00	0	101	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Sodium	52	1.0	50.00	0	103	85	115			
Zinc	0.50	0.010	0.5000	0	99.5	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43653**	RunNo: **43653**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43653**	RunNo: **43653**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375738** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.55	1.0	0.5000	0	110	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Sodium	0.53	1.0	0.5000	0	107	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43653**	RunNo: **43653**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375739** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	100	85	115			
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			
Sodium	49	1.0	50.00	0	98.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43729**	RunNo: **43729**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1377500** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43729**	RunNo: **43729**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1377501** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	0.55	1.0	0.5000	0	110	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43729**	RunNo: **43729**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1377502** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	51	1.0	50.00	0	103	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **MB-32328**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **32328**	RunNo: **43557**
Prep Date: **6/16/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373373** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	0.0021	0.0060								J
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-32328**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **32328**	RunNo: **43557**
Prep Date: **6/16/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373374** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0015	0.0020	0.002000	0	74.5	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	92.5	50	150			J
Chromium	0.0064	0.0060	0.006000	0	106	50	150			
Copper	0.0080	0.0060	0.006000	0	134	50	150			
Iron	0.013	0.020	0.02000	0	63.6	50	150			J
Manganese	0.0018	0.0020	0.002000	0	92.5	50	150			J
Silver	0.0035	0.0050	0.005000	0	69.4	50	150			J
Zinc	0.0047	0.010	0.005000	0	94.4	50	150			J

Sample ID **LCS-32328**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32328**	RunNo: **43557**
Prep Date: **6/16/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373375** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.46	0.0020	0.5000	0	92.6	85	115			
Cadmium	0.46	0.0020	0.5000	0	91.8	85	115			
Chromium	0.46	0.0060	0.5000	0	91.7	85	115			
Copper	0.47	0.0060	0.5000	0	93.4	85	115			
Iron	0.44	0.020	0.5000	0	88.9	85	115			
Manganese	0.45	0.0020	0.5000	0	90.3	85	115			
Silver	0.093	0.0050	0.1000	0	93.1	85	115			
Zinc	0.44	0.010	0.5000	0	88.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**1706386-002FMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**MKTF-43**	Batch ID:	**32328**	RunNo:	**43557**
Prep Date:	**6/16/2017**	Analysis Date:	**6/16/2017**	SeqNo:	**1373396** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.59	0.0020	0.5000	0.1648	86.0	70	130			
Cadmium	0.49	0.0020	0.5000	0	98.0	70	130			
Chromium	0.43	0.0060	0.5000	0	86.7	70	130			
Copper	0.54	0.0060	0.5000	0	108	70	130			
Silver	0.11	0.0050	0.1000	0	107	70	130			
Zinc	0.39	0.010	0.5000	0.01419	75.4	70	130			

Sample ID	**1706386-002FMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**MKTF-43**	Batch ID:	**32328**	RunNo:	**43557**
Prep Date:	**6/16/2017**	Analysis Date:	**6/16/2017**	SeqNo:	**1373397** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.60	0.0020	0.5000	0.1648	86.1	70	130	0.123	20	
Cadmium	0.49	0.0020	0.5000	0	98.3	70	130	0.348	20	
Chromium	0.43	0.0060	0.5000	0	86.9	70	130	0.217	20	
Copper	0.54	0.0060	0.5000	0	109	70	130	0.337	20	
Silver	0.11	0.0050	0.1000	0	107	70	130	0.0562	20	
Zinc	0.39	0.010	0.5000	0.01419	75.4	70	130	0.0384	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374735** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.6	85	115			
Uranium	0.012	0.00050	0.01250	0	92.5	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374738** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	97.4	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	96.0	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375616** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.022	0.0010	0.02500	0	87.5	85	115			
Lead	0.012	0.00050	0.01250	0	93.7	85	115			
Selenium	0.023	0.0010	0.02500	0	90.2	85	115			
Uranium	0.011	0.00050	0.01250	0	91.3	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00089	0.0010	0.001000	0	88.8	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.2	50	150			J
Selenium	0.00088	0.0010	0.001000	0	87.8	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.5	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**
12-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375625** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43708**	RunNo: **43708**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1376846** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.0	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43708**	RunNo: **43708**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1376848** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43708**	RunNo: **43708**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1376850** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**
12-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID	**MB-32328**	SampType: **MBLK**	TestCode: **200.8 ICPMS Metals:Total**
Client ID:	**PBW**	Batch ID: **32328**	RunNo: **43684**
Prep Date:	**6/16/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376057** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-32328**	SampType: **LCS**	TestCode: **200.8 ICPMS Metals:Total**
Client ID:	**LCSW**	Batch ID: **32328**	RunNo: **43684**
Prep Date:	**6/16/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376059** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.9	85	115			
Lead	0.012	0.00050	0.01250	0	97.7	85	115			
Selenium	0.023	0.0010	0.02500	0	93.3	85	115			
Uranium	0.012	0.00050	0.01250	0	97.7	85	115			

Sample ID	**MSLLLCS-32328**	SampType: **LCSLL**	TestCode: **200.8 ICPMS Metals:Total**
Client ID:	**BatchQC**	Batch ID: **32328**	RunNo: **43684**
Prep Date:	**6/16/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376061** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00088	0.0010	0.001000	0	88.3	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.7	50	150			J
Selenium	0.00093	0.0010	0.001000	0	93.3	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.0	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**MB-32383**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**32383**	RunNo:	**43665**					
Prep Date:	**6/20/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1375455**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-32383**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**32383**	RunNo:	**43665**					
Prep Date:	**6/20/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1375456**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**
12-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43353**	RunNo: **43353**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365993** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43353**	RunNo: **43353**
Prep Date:	Analysis Date: **6/8/2017**	SeqNo: **1365994** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	107	90	110			
Bromide	2.4	0.10	2.500	0	96.8	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.1	90	110			
Sulfate	9.7	0.50	10.00	0	96.5	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.0	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43687**	RunNo: **43687**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1377108** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43687**	RunNo: **43687**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1377109** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.9	0.50	5.000	0	97.5	90	110			
Sulfate	9.9	0.50	10.00	0	98.7	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**MB-32301**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**32301**	RunNo:	**43547**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1371634**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-32301**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**32301**	RunNo:	**43547**					
Prep Date:	**6/15/2017**	Analysis Date:	**6/15/2017**	SeqNo:	**1371635**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	104	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **LCS-32186**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32186**	RunNo: **43380**
Prep Date: **6/8/2017**	Analysis Date: **6/9/2017**	SeqNo: **1366067** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	82.8	146			
Surr: DNOP	0.55		0.5000		109	72.4	157			

Sample ID **MB-32186**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32186**	RunNo: **43380**
Prep Date: **6/8/2017**	Analysis Date: **6/9/2017**	SeqNo: **1366068** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		108	72.4	157			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G43391**	RunNo: **43391**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1366619** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		107	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G43391**	RunNo: **43391**
Prep Date:	Analysis Date: **6/9/2017**	SeqNo: **1366620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	102	79.1	123			
Surr: BFB	23		20.00		116	52.3	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **1706386-002AMS**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-43**	Batch ID: **A43414**	RunNo: **43414**
Prep Date:	Analysis Date: **6/10/2017**	SeqNo: **1366963** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID **1706386-002AMSD**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-43**	Batch ID: **A43414**	RunNo: **43414**
Prep Date:	Analysis Date: **6/10/2017**	SeqNo: **1366964** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130	5.04	20	
Toluene	19	1.0	20.00	0	97.4	70	130	5.40	20	
Chlorobenzene	20	1.0	20.00	0	99.9	70	130	6.37	20	
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130	4.12	20	
Trichloroethene (TCE)	20	1.0	20.00	0	99.8	70	130	4.98	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		103	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.0	70	130	0	0	

Sample ID **100NG LCS2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A43414**	RunNo: **43414**
Prep Date:	Analysis Date: **6/10/2017**	SeqNo: **1366966** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	109	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	97.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **RB2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A43414**	RunNo: **43414**
Prep Date:	Analysis Date: **6/10/2017**	SeqNo: **1366967** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **RB2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A43414**	RunNo: **43414**
Prep Date:	Analysis Date: **6/10/2017**	SeqNo: **1366967** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.5	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **lcs-32184**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373214** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	74	10	100.0	0	74.4	41.2	98.9			
4-Chloro-3-methylphenol	140	10	200.0	0	70.8	29.1	111			
2-Chlorophenol	140	10	200.0	0	69.2	23.3	108			
1,4-Dichlorobenzene	62	10	100.0	0	61.6	29.4	84.5			
2,4-Dinitrotoluene	65	10	100.0	0	64.5	36.6	88.7			
N-Nitrosodi-n-propylamine	79	10	100.0	0	78.9	46.9	106			
4-Nitrophenol	110	10	200.0	0	53.3	15	74.7			
Pentachlorophenol	140	20	200.0	0	69.9	28.1	85.4			
Phenol	99	10	200.0	0	49.4	15	78.2			
Pyrene	78	10	100.0	0	78.2	44.4	96.8			
1,2,4-Trichlorobenzene	75	10	100.0	0	74.7	34.3	89			
Surr: 2-Fluorophenol	120		200.0		58.1	15	98.1			
Surr: Phenol-d5	99		200.0		49.6	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		82.2	15	112			
Surr: Nitrobenzene-d5	90		100.0		89.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	82		100.0		81.9	23.3	85.6			
Surr: 4-Terphenyl-d14	69		100.0		69.4	27.6	107			

Sample ID **lcsd-32184**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373215** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	73	10	100.0	0	73.3	41.2	98.9	1.46	37.4	
4-Chloro-3-methylphenol	140	10	200.0	0	71.3	29.1	111	0.690	26.8	
2-Chlorophenol	130	10	200.0	0	64.7	23.3	108	6.83	30.3	
1,4-Dichlorobenzene	58	10	100.0	0	58.2	29.4	84.5	5.68	32	
2,4-Dinitrotoluene	64	10	100.0	0	63.9	36.6	88.7	1.06	36.7	
N-Nitrosodi-n-propylamine	74	10	100.0	0	73.9	46.9	106	6.52	29.9	
4-Nitrophenol	97	10	200.0	0	48.6	15	74.7	9.09	28.8	
Pentachlorophenol	130	20	200.0	0	62.6	28.1	85.4	11.0	38.2	
Phenol	98	10	200.0	0	49.2	15	78.2	0.406	39.8	
Pyrene	77	10	100.0	0	76.9	44.4	96.8	1.68	28.3	
1,2,4-Trichlorobenzene	68	10	100.0	0	67.6	34.3	89	9.95	39.8	
Surr: 2-Fluorophenol	110		200.0		55.8	15	98.1	0	0	
Surr: Phenol-d5	100		200.0		49.9	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		73.7	15	112	0	0	
Surr: Nitrobenzene-d5	81		100.0		81.4	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	79		100.0		78.8	23.3	85.6	0	0	

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID	**lcsd-32184**	SampType:	**LCSD**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSS02**	Batch ID:	**32184**		RunNo:	**43588**				
Prep Date:	**6/8/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373215**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	67		100.0		66.8	27.6	107	0	0	

Sample ID	**mb-32184**	SampType:	**MBLK**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**PBW**	Batch ID:	**32184**		RunNo:	**43588**				
Prep Date:	**6/8/2017**	Analysis Date:	**6/16/2017**		SeqNo:	**1373216**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.8	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	6.5	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	5.1	10								J
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**
12-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd Qtr MKTF

Sample ID **mb-32184**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373216** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **mb-32184**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32184**	RunNo: **43588**
Prep Date: **6/8/2017**	Analysis Date: **6/16/2017**	SeqNo: **1373216** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		54.7	15	98.1			
Surr: Phenol-d5	85		200.0		42.6	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		81.9	15	112			
Surr: Nitrobenzene-d5	85		100.0		85.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	81		100.0		81.2	23.3	85.6			
Surr: 4-Terphenyl-d14	68		100.0		67.6	27.6	107			

Sample ID **mb-32582**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390263** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		53.8	15	98.1			
Surr: Phenol-d5	88		200.0		43.9	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		67.6	15	112			
Surr: Nitrobenzene-d5	80		100.0		80.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	67		100.0		67.3	23.3	85.6			
Surr: 4-Terphenyl-d14	67		100.0		67.3	27.6	107			

Sample ID **mb-32651**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32651**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390264** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	100		200.0		49.8	15	98.1			
Surr: Phenol-d5	85		200.0		42.4	15	80.7			
Surr: 2,4,6-Tribromophenol	120		200.0		61.6	15	112			
Surr: Nitrobenzene-d5	78		100.0		77.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	71		100.0		71.1	23.3	85.6			
Surr: 4-Terphenyl-d14	61		100.0		61.2	27.6	107			

Sample ID **lcs-32582**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390265** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	92		200.0		45.9	15	98.1			
Surr: Phenol-d5	81		200.0		40.5	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		71.5	15	112			
Surr: Nitrobenzene-d5	72		100.0		71.8	27.2	90.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706386**

12-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd Qtr MKTF

Sample ID **lcs-32582**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390265** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	65		100.0		64.7	23.3	85.6			
Surr: 4-Terphenyl-d14	67		100.0		67.1	27.6	107			

Sample ID **lcs-32651**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32651**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390266** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	85		200.0		42.4	15	98.1			
Surr: Phenol-d5	73		200.0		36.7	15	80.7			
Surr: 2,4,6-Tribromophenol	110		200.0		57.4	15	112			
Surr: Nitrobenzene-d5	71		100.0		71.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	65		100.0		65.4	23.3	85.6			
Surr: 4-Terphenyl-d14	57		100.0		56.7	27.6	107			

Sample ID **lcsd-32582**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390267** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	100		200.0		51.6	15	98.1	0	0	
Surr: Phenol-d5	88		200.0		44.1	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		76.0	15	112	0	0	
Surr: Nitrobenzene-d5	77		100.0		77.5	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	69		100.0		69.3	23.3	85.6	0	0	
Surr: 4-Terphenyl-d14	68		100.0		68.0	27.6	107	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1706386** RcptNo: 1

Received By: **Ashley Gallegos** 6/7/2017 3:55:00 PM

Completed By: **Ashley Gallegos** 6/7/2017 5:39:45 PM

Reviewed By: ENM 06/08/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)

Adjusted? NO

Checked by: RG

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2017 2ND QTR (MKTF)

Project Manager:

C. JOHNSON (cheryl.johnson@wnr.com)

Sampler: C. JOHNSON/G VIGIL

On Ice: X Yes ☐ No

Sample Temperature: 3.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706386	Analysis Request: 8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	MAJOR CATIONS/ANIONS		8011/504.1								Air Bubbles (Y or N)
6/6/2017	700	AQUEOUS	FIELD BLANK	3-40ml VOAs	HCL	-001	X															
6/6/2017	1435	AQUEOUS	MKTF-43	MISC	MISC	-002	X	X	X	X	X	X										
6/6/2017	1505	AQUEOUS	MKTF-42	MISC	MISC	-003	X	X	X	X	X	X										
6/6/2017	1535	AQUEOUS	MKTF-32	MISC	MISC	-004	X	X	X	X	X	X		X								
6/6/2017	1615	AQUEOUS	MKTF-41	MISC	MISC	-005	X	X	X	X	X	X		X								
6/6/2017		AQUEOUS	TRIP BLANK			-006	X															

Date	Time	Relinquished by	Received by	Date	Time
6					
6-7-17	1553			06/07/17	1555

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 11, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 2nd QTR MKTF OrderNo.: 1706558

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 11 sample(s) on 6/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR MKTF
Collection Date: 6/7/2017 7:00:00 AM
Lab ID: 1706558-001 **Matrix:** AQUEOUS **Received Date:** 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.10	0.062	1.0	J	µg/L	1	6/13/2017 1:20:00 PM	R43484
Toluene	0.33	0.064	1.0	J	µg/L	1	6/13/2017 1:20:00 PM	R43484
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Naphthalene	ND	0.11	2.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Acetone	5.0	0.82	10	J	µg/L	1	6/13/2017 1:20:00 PM	R43484
Bromobenzene	ND	0.14	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Bromoform	ND	0.21	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Bromomethane	ND	0.26	3.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
2-Butanone	ND	1.1	10		µg/L	1	6/13/2017 1:20:00 PM	R43484
Carbon disulfide	ND	0.40	10		µg/L	1	6/13/2017 1:20:00 PM	R43484
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Chloroethane	ND	0.23	2.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Chloroform	ND	0.40	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Chloromethane	ND	0.29	3.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Dibromomethane	ND	0.091	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/13/2017 1:20:00 PM	R43484

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2nd QTR MKTF
Collection Date: 6/7/2017 7:00:00 AM
Lab ID: 1706558-001 **Matrix:** AQUEOUS **Received Date:** 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
2-Hexanone	ND	0.66	10		µg/L	1	6/13/2017 1:20:00 PM	R43484
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/13/2017 1:20:00 PM	R43484
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Styrene	ND	0.16	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/13/2017 1:20:00 PM	R43484
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/13/2017 1:20:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	95.5	0	70-130		%Rec	1	6/13/2017 1:20:00 PM	R43484
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	6/13/2017 1:20:00 PM	R43484
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	6/13/2017 1:20:00 PM	R43484
Surr: Toluene-d8	95.4	0	70-130		%Rec	1	6/13/2017 1:20:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 2nd QTR MKTF
Collection Date:
Lab ID: 1706558-002
Matrix: TRIP BLANK
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Toluene	ND	0.064	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Naphthalene	ND	0.11	2.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Acetone	2.1	0.82	10	J	µg/L	1	6/13/2017 1:44:00 PM	R43484
Bromobenzene	ND	0.14	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Bromoform	ND	0.21	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Bromomethane	ND	0.26	3.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
2-Butanone	ND	1.1	10		µg/L	1	6/13/2017 1:44:00 PM	R43484
Carbon disulfide	ND	0.40	10		µg/L	1	6/13/2017 1:44:00 PM	R43484
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Chloroethane	ND	0.23	2.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Chloroform	ND	0.40	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Chloromethane	ND	0.29	3.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Dibromomethane	ND	0.091	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/13/2017 1:44:00 PM	R43484

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Lab ID: 1706558-002
Matrix: TRIP BLANK
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
2-Hexanone	ND	0.66	10		µg/L	1	6/13/2017 1:44:00 PM	R43484
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/13/2017 1:44:00 PM	R43484
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Styrene	ND	0.16	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/13/2017 1:44:00 PM	R43484
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/13/2017 1:44:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	96.9	0	70-130		%Rec	1	6/13/2017 1:44:00 PM	R43484
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	6/13/2017 1:44:00 PM	R43484
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	6/13/2017 1:44:00 PM	R43484
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	6/13/2017 1:44:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:05:00 AM
Lab ID: 1706558-003
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/14/2017 12:12:20 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 12:12:20 AM	32230
Surr: DNOP	149	0	72.4-157		%Rec	1	6/14/2017 12:12:20 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.25	0.025	0.050		mg/L	1	6/13/2017 10:45:22 AM	G43469
Surr: BFB	113	0	52.3-138		%Rec	1	6/13/2017 10:45:22 AM	G43469
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.17	0.044	0.10		mg/L	1	6/15/2017 11:38:20 AM	R43563
Chloride	92	5.0	10		mg/L	20	6/15/2017 11:50:45 AM	R43563
Bromide	0.46	0.014	0.10		mg/L	1	6/15/2017 11:38:20 AM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 11:38:20 AM	R43563
Sulfate	290	1.9	10		mg/L	20	6/15/2017 11:50:45 AM	R43563
Nitrate+Nitrite as N	0.21	0.13	1.0	J	mg/L	5	6/17/2017 10:55:31 AM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.040	0.00085	0.0020		mg/L	1	6/19/2017 4:41:26 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 4:41:26 PM	A43626
Calcium	90	0.078	1.0		mg/L	1	6/19/2017 4:41:26 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 4:41:26 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 4:41:26 PM	A43626
Iron	0.029	0.016	0.020		mg/L	1	6/19/2017 4:41:26 PM	A43626
Magnesium	20	0.25	1.0		mg/L	1	6/19/2017 4:41:26 PM	A43626
Manganese	0.042	0.00038	0.0020		mg/L	1	6/19/2017 4:41:26 PM	A43626
Potassium	0.89	0.11	1.0	J	mg/L	1	6/19/2017 4:41:26 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 4:41:26 PM	A43626
Sodium	300	1.6	10		mg/L	10	6/19/2017 4:43:19 PM	A43626
Zinc	0.012	0.0011	0.010		mg/L	1	6/19/2017 4:41:26 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.49	0.00093	0.0020		mg/L	1	6/22/2017 5:45:01 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 5:45:01 PM	32416
Chromium	0.010	0.0011	0.0060		mg/L	1	6/22/2017 5:45:01 PM	32416
Copper	0.0062	0.0017	0.0060		mg/L	1	6/22/2017 5:45:01 PM	32416
Iron	9.8	0.10	0.20	*	mg/L	10	6/22/2017 5:46:46 PM	32416
Manganese	0.83	0.0011	0.0020	*	mg/L	1	6/22/2017 5:45:01 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 5:45:01 PM	32416
Zinc	0.028	0.0028	0.010		mg/L	1	6/22/2017 5:45:01 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0011	0.00089	0.0050	J	mg/L	5	6/21/2017 7:25:29 PM	A43708

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Lab ID: 1706558-003
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00019	0.00017	0.00050	J	mg/L	1	6/19/2017 7:53:13 PM	D43632
Selenium	0.0023	0.00039	0.0010		mg/L	1	6/19/2017 7:53:13 PM	D43632
Uranium	0.035	0.00025	0.0025	*	mg/L	5	6/20/2017 7:33:28 PM	C43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0020	0.00030	0.0010		mg/L	1	6/23/2017 8:59:06 AM	32416
Lead	0.013	0.000095	0.00050		mg/L	1	6/23/2017 8:59:06 AM	32416
Selenium	0.0030	0.00071	0.0010		mg/L	1	6/23/2017 8:59:06 AM	32416
Uranium	0.037	0.00077	0.0025	*	mg/L	5	6/23/2017 9:02:07 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000081	0.000037	0.00020	J	mg/L	1	6/22/2017 9:55:13 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Aniline	ND	3.1	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Benzoic acid	6.8	3.9	20	J	µg/L	1	6/20/2017 10:49:15 AM	32245
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/20/2017 10:49:15 AM	32245
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Carbazole	ND	4.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/20/2017 10:49:15 AM	32245

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Dibenzofuran	ND	4.1	10		µg/L	1	6/20/2017 10:49:15 AM	32245
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 10:49:15 AM	32245
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 10:49:15 AM	32245
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 10:49:15 AM	32245
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/20/2017 10:49:15 AM	32245
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 10:49:15 AM	32245
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 10:49:15 AM	32245
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Fluorene	ND	4.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 10:49:15 AM	32245
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2-Methylphenol	ND	3.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/20/2017 10:49:15 AM	32245
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Naphthalene	ND	2.9	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 10:49:15 AM	32245
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 10:49:15 AM	32245
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 10:49:15 AM	32245
Phenanthrene	ND	4.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Phenol	ND	3.1	10		µg/L	1	6/20/2017 10:49:15 AM	32245

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:05:00 AM
Lab ID: 1706558-003
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 10:49:15 AM	32245
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 10:49:15 AM	32245
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 10:49:15 AM	32245
Surr: 2-Fluorophenol	47.8	0	15-98.1		%Rec	1	6/20/2017 10:49:15 AM	32245
Surr: Phenol-d5	38.8	0	15-80.7		%Rec	1	6/20/2017 10:49:15 AM	32245
Surr: 2,4,6-Tribromophenol	73.2	0	15-112		%Rec	1	6/20/2017 10:49:15 AM	32245
Surr: Nitrobenzene-d5	75.2	0	27.2-90.7		%Rec	1	6/20/2017 10:49:15 AM	32245
Surr: 2-Fluorobiphenyl	71.4	0	23.3-85.6		%Rec	1	6/20/2017 10:49:15 AM	32245
Surr: 4-Terphenyl-d14	58.4	0	27.6-107		%Rec	1	6/20/2017 10:49:15 AM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Toluene	ND	0.064	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Methyl tert-butyl ether (MTBE)	220	2.4	10		µg/L	10	6/13/2017 2:08:00 PM	R43484
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Naphthalene	ND	0.11	2.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Acetone	3.7	0.82	10	J	µg/L	1	6/13/2017 2:32:00 PM	R43484
Bromobenzene	ND	0.14	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Bromoform	ND	0.21	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Bromomethane	ND	0.26	3.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
2-Butanone	ND	1.1	10		µg/L	1	6/13/2017 2:32:00 PM	R43484
Carbon disulfide	ND	0.40	10		µg/L	1	6/13/2017 2:32:00 PM	R43484
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Chloroethane	ND	0.23	2.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Chloroform	ND	0.40	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Chloromethane	ND	0.29	3.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:05:00 AM
Lab ID: 1706558-003
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Dibromomethane	ND	0.091	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
2-Hexanone	ND	0.66	10		µg/L	1	6/13/2017 2:32:00 PM	R43484
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/13/2017 2:32:00 PM	R43484
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
sec-Butylbenzene	0.33	0.11	1.0	J	µg/L	1	6/13/2017 2:32:00 PM	R43484
Styrene	ND	0.16	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/13/2017 2:32:00 PM	R43484
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/13/2017 2:32:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	94.6	0	70-130		%Rec	1	6/13/2017 2:32:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:05:00 AM
Lab ID: 1706558-003
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	6/13/2017 2:32:00 PM	R43484
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	6/13/2017 2:32:00 PM	R43484
Surr: Toluene-d8	97.4	0	70-130		%Rec	1	6/13/2017 2:32:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 12:40:00 PM
Lab ID: 1706558-004
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.0	0.36	1.0		mg/L	1	6/14/2017 12:40:25 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 12:40:25 AM	32230
Surr: DNOP	132	0	72.4-157		%Rec	1	6/14/2017 12:40:25 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	14	1.2	2.5		mg/L	50	6/13/2017 11:09:00 AM	G43469
Surr: BFB	108	0	52.3-138		%Rec	50	6/13/2017 11:09:00 AM	G43469
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.25	0.044	0.10		mg/L	1	6/15/2017 12:03:09 PM	R43563
Chloride	100	5.0	10		mg/L	20	6/15/2017 12:15:33 PM	R43563
Bromide	0.72	0.014	0.10		mg/L	1	6/15/2017 12:03:09 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 12:03:09 PM	R43563
Sulfate	6.0	0.096	0.50		mg/L	1	6/15/2017 12:03:09 PM	R43563
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/17/2017 11:07:56 AM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.0	0.0085	0.020		mg/L	10	6/19/2017 4:47:08 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 4:45:17 PM	A43626
Calcium	120	0.78	10		mg/L	10	6/19/2017 4:47:08 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 4:45:17 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 4:45:17 PM	A43626
Iron	0.98	0.016	0.020	*	mg/L	1	6/19/2017 4:45:17 PM	A43626
Magnesium	27	0.25	1.0		mg/L	1	6/19/2017 4:45:17 PM	A43626
Manganese	2.1	0.0038	0.020	*	mg/L	10	6/19/2017 4:47:08 PM	A43626
Potassium	0.88	0.11	1.0	J	mg/L	1	6/19/2017 4:45:17 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 4:45:17 PM	A43626
Sodium	270	1.6	10		mg/L	10	6/19/2017 4:47:08 PM	A43626
Zinc	0.011	0.0011	0.010		mg/L	1	6/19/2017 4:45:17 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.3	0.0093	0.020		mg/L	10	6/22/2017 5:56:57 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 5:55:09 PM	32416
Chromium	0.0075	0.0011	0.0060		mg/L	1	6/22/2017 5:55:09 PM	32416
Copper	0.0061	0.0017	0.0060		mg/L	1	6/22/2017 5:55:09 PM	32416
Iron	10	0.10	0.20	*	mg/L	10	6/22/2017 5:56:57 PM	32416
Manganese	2.4	0.011	0.020	*	mg/L	10	6/22/2017 5:56:57 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 5:55:09 PM	32416
Zinc	0.015	0.0028	0.010		mg/L	1	6/22/2017 5:55:09 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0022	0.00018	0.0010		mg/L	1	6/21/2017 7:28:32 PM	A43708

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 12:40:00 PM
Lab ID: 1706558-004
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 7:56:16 PM	D43632
Selenium	0.0035	0.00039	0.0010		mg/L	1	6/19/2017 7:56:16 PM	D43632
Uranium	0.0030	0.000050	0.00050		mg/L	1	6/19/2017 7:56:16 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0016	0.00030	0.0010		mg/L	1	6/23/2017 9:05:07 AM	32416
Lead	0.010	0.000095	0.00050		mg/L	1	6/23/2017 9:05:07 AM	32416
Selenium	0.0019	0.00071	0.0010		mg/L	1	6/23/2017 9:05:07 AM	32416
Uranium	0.0033	0.00015	0.00050		mg/L	1	6/23/2017 9:05:07 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000066	0.000037	0.00020	J	mg/L	1	6/22/2017 9:57:11 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Aniline	ND	3.1	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Benzoic acid	14	3.9	20	J	µg/L	1	6/20/2017 11:17:07 AM	32245
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Bis(2-ethylhexyl)phthalate	5.5	4.8	10	J	µg/L	1	6/20/2017 11:17:07 AM	32245
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Carbazole	ND	4.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Di-n-octyl phthalate	5.2	4.7	10	J	µg/L	1	6/20/2017 11:17:07 AM	32245

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 12:40:00 PM
Lab ID: 1706558-004
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Dibenzofuran	ND	4.1	10		µg/L	1	6/20/2017 11:17:07 AM	32245
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 11:17:07 AM	32245
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 11:17:07 AM	32245
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 11:17:07 AM	32245
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/20/2017 11:17:07 AM	32245
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 11:17:07 AM	32245
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 11:17:07 AM	32245
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Fluorene	ND	4.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 11:17:07 AM	32245
1-Methylnaphthalene	47	3.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2-Methylphenol	ND	3.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/20/2017 11:17:07 AM	32245
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Naphthalene	27	2.9	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 11:17:07 AM	32245
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 11:17:07 AM	32245
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 11:17:07 AM	32245
Phenanthrene	ND	4.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Phenol	20	3.1	10		µg/L	1	6/20/2017 11:17:07 AM	32245

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-22
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 12:40:00 PM
Lab ID: 1706558-004
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 11:17:07 AM	32245
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 11:17:07 AM	32245
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 11:17:07 AM	32245
Surr: 2-Fluorophenol	38.5	0	15-98.1		%Rec	1	6/20/2017 11:17:07 AM	32245
Surr: Phenol-d5	29.5	0	15-80.7		%Rec	1	6/20/2017 11:17:07 AM	32245
Surr: 2,4,6-Tribromophenol	67.1	0	15-112		%Rec	1	6/20/2017 11:17:07 AM	32245
Surr: Nitrobenzene-d5	64.9	0	27.2-90.7		%Rec	1	6/20/2017 11:17:07 AM	32245
Surr: 2-Fluorobiphenyl	57.3	0	23.3-85.6		%Rec	1	6/20/2017 11:17:07 AM	32245
Surr: 4-Terphenyl-d14	53.7	0	27.6-107		%Rec	1	6/20/2017 11:17:07 AM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	2900	6.2	100		µg/L	100	6/13/2017 3:43:00 PM	R43484
Toluene	14	0.64	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Ethylbenzene	180	0.93	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Methyl tert-butyl ether (MTBE)	5900	24	100		µg/L	100	6/13/2017 3:43:00 PM	R43484
1,2,4-Trimethylbenzene	4.0	1.1	10	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
1,3,5-Trimethylbenzene	1.4	0.87	10	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Naphthalene	32	1.1	20		µg/L	10	6/13/2017 4:07:00 PM	R43484
1-Methylnaphthalene	58	1.6	40		µg/L	10	6/13/2017 4:07:00 PM	R43484
2-Methylnaphthalene	7.1	1.5	40	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
Acetone	21	8.2	100	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
Bromobenzene	ND	1.4	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Bromodichloromethane	ND	1.8	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Bromoform	ND	2.1	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Bromomethane	ND	2.6	30		µg/L	10	6/13/2017 4:07:00 PM	R43484
2-Butanone	ND	11	100		µg/L	10	6/13/2017 4:07:00 PM	R43484
Carbon disulfide	ND	4.0	100		µg/L	10	6/13/2017 4:07:00 PM	R43484
Carbon Tetrachloride	ND	1.1	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Chlorobenzene	ND	1.1	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Chloroethane	ND	2.3	20		µg/L	10	6/13/2017 4:07:00 PM	R43484
Chloroform	ND	4.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Chloromethane	ND	2.9	30		µg/L	10	6/13/2017 4:07:00 PM	R43484
2-Chlorotoluene	ND	4.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
4-Chlorotoluene	ND	4.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
cis-1,2-DCE	9.4	2.0	10	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	6/13/2017 4:07:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 12:40:00 PM
Lab ID: 1706558-004
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	6/13/2017 4:07:00 PM	R43484
Dibromochloromethane	ND	0.72	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Dibromomethane	ND	0.91	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Dichlorodifluoromethane	ND	10	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,1-Dichloroethane	ND	4.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,1-Dichloroethene	9.0	0.81	10	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
1,2-Dichloropropane	ND	1.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,3-Dichloropropane	ND	1.7	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
2,2-Dichloropropane	ND	1.6	20		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,1-Dichloropropene	ND	0.93	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Hexachlorobutadiene	ND	8.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
2-Hexanone	ND	6.6	100		µg/L	10	6/13/2017 4:07:00 PM	R43484
Isopropylbenzene	6.4	0.51	10	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
4-Isopropyltoluene	1.7	0.96	10	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	6/13/2017 4:07:00 PM	R43484
Methylene Chloride	ND	1.1	30		µg/L	10	6/13/2017 4:07:00 PM	R43484
n-Butylbenzene	5.1	1.3	30	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
n-Propylbenzene	13	0.74	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
sec-Butylbenzene	2.7	1.1	10	J	µg/L	10	6/13/2017 4:07:00 PM	R43484
Styrene	ND	1.6	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
tert-Butylbenzene	ND	1.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	6/13/2017 4:07:00 PM	R43484
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
trans-1,2-DCE	ND	1.8	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Trichlorofluoromethane	ND	1.8	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	6/13/2017 4:07:00 PM	R43484
Vinyl chloride	ND	1.8	10		µg/L	10	6/13/2017 4:07:00 PM	R43484
Xylenes, Total	22	3.2	15		µg/L	10	6/13/2017 4:07:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	95.9	0	70-130		%Rec	10	6/13/2017 4:07:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 12:40:00 PM
Lab ID: 1706558-004
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	10	6/13/2017 4:07:00 PM	R43484
Surr: Dibromofluoromethane	103	0	70-130		%Rec	10	6/13/2017 4:07:00 PM	R43484
Surr: Toluene-d8	99.0	0	70-130		%Rec	10	6/13/2017 4:07:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-4
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:30:00 PM
Lab ID: 1706558-005
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.7	0.36	1.0		mg/L	1	6/14/2017 1:08:41 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 1:08:41 AM	32230
Surr: DNOP	116	0	72.4-157		%Rec	1	6/14/2017 1:08:41 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	10	0.50	1.0		mg/L	20	6/13/2017 12:19:54 PM	G43469
Surr: BFB	119	0	52.3-138		%Rec	20	6/13/2017 12:19:54 PM	G43469
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.67	0.044	0.10		mg/L	1	6/15/2017 12:52:46 PM	R43563
Chloride	210	5.0	10		mg/L	20	6/15/2017 1:05:10 PM	R43563
Bromide	2.1	0.014	0.10		mg/L	1	6/15/2017 12:52:46 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 12:52:46 PM	R43563
Sulfate	5.3	0.096	0.50		mg/L	1	6/15/2017 12:52:46 PM	R43563
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/17/2017 11:20:20 AM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.9	0.0085	0.020	*	mg/L	10	6/19/2017 4:57:13 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 4:55:21 PM	A43626
Calcium	130	0.78	10		mg/L	10	6/19/2017 4:57:13 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 4:55:21 PM	A43626
Copper	0.0055	0.0032	0.0060	J	mg/L	1	6/19/2017 4:55:21 PM	A43626
Iron	0.81	0.016	0.020	*	mg/L	1	6/19/2017 4:55:21 PM	A43626
Magnesium	31	0.25	1.0		mg/L	1	6/19/2017 4:55:21 PM	A43626
Manganese	1.4	0.0038	0.020	*	mg/L	10	6/19/2017 4:57:13 PM	A43626
Potassium	0.77	0.11	1.0	J	mg/L	1	6/19/2017 4:55:21 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 4:55:21 PM	A43626
Sodium	370	1.6	10		mg/L	10	6/19/2017 4:57:13 PM	A43626
Zinc	0.011	0.0011	0.010		mg/L	1	6/19/2017 4:55:21 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.0	0.0093	0.020	*	mg/L	10	6/22/2017 6:00:36 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 5:58:55 PM	32416
Chromium	ND	0.0011	0.0060		mg/L	1	6/22/2017 5:58:55 PM	32416
Copper	ND	0.0017	0.0060		mg/L	1	6/22/2017 5:58:55 PM	32416
Iron	5.0	0.10	0.20	*	mg/L	10	6/22/2017 6:00:36 PM	32416
Manganese	1.5	0.011	0.020	*	mg/L	10	6/22/2017 6:00:36 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 5:58:55 PM	32416
Zinc	0.0050	0.0028	0.010	J	mg/L	1	6/22/2017 5:58:55 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0097	0.00089	0.0050		mg/L	5	6/21/2017 7:31:35 PM	A43708

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Hall Environmental Analysis Laboratory, Inc.

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Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:30:00 PM
Lab ID: 1706558-005
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 7:59:20 PM	D43632
Selenium	0.0091	0.0077	0.020	J	mg/L	20	6/20/2017 7:48:48 PM	C43652
Uranium	0.0034	0.000050	0.00050		mg/L	1	6/19/2017 7:59:20 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.011	0.0015	0.0050	*	mg/L	5	6/23/2017 9:20:15 AM	32416
Lead	0.0012	0.000095	0.00050		mg/L	1	6/23/2017 9:17:14 AM	32416
Selenium	0.012	0.0036	0.0050		mg/L	5	6/23/2017 9:20:15 AM	32416
Uranium	0.0035	0.00015	0.00050		mg/L	1	6/23/2017 9:17:14 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000067	0.000037	0.00020	J	mg/L	1	6/22/2017 9:59:10 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	5.2	3.6	10	J	µg/L	1	6/20/2017 11:45:03 AM	32245
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Aniline	ND	3.1	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Benzoic acid	ND	3.9	20		µg/L	1	6/20/2017 11:45:03 AM	32245
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Bis(2-ethylhexyl)phthalate	55	4.8	10		µg/L	1	6/20/2017 11:45:03 AM	32245
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Carbazole	11	4.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/20/2017 11:45:03 AM	32245

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Collection Date: 6/8/2017 8:30:00 PM
Lab ID: 1706558-005 **Matrix:** AQUEOUS **Received Date:** 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Dibenzofuran	ND	4.1	10		µg/L	1	6/20/2017 11:45:03 AM	32245
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 11:45:03 AM	32245
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 11:45:03 AM	32245
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 11:45:03 AM	32245
2,4-Dimethylphenol	5.4	2.8	10	J	µg/L	1	6/20/2017 11:45:03 AM	32245
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 11:45:03 AM	32245
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 11:45:03 AM	32245
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Fluorene	4.8	4.0	10	J	µg/L	1	6/20/2017 11:45:03 AM	32245
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 11:45:03 AM	32245
1-Methylnaphthalene	140	3.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2-Methylnaphthalene	150	3.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2-Methylphenol	ND	3.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/20/2017 11:45:03 AM	32245
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Naphthalene	240	5.7	20		µg/L	2	6/21/2017 9:21:01 PM	32245
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 11:45:03 AM	32245
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 11:45:03 AM	32245
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 11:45:03 AM	32245
Phenanthrene	6.4	4.3	10	J	µg/L	1	6/20/2017 11:45:03 AM	32245
Phenol	5.8	3.1	10	J	µg/L	1	6/20/2017 11:45:03 AM	32245

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Collection Date: 6/8/2017 8:30:00 PM
Lab ID: 1706558-005
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 11:45:03 AM	32245
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 11:45:03 AM	32245
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 11:45:03 AM	32245
Surr: 2-Fluorophenol	45.4	0	15-98.1		%Rec	1	6/20/2017 11:45:03 AM	32245
Surr: Phenol-d5	36.1	0	15-80.7		%Rec	1	6/20/2017 11:45:03 AM	32245
Surr: 2,4,6-Tribromophenol	72.1	0	15-112		%Rec	1	6/20/2017 11:45:03 AM	32245
Surr: Nitrobenzene-d5	77.3	0	27.2-90.7		%Rec	1	6/20/2017 11:45:03 AM	32245
Surr: 2-Fluorobiphenyl	68.8	0	23.3-85.6		%Rec	1	6/20/2017 11:45:03 AM	32245
Surr: 4-Terphenyl-d14	52.8	0	27.6-107		%Rec	1	6/20/2017 11:45:03 AM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	920	3.1	50		µg/L	50	6/13/2017 4:55:00 PM	R43484
Toluene	16	0.32	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Ethylbenzene	590	4.7	50		µg/L	50	6/13/2017 4:55:00 PM	R43484
Methyl tert-butyl ether (MTBE)	2000	12	50		µg/L	50	6/13/2017 4:55:00 PM	R43484
1,2,4-Trimethylbenzene	470	0.56	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,3,5-Trimethylbenzene	80	0.44	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Naphthalene	330	0.57	10		µg/L	5	6/13/2017 5:19:00 PM	R43484
1-Methylnaphthalene	180	0.80	20		µg/L	5	6/13/2017 5:19:00 PM	R43484
2-Methylnaphthalene	150	0.76	20		µg/L	5	6/13/2017 5:19:00 PM	R43484
Acetone	23	4.1	50	J	µg/L	5	6/13/2017 5:19:00 PM	R43484
Bromobenzene	ND	0.70	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Bromodichloromethane	ND	0.88	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Bromoform	ND	1.1	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Bromomethane	ND	1.3	15		µg/L	5	6/13/2017 5:19:00 PM	R43484
2-Butanone	ND	5.7	50		µg/L	5	6/13/2017 5:19:00 PM	R43484
Carbon disulfide	ND	2.0	50		µg/L	5	6/13/2017 5:19:00 PM	R43484
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Chlorobenzene	ND	0.53	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Chloroethane	ND	1.2	10		µg/L	5	6/13/2017 5:19:00 PM	R43484
Chloroform	ND	2.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Chloromethane	ND	1.5	15		µg/L	5	6/13/2017 5:19:00 PM	R43484
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
cis-1,2-DCE	5.9	1.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	6/13/2017 5:19:00 PM	R43484
Dibromochloromethane	ND	0.36	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Dibromomethane	ND	0.45	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,1-Dichloroethane	6.3	2.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,1-Dichloroethene	13	0.40	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
2,2-Dichloropropane	ND	0.79	10		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
2-Hexanone	ND	3.3	50		µg/L	5	6/13/2017 5:19:00 PM	R43484
Isopropylbenzene	19	0.26	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
4-Isopropyltoluene	4.1	0.48	5.0	J	µg/L	5	6/13/2017 5:19:00 PM	R43484
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	6/13/2017 5:19:00 PM	R43484
Methylene Chloride	ND	0.54	15		µg/L	5	6/13/2017 5:19:00 PM	R43484
n-Butylbenzene	6.2	0.65	15	J	µg/L	5	6/13/2017 5:19:00 PM	R43484
n-Propylbenzene	41	0.37	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
sec-Butylbenzene	3.6	0.55	5.0	J	µg/L	5	6/13/2017 5:19:00 PM	R43484
Styrene	1.3	0.78	5.0	J	µg/L	5	6/13/2017 5:19:00 PM	R43484
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	6/13/2017 5:19:00 PM	R43484
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Trichloroethene (TCE)	1.4	0.56	5.0	J	µg/L	5	6/13/2017 5:19:00 PM	R43484
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	6/13/2017 5:19:00 PM	R43484
Vinyl chloride	ND	0.89	5.0		µg/L	5	6/13/2017 5:19:00 PM	R43484
Xylenes, Total	890	1.6	7.5		µg/L	5	6/13/2017 5:19:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	91.8	0	70-130		%Rec	5	6/13/2017 5:19:00 PM	R43484

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-4
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:30:00 PM
Lab ID: 1706558-005
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	5	6/13/2017 5:19:00 PM	R43484
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	6/13/2017 5:19:00 PM	R43484
Surr: Toluene-d8	101	0	70-130		%Rec	5	6/13/2017 5:19:00 PM	R43484

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:55:00 AM
Lab ID: 1706558-006
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.8	0.36	1.0		mg/L	1	6/14/2017 1:37:03 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 1:37:03 AM	32230
Surr: DNOP	111	0	72.4-157		%Rec	1	6/14/2017 1:37:03 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	30	1.2	2.5		mg/L	50	6/13/2017 12:43:38 PM	G43469
Surr: BFB	116	0	52.3-138		%Rec	50	6/13/2017 12:43:38 PM	G43469
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.87	2.0		mg/L	20	6/15/2017 1:30:00 PM	R43563
Chloride	630	12	25		mg/L	50	6/24/2017 4:44:17 AM	A43793
Bromide	0.80	0.014	0.10		mg/L	1	6/15/2017 1:17:35 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 1:17:35 PM	R43563
Sulfate	4.3	0.096	0.50		mg/L	1	6/15/2017 1:17:35 PM	R43563
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/17/2017 11:32:45 AM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.1	0.0085	0.020	*	mg/L	10	6/19/2017 5:00:51 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 4:59:07 PM	A43626
Calcium	130	0.78	10		mg/L	10	6/19/2017 5:00:51 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 4:59:07 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 4:59:07 PM	A43626
Iron	5.1	0.16	0.20	*	mg/L	10	6/19/2017 5:00:51 PM	A43626
Magnesium	38	0.25	1.0		mg/L	1	6/19/2017 4:59:07 PM	A43626
Manganese	2.6	0.0038	0.020	*	mg/L	10	6/19/2017 5:00:51 PM	A43626
Potassium	0.93	0.11	1.0	J	mg/L	1	6/19/2017 4:59:07 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 4:59:07 PM	A43626
Sodium	660	1.6	10		mg/L	10	6/19/2017 5:00:51 PM	A43626
Zinc	0.011	0.0011	0.010		mg/L	1	6/19/2017 4:59:07 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.2	0.0093	0.020	*	mg/L	10	6/22/2017 6:04:15 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 6:02:32 PM	32416
Chromium	ND	0.0011	0.0060		mg/L	1	6/22/2017 6:02:32 PM	32416
Copper	ND	0.0017	0.0060		mg/L	1	6/22/2017 6:02:32 PM	32416
Iron	6.1	0.10	0.20	*	mg/L	10	6/22/2017 6:04:15 PM	32416
Manganese	2.7	0.011	0.020	*	mg/L	10	6/22/2017 6:04:15 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 6:02:32 PM	32416
Zinc	0.0055	0.0028	0.010	J	mg/L	1	6/22/2017 6:02:32 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.014	0.00018	0.0010	*	mg/L	1	6/21/2017 7:34:39 PM	A43708

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:55:00 AM
Lab ID: 1706558-006
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 8:02:23 PM	D43632
Selenium	0.0046	0.00039	0.0010		mg/L	1	6/19/2017 8:02:23 PM	D43632
Uranium	0.0030	0.000050	0.00050		mg/L	1	6/19/2017 8:02:23 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.014	0.00030	0.0010	*	mg/L	1	6/23/2017 9:23:15 AM	32416
Lead	0.00084	0.000095	0.00050		mg/L	1	6/23/2017 9:23:15 AM	32416
Selenium	0.0031	0.00071	0.0010		mg/L	1	6/23/2017 9:23:15 AM	32416
Uranium	0.0030	0.00015	0.00050		mg/L	1	6/23/2017 9:23:15 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000065	0.000037	0.00020	J	mg/L	1	6/22/2017 1:18:09 PM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Aniline	14	3.1	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Benzoic acid	ND	3.9	20		µg/L	1	6/20/2017 12:13:06 PM	32245
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Bis(2-ethylhexyl)phthalate	5.8	4.8	10	J	µg/L	1	6/20/2017 12:13:06 PM	32245
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Carbazole	ND	4.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/20/2017 12:13:06 PM	32245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:55:00 AM
Lab ID: 1706558-006
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Dibenzofuran	ND	4.1	10		µg/L	1	6/20/2017 12:13:06 PM	32245
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 12:13:06 PM	32245
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 12:13:06 PM	32245
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 12:13:06 PM	32245
2,4-Dimethylphenol	62	2.8	10		µg/L	1	6/20/2017 12:13:06 PM	32245
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 12:13:06 PM	32245
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 12:13:06 PM	32245
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Fluorene	ND	4.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 12:13:06 PM	32245
1-Methylnaphthalene	11	3.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2-Methylnaphthalene	8.4	3.3	10	J	µg/L	1	6/20/2017 12:13:06 PM	32245
2-Methylphenol	210	3.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
3+4-Methylphenol	230	3.2	10		µg/L	1	6/20/2017 12:13:06 PM	32245
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Naphthalene	31	2.9	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 12:13:06 PM	32245
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 12:13:06 PM	32245
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 12:13:06 PM	32245
Phenanthrene	ND	4.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Phenol	73	3.1	10		µg/L	1	6/20/2017 12:13:06 PM	32245

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:55:00 AM
Lab ID: 1706558-006
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 12:13:06 PM	32245
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 12:13:06 PM	32245
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 12:13:06 PM	32245
Surr: 2-Fluorophenol	36.9	0	15-98.1		%Rec	1	6/20/2017 12:13:06 PM	32245
Surr: Phenol-d5	39.5	0	15-80.7		%Rec	1	6/20/2017 12:13:06 PM	32245
Surr: 2,4,6-Tribromophenol	78.2	0	15-112		%Rec	1	6/20/2017 12:13:06 PM	32245
Surr: Nitrobenzene-d5	87.7	0	27.2-90.7		%Rec	1	6/20/2017 12:13:06 PM	32245
Surr: 2-Fluorobiphenyl	79.6	0	23.3-85.6		%Rec	1	6/20/2017 12:13:06 PM	32245
Surr: 4-Terphenyl-d14	68.8	0	27.6-107		%Rec	1	6/20/2017 12:13:06 PM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4500	12	200		µg/L	200	6/13/2017 5:43:00 PM	R43484
Toluene	4700	13	200		µg/L	200	6/13/2017 5:43:00 PM	R43484
Ethylbenzene	470	1.9	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Methyl tert-butyl ether (MTBE)	50	4.8	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2,4-Trimethylbenzene	210	2.3	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,3,5-Trimethylbenzene	44	1.7	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	8.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Naphthalene	35	2.3	40	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
1-Methylnaphthalene	16	3.2	80	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
2-Methylnaphthalene	14	3.0	80	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
Acetone	50	16	200	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
Bromobenzene	ND	2.8	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Bromodichloromethane	ND	3.5	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Bromoform	ND	4.2	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Bromomethane	ND	5.1	60		µg/L	20	6/13/2017 6:07:00 PM	R43484
2-Butanone	130	23	200	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
Carbon disulfide	ND	8.0	200		µg/L	20	6/13/2017 6:07:00 PM	R43484
Carbon Tetrachloride	ND	2.2	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Chlorobenzene	ND	2.1	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Chloroethane	24	4.7	40	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
Chloroform	ND	8.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Chloromethane	ND	5.9	60		µg/L	20	6/13/2017 6:07:00 PM	R43484
2-Chlorotoluene	ND	8.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
4-Chlorotoluene	ND	8.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
cis-1,2-DCE	ND	4.1	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
cis-1,3-Dichloropropene	ND	1.6	20		µg/L	20	6/13/2017 6:07:00 PM	R43484

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:55:00 AM
Lab ID: 1706558-006
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	6/13/2017 6:07:00 PM	R43484
Dibromochloromethane	ND	1.4	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Dibromomethane	ND	1.8	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2-Dichlorobenzene	ND	1.8	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,3-Dichlorobenzene	ND	3.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Dichlorodifluoromethane	ND	20	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,1-Dichloroethane	53	8.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,1-Dichloroethene	ND	1.6	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2-Dichloropropane	ND	2.0	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,3-Dichloropropane	ND	3.3	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
2,2-Dichloropropane	ND	3.1	40		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,1-Dichloropropene	ND	1.9	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Hexachlorobutadiene	ND	16	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
2-Hexanone	ND	13	200		µg/L	20	6/13/2017 6:07:00 PM	R43484
Isopropylbenzene	18	1.0	20	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
4-Isopropyltoluene	2.9	1.9	20	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
4-Methyl-2-pentanone	16	14	200	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
Methylene Chloride	ND	2.2	60		µg/L	20	6/13/2017 6:07:00 PM	R43484
n-Butylbenzene	6.7	2.6	60	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
n-Propylbenzene	42	1.5	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
sec-Butylbenzene	8.6	2.2	20	J	µg/L	20	6/13/2017 6:07:00 PM	R43484
Styrene	ND	3.1	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
tert-Butylbenzene	ND	2.1	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	2.1	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	6/13/2017 6:07:00 PM	R43484
Tetrachloroethene (PCE)	ND	2.6	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
trans-1,2-DCE	ND	3.7	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
trans-1,3-Dichloropropene	ND	4.4	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2,4-Trichlorobenzene	ND	2.8	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,1,1-Trichloroethane	ND	1.5	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Trichloroethene (TCE)	ND	2.2	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Trichlorofluoromethane	ND	3.7	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	6/13/2017 6:07:00 PM	R43484
Vinyl chloride	42	3.6	20		µg/L	20	6/13/2017 6:07:00 PM	R43484
Xylenes, Total	1500	6.4	30		µg/L	20	6/13/2017 6:07:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	93.9	0	70-130		%Rec	20	6/13/2017 6:07:00 PM	R43484

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 8:55:00 AM
Lab ID: 1706558-006
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	20	6/13/2017 6:07:00 PM	R43484
Surr: Dibromofluoromethane	103	0	70-130		%Rec	20	6/13/2017 6:07:00 PM	R43484
Surr: Toluene-d8	99.9	0	70-130		%Rec	20	6/13/2017 6:07:00 PM	R43484

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 9:35:00 AM
Lab ID: 1706558-007
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.5	0.36	1.0		mg/L	1	6/14/2017 2:05:20 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 2:05:20 AM	32230
Surr: DNOP	121	0	72.4-157		%Rec	1	6/14/2017 2:05:20 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	100	5.0	10		mg/L	200	6/13/2017 1:07:19 PM	G43469
Surr: BFB	111	0	52.3-138		%Rec	200	6/13/2017 1:07:19 PM	G43469
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.49	0.044	0.10		mg/L	1	6/15/2017 1:42:24 PM	R43563
Chloride	310	5.0	10		mg/L	20	6/15/2017 1:54:48 PM	R43563
Bromide	0.86	0.014	0.10		mg/L	1	6/15/2017 1:42:24 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 1:42:24 PM	R43563
Sulfate	0.25	0.096	0.50	J	mg/L	1	6/15/2017 1:42:24 PM	R43563
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/17/2017 11:45:10 AM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	4.0	0.0085	0.020	*	mg/L	10	6/19/2017 5:04:22 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 5:02:43 PM	A43626
Calcium	150	0.78	10		mg/L	10	6/19/2017 5:04:22 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 5:02:43 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 5:02:43 PM	A43626
Iron	5.6	0.16	0.20	*	mg/L	10	6/19/2017 5:04:22 PM	A43626
Magnesium	38	0.25	1.0		mg/L	1	6/19/2017 5:02:43 PM	A43626
Manganese	3.1	0.0038	0.020	*	mg/L	10	6/19/2017 5:04:22 PM	A43626
Potassium	0.54	0.11	1.0	J	mg/L	1	6/19/2017 5:02:43 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 5:02:43 PM	A43626
Sodium	290	1.6	10		mg/L	10	6/19/2017 5:04:22 PM	A43626
Zinc	0.013	0.0011	0.010		mg/L	1	6/19/2017 5:02:43 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	4.1	0.0093	0.020	*	mg/L	10	6/22/2017 6:07:50 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 6:06:11 PM	32416
Chromium	ND	0.0011	0.0060		mg/L	1	6/22/2017 6:06:11 PM	32416
Copper	ND	0.0017	0.0060		mg/L	1	6/22/2017 6:06:11 PM	32416
Iron	8.3	0.10	0.20	*	mg/L	10	6/22/2017 6:07:50 PM	32416
Manganese	3.2	0.011	0.020	*	mg/L	10	6/22/2017 6:07:50 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 6:06:11 PM	32416
Zinc	0.0083	0.0028	0.010	J	mg/L	1	6/22/2017 6:06:11 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0082	0.00018	0.0010		mg/L	1	6/21/2017 7:37:42 PM	A43708

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 9:35:00 AM
Lab ID: 1706558-007
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/19/2017 8:05:26 PM	D43632
Selenium	0.0045	0.00039	0.0010		mg/L	1	6/19/2017 8:05:26 PM	D43632
Uranium	0.00051	0.000050	0.00050		mg/L	1	6/19/2017 8:05:26 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0082	0.00030	0.0010		mg/L	1	6/23/2017 9:29:16 AM	32416
Lead	0.0021	0.000095	0.00050		mg/L	1	6/23/2017 9:29:16 AM	32416
Selenium	0.0039	0.00071	0.0010		mg/L	1	6/23/2017 9:29:16 AM	32416
Uranium	0.00055	0.00015	0.00050		mg/L	1	6/23/2017 9:29:16 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000065	0.000037	0.00020	J	mg/L	1	6/22/2017 10:03:10 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Aniline	4.9	3.1	10	J	µg/L	1	6/20/2017 12:41:02 PM	32245
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Benzoic acid	ND	3.9	20		µg/L	1	6/20/2017 12:41:02 PM	32245
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/20/2017 12:41:02 PM	32245
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Carbazole	ND	4.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Di-n-octyl phthalate	4.8	4.7	10	J	µg/L	1	6/20/2017 12:41:02 PM	32245

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 9:35:00 AM
Lab ID: 1706558-007
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Dibenzofuran	ND	4.1	10		µg/L	1	6/20/2017 12:41:02 PM	32245
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 12:41:02 PM	32245
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 12:41:02 PM	32245
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 12:41:02 PM	32245
2,4-Dimethylphenol	29	2.8	10		µg/L	1	6/20/2017 12:41:02 PM	32245
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 12:41:02 PM	32245
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 12:41:02 PM	32245
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Fluorene	ND	4.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 12:41:02 PM	32245
1-Methylnaphthalene	52	3.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2-Methylnaphthalene	66	3.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2-Methylphenol	73	3.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
3+4-Methylphenol	98	3.2	10		µg/L	1	6/20/2017 12:41:02 PM	32245
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Naphthalene	160	2.9	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 12:41:02 PM	32245
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 12:41:02 PM	32245
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 12:41:02 PM	32245
Phenanthrene	ND	4.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Phenol	49	3.1	10		µg/L	1	6/20/2017 12:41:02 PM	32245

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 9:35:00 AM
Lab ID: 1706558-007
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 12:41:02 PM	32245
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 12:41:02 PM	32245
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 12:41:02 PM	32245
Surr: 2-Fluorophenol	21.4	0	15-98.1		%Rec	1	6/20/2017 12:41:02 PM	32245
Surr: Phenol-d5	31.0	0	15-80.7		%Rec	1	6/20/2017 12:41:02 PM	32245
Surr: 2,4,6-Tribromophenol	62.0	0	15-112		%Rec	1	6/20/2017 12:41:02 PM	32245
Surr: Nitrobenzene-d5	80.3	0	27.2-90.7		%Rec	1	6/20/2017 12:41:02 PM	32245
Surr: 2-Fluorobiphenyl	81.2	0	23.3-85.6		%Rec	1	6/20/2017 12:41:02 PM	32245
Surr: 4-Terphenyl-d14	61.0	0	27.6-107		%Rec	1	6/20/2017 12:41:02 PM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	12000	62	1000		µg/L	1000	6/13/2017 6:31:00 PM	R43484
Toluene	20000	64	1000		µg/L	1000	6/13/2017 6:31:00 PM	R43484
Ethylbenzene	1800	9.3	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Methyl tert-butyl ether (MTBE)	ND	24	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2,4-Trimethylbenzene	930	11	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,3,5-Trimethylbenzene	220	8.7	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Naphthalene	170	11	200	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
1-Methylnaphthalene	66	16	400	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
2-Methylnaphthalene	75	15	400	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
Acetone	ND	82	1000		µg/L	100	6/13/2017 6:55:00 PM	R43484
Bromobenzene	ND	14	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Bromodichloromethane	ND	18	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Bromoform	ND	21	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Bromomethane	ND	26	300		µg/L	100	6/13/2017 6:55:00 PM	R43484
2-Butanone	ND	110	1000		µg/L	100	6/13/2017 6:55:00 PM	R43484
Carbon disulfide	ND	40	1000		µg/L	100	6/13/2017 6:55:00 PM	R43484
Carbon Tetrachloride	ND	11	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Chlorobenzene	ND	11	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Chloroethane	77	23	200	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
Chloroform	ND	40	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Chloromethane	ND	29	300		µg/L	100	6/13/2017 6:55:00 PM	R43484
2-Chlorotoluene	ND	40	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
4-Chlorotoluene	ND	40	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
cis-1,2-DCE	45	20	100	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	6/13/2017 6:55:00 PM	R43484

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 9:35:00 AM
Lab ID: 1706558-007
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	6/13/2017 6:55:00 PM	R43484
Dibromochloromethane	ND	7.2	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Dibromomethane	ND	9.1	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,3-Dichlorobenzene	ND	15	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,4-Dichlorobenzene	ND	40	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Dichlorodifluoromethane	ND	100	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,1-Dichloroethane	ND	40	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,1-Dichloroethene	ND	8.1	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2-Dichloropropane	ND	10	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,3-Dichloropropane	ND	17	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
2,2-Dichloropropane	ND	16	200		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,1-Dichloropropene	ND	9.3	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Hexachlorobutadiene	ND	80	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
2-Hexanone	ND	66	1000		µg/L	100	6/13/2017 6:55:00 PM	R43484
Isopropylbenzene	55	5.1	100	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
4-Isopropyltoluene	12	9.6	100	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	6/13/2017 6:55:00 PM	R43484
Methylene Chloride	ND	11	300		µg/L	100	6/13/2017 6:55:00 PM	R43484
n-Butylbenzene	18	13	300	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
n-Propylbenzene	120	7.4	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
sec-Butylbenzene	11	11	100	J	µg/L	100	6/13/2017 6:55:00 PM	R43484
Styrene	ND	16	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
tert-Butylbenzene	ND	10	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	6/13/2017 6:55:00 PM	R43484
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
trans-1,2-DCE	ND	18	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,1,2-Trichloroethane	ND	14	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Trichloroethene (TCE)	ND	11	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Trichlorofluoromethane	ND	18	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
1,2,3-Trichloropropane	ND	39	200		µg/L	100	6/13/2017 6:55:00 PM	R43484
Vinyl chloride	ND	18	100		µg/L	100	6/13/2017 6:55:00 PM	R43484
Xylenes, Total	8200	32	150		µg/L	100	6/13/2017 6:55:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	98.7	0	70-130		%Rec	100	6/13/2017 6:55:00 PM	R43484

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 9:35:00 AM
Lab ID: 1706558-007
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	100	6/13/2017 6:55:00 PM	R43484
Surr: Dibromofluoromethane	104	0	70-130		%Rec	100	6/13/2017 6:55:00 PM	R43484
Surr: Toluene-d8	102	0	70-130		%Rec	100	6/13/2017 6:55:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 10:00:00 AM
Lab ID: 1706558-008
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.9	0.36	1.0		mg/L	1	6/14/2017 2:33:33 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 2:33:33 AM	32230
Surr: DNOP	114	0	72.4-157		%Rec	1	6/14/2017 2:33:33 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	150	5.0	10		mg/L	200	6/13/2017 1:31:01 PM	G43469
Surr: BFB	120	0	52.3-138		%Rec	200	6/13/2017 1:31:01 PM	G43469
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	ND	0.87	2.0		mg/L	20	6/15/2017 2:19:38 PM	R43563
Chloride	4300	120	250		mg/L	500	6/24/2017 4:56:42 AM	A43793
Bromide	0.73	0.073	0.50		mg/L	5	6/15/2017 2:07:13 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/15/2017 2:07:13 PM	R43563
Sulfate	0.74	0.48	2.5	J	mg/L	5	6/15/2017 2:07:13 PM	R43563
Nitrate+Nitrite as N	ND	0.52	4.0		mg/L	20	6/28/2017 5:11:58 AM	R43827
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	31	0.043	0.10	*	mg/L	50	6/20/2017 4:40:21 PM	A43653
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 5:06:18 PM	A43626
Calcium	920	0.78	10		mg/L	10	6/19/2017 5:08:15 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 5:06:18 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 5:06:18 PM	A43626
Iron	54	1.6	2.0	*	mg/L	100	6/20/2017 4:42:20 PM	A43653
Magnesium	260	2.5	10		mg/L	10	6/19/2017 5:08:15 PM	A43626
Manganese	13	0.0077	0.040	*	mg/L	20	6/20/2017 4:38:42 PM	A43653
Potassium	2.9	0.11	1.0		mg/L	1	6/19/2017 5:06:18 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 5:06:18 PM	A43626
Sodium	1700	3.3	20		mg/L	20	6/20/2017 4:38:42 PM	A43653
Zinc	0.011	0.0011	0.010		mg/L	1	6/19/2017 5:06:18 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	33	0.047	0.10	*	mg/L	50	6/27/2017 2:11:32 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 6:09:44 PM	32416
Chromium	0.0011	0.0011	0.0060	J	mg/L	1	6/22/2017 6:09:44 PM	32416
Copper	ND	0.0017	0.0060		mg/L	1	6/22/2017 6:09:44 PM	32416
Iron	65	1.0	2.0	*	mg/L	100	6/27/2017 2:13:43 PM	32416
Manganese	14	0.055	0.10	*	mg/L	50	6/27/2017 2:11:32 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 6:09:44 PM	32416
Zinc	0.032	0.0028	0.010		mg/L	1	6/22/2017 6:09:44 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0057	0.0018	0.010	J	mg/L	10	6/21/2017 7:49:58 PM	A43708

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 10:00:00 AM
Lab ID: 1706558-008
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	6/20/2017 7:57:59 PM	C43652
Selenium	0.0062	0.0039	0.010	J	mg/L	10	6/20/2017 8:07:09 PM	C43652
Uranium	0.00057	0.00025	0.0025	J	mg/L	5	6/20/2017 7:57:59 PM	C43652
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0072	0.0015	0.0050		mg/L	5	6/23/2017 9:38:18 AM	32416
Lead	0.0098	0.00048	0.0025		mg/L	5	6/23/2017 9:38:18 AM	32416
Selenium	0.0081	0.0036	0.0050		mg/L	5	6/23/2017 9:38:18 AM	32416
Uranium	0.0015	0.00077	0.0025	J	mg/L	5	6/23/2017 9:38:18 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000074	0.000037	0.00020	J	mg/L	1	6/22/2017 10:09:13 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Acenaphthylene	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Aniline	52	15	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Anthracene	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Azobenzene	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Benz(a)anthracene	ND	19	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Benzo(a)pyrene	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Benzoic acid	ND	20	100	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Benzyl alcohol	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Bis(2-ethylhexyl)phthalate	ND	24	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Carbazole	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
4-Chloroaniline	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2-Chloronaphthalene	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2-Chlorophenol	ND	38	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Chrysene	ND	19	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 10:00:00 AM
Lab ID: 1706558-008
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Dibenzofuran	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Diethyl phthalate	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Dimethyl phthalate	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2,4-Dimethylphenol	88	14	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Fluoranthene	ND	21	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Fluorene	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Hexachlorobenzene	ND	19	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Hexachloroethane	ND	6.0	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Isophorone	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
1-Methylnaphthalene	ND	17	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2-Methylnaphthalene	ND	16	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2-Methylphenol	250	17	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
3+4-Methylphenol	190	16	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Naphthalene	42	14	50	JD	µg/L	1	6/20/2017 1:09:00 PM	32245
2-Nitroaniline	ND	25	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
3-Nitroaniline	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
4-Nitroaniline	ND	20	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Nitrobenzene	ND	18	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2-Nitrophenol	ND	26	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
4-Nitrophenol	ND	27	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Pentachlorophenol	ND	25	100	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Phenanthrene	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Phenol	140	16	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 10:00:00 AM
Lab ID: 1706558-008
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	22	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Pyridine	ND	11	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	6/20/2017 1:09:00 PM	32245
Surr: 2-Fluorophenol	2.75	0	15-98.1	SD	%Rec	1	6/20/2017 1:09:00 PM	32245
Surr: Phenol-d5	3.21	0	15-80.7	SD	%Rec	1	6/20/2017 1:09:00 PM	32245
Surr: 2,4,6-Tribromophenol	2.78	0	15-112	SD	%Rec	1	6/20/2017 1:09:00 PM	32245
Surr: Nitrobenzene-d5	86.2	0	27.2-90.7	D	%Rec	1	6/20/2017 1:09:00 PM	32245
Surr: 2-Fluorobiphenyl	78.4	0	23.3-85.6	D	%Rec	1	6/20/2017 1:09:00 PM	32245
Surr: 4-Terphenyl-d14	66.5	0	27.6-107	D	%Rec	1	6/20/2017 1:09:00 PM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	23000	62	1000		µg/L	1000	6/13/2017 7:18:00 PM	R43484
Toluene	22000	64	1000		µg/L	1000	6/13/2017 7:18:00 PM	R43484
Ethylbenzene	2600	9.3	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Methyl tert-butyl ether (MTBE)	130	24	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2,4-Trimethylbenzene	790	11	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,3,5-Trimethylbenzene	250	8.7	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Naphthalene	52	11	200	J	µg/L	100	6/13/2017 7:42:00 PM	R43484
1-Methylnaphthalene	ND	16	400		µg/L	100	6/13/2017 7:42:00 PM	R43484
2-Methylnaphthalene	ND	15	400		µg/L	100	6/13/2017 7:42:00 PM	R43484
Acetone	280	82	1000	J	µg/L	100	6/13/2017 7:42:00 PM	R43484
Bromobenzene	ND	14	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Bromodichloromethane	ND	18	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Bromoform	ND	21	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Bromomethane	ND	26	300		µg/L	100	6/13/2017 7:42:00 PM	R43484
2-Butanone	470	110	1000	J	µg/L	100	6/13/2017 7:42:00 PM	R43484
Carbon disulfide	ND	40	1000		µg/L	100	6/13/2017 7:42:00 PM	R43484
Carbon Tetrachloride	ND	11	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Chlorobenzene	ND	11	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Chloroethane	ND	23	200		µg/L	100	6/13/2017 7:42:00 PM	R43484
Chloroform	ND	40	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Chloromethane	ND	29	300		µg/L	100	6/13/2017 7:42:00 PM	R43484
2-Chlorotoluene	ND	40	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
4-Chlorotoluene	ND	40	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
cis-1,2-DCE	ND	20	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	6/13/2017 7:42:00 PM	R43484

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 10:00:00 AM
Lab ID: 1706558-008
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	6/13/2017 7:42:00 PM	R43484
Dibromochloromethane	ND	7.2	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Dibromomethane	ND	9.1	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,3-Dichlorobenzene	ND	15	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,4-Dichlorobenzene	ND	40	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Dichlorodifluoromethane	ND	100	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,1-Dichloroethane	ND	40	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,1-Dichloroethene	ND	8.1	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2-Dichloropropane	ND	10	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,3-Dichloropropane	ND	17	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
2,2-Dichloropropane	ND	16	200		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,1-Dichloropropene	ND	9.3	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Hexachlorobutadiene	ND	80	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
2-Hexanone	ND	66	1000		µg/L	100	6/13/2017 7:42:00 PM	R43484
Isopropylbenzene	160	5.1	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
4-Isopropyltoluene	23	9.6	100	J	µg/L	100	6/13/2017 7:42:00 PM	R43484
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	6/13/2017 7:42:00 PM	R43484
Methylene Chloride	ND	11	300		µg/L	100	6/13/2017 7:42:00 PM	R43484
n-Butylbenzene	23	13	300	J	µg/L	100	6/13/2017 7:42:00 PM	R43484
n-Propylbenzene	190	7.4	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
sec-Butylbenzene	27	11	100	J	µg/L	100	6/13/2017 7:42:00 PM	R43484
Styrene	ND	16	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
tert-Butylbenzene	ND	10	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	6/13/2017 7:42:00 PM	R43484
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
trans-1,2-DCE	ND	18	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,1,2-Trichloroethane	ND	14	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Trichloroethene (TCE)	ND	11	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Trichlorofluoromethane	ND	18	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
1,2,3-Trichloropropane	ND	39	200		µg/L	100	6/13/2017 7:42:00 PM	R43484
Vinyl chloride	ND	18	100		µg/L	100	6/13/2017 7:42:00 PM	R43484
Xylenes, Total	8700	32	150		µg/L	100	6/13/2017 7:42:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	91.7	0	70-130		%Rec	100	6/13/2017 7:42:00 PM	R43484

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 10:00:00 AM
Lab ID: 1706558-008
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	100	6/13/2017 7:42:00 PM	R43484
Surr: Dibromofluoromethane	98.3	0	70-130		%Rec	100	6/13/2017 7:42:00 PM	R43484
Surr: Toluene-d8	99.3	0	70-130		%Rec	100	6/13/2017 7:42:00 PM	R43484

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-009
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.3	0.36	1.0		mg/L	1	6/14/2017 3:01:17 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 3:01:17 AM	32230
Surr: DNOP	117	0	72.4-157		%Rec	1	6/14/2017 3:01:17 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	60	2.5	5.0		mg/L	100	6/13/2017 2:18:17 PM	G43469
Surr: BFB	114	0	52.3-138		%Rec	100	6/13/2017 2:18:17 PM	G43469
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	1.4	0.044	0.10		mg/L	1	6/15/2017 2:32:02 PM	R43563
Chloride	800	12	25		mg/L	50	6/24/2017 5:09:07 AM	A43793
Bromide	2.7	0.014	0.10		mg/L	1	6/15/2017 2:32:02 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 2:32:02 PM	R43563
Sulfate	0.68	0.096	0.50		mg/L	1	6/15/2017 2:32:02 PM	R43563
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/17/2017 12:09:59 PM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.3	0.0085	0.020	*	mg/L	10	6/19/2017 5:11:56 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 5:09:54 PM	A43626
Calcium	86	0.078	1.0		mg/L	1	6/19/2017 5:09:54 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 5:09:54 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 5:09:54 PM	A43626
Iron	1.4	0.16	0.20	*	mg/L	10	6/19/2017 5:11:56 PM	A43626
Magnesium	23	0.25	1.0		mg/L	1	6/19/2017 5:09:54 PM	A43626
Manganese	1.7	0.0038	0.020	*	mg/L	10	6/19/2017 5:11:56 PM	A43626
Potassium	1.8	0.11	1.0		mg/L	1	6/19/2017 5:09:54 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 5:09:54 PM	A43626
Sodium	770	1.6	10		mg/L	10	6/19/2017 5:11:56 PM	A43626
Zinc	0.014	0.0011	0.010		mg/L	1	6/19/2017 5:09:54 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.2	0.0093	0.020	*	mg/L	10	6/22/2017 6:21:23 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 6:19:43 PM	32416
Chromium	0.0018	0.0011	0.0060	J	mg/L	1	6/22/2017 6:19:43 PM	32416
Copper	0.0022	0.0017	0.0060	J	mg/L	1	6/22/2017 6:19:43 PM	32416
Iron	3.4	0.10	0.20	*	mg/L	10	6/22/2017 6:21:23 PM	32416
Manganese	1.6	0.011	0.020	*	mg/L	10	6/22/2017 6:21:23 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 6:19:43 PM	32416
Zinc	0.016	0.0028	0.010		mg/L	1	6/22/2017 6:19:43 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.018	0.00089	0.0050	*	mg/L	5	6/21/2017 7:53:02 PM	A43708

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-009
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	6/21/2017 7:53:02 PM	A43708
Selenium	0.018	0.0019	0.0050		mg/L	5	6/21/2017 7:53:02 PM	A43708
Uranium	0.0087	0.00025	0.0025		mg/L	5	6/21/2017 7:53:02 PM	A43708
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.019	0.0015	0.0050	*	mg/L	5	6/23/2017 9:50:23 AM	32416
Lead	0.0033	0.000095	0.00050		mg/L	1	6/23/2017 9:41:18 AM	32416
Selenium	0.014	0.0036	0.0050		mg/L	5	6/23/2017 9:50:23 AM	32416
Uranium	0.015	0.00015	0.00050		mg/L	1	6/23/2017 9:41:18 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000054	0.000037	0.00020	J	mg/L	1	6/22/2017 10:11:14 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Aniline	ND	3.1	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Benzoic acid	16	3.9	20	J	µg/L	1	6/20/2017 1:37:02 PM	32245
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Bis(2-ethylhexyl)phthalate	6.2	4.8	10	J	µg/L	1	6/20/2017 1:37:02 PM	32245
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Carbazole	ND	4.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/20/2017 1:37:02 PM	32245

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-009
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Dibenzofuran	ND	4.1	10		µg/L	1	6/20/2017 1:37:02 PM	32245
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 1:37:02 PM	32245
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 1:37:02 PM	32245
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 1:37:02 PM	32245
2,4-Dimethylphenol	110	2.8	10		µg/L	1	6/20/2017 1:37:02 PM	32245
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 1:37:02 PM	32245
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 1:37:02 PM	32245
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Fluorene	ND	4.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 1:37:02 PM	32245
1-Methylnaphthalene	34	3.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2-Methylnaphthalene	25	3.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2-Methylphenol	24	3.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
3+4-Methylphenol	8.1	3.2	10	J	µg/L	1	6/20/2017 1:37:02 PM	32245
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Naphthalene	94	2.9	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 1:37:02 PM	32245
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 1:37:02 PM	32245
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 1:37:02 PM	32245
Phenanthrene	ND	4.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Phenol	450	16	50		µg/L	5	6/21/2017 9:50:06 PM	32245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-009
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 1:37:02 PM	32245
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 1:37:02 PM	32245
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 1:37:02 PM	32245
Surr: 2-Fluorophenol	46.2	0	15-98.1		%Rec	1	6/20/2017 1:37:02 PM	32245
Surr: Phenol-d5	34.9	0	15-80.7		%Rec	1	6/20/2017 1:37:02 PM	32245
Surr: 2,4,6-Tribromophenol	74.3	0	15-112		%Rec	1	6/20/2017 1:37:02 PM	32245
Surr: Nitrobenzene-d5	78.0	0	27.2-90.7		%Rec	1	6/20/2017 1:37:02 PM	32245
Surr: 2-Fluorobiphenyl	77.0	0	23.3-85.6		%Rec	1	6/20/2017 1:37:02 PM	32245
Surr: 4-Terphenyl-d14	60.8	0	27.6-107		%Rec	1	6/20/2017 1:37:02 PM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	19000	62	1000		µg/L	1000	6/13/2017 8:06:00 PM	R43484
Toluene	220	6.4	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Ethylbenzene	710	9.3	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Methyl tert-butyl ether (MTBE)	820	24	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2,4-Trimethylbenzene	440	11	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,3,5-Trimethylbenzene	180	8.7	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Naphthalene	120	11	200	J	µg/L	100	6/13/2017 8:30:00 PM	R43484
1-Methylnaphthalene	46	16	400	J	µg/L	100	6/13/2017 8:30:00 PM	R43484
2-Methylnaphthalene	51	15	400	J	µg/L	100	6/13/2017 8:30:00 PM	R43484
Acetone	ND	82	1000		µg/L	100	6/13/2017 8:30:00 PM	R43484
Bromobenzene	ND	14	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Bromodichloromethane	ND	18	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Bromoform	ND	21	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Bromomethane	ND	26	300		µg/L	100	6/13/2017 8:30:00 PM	R43484
2-Butanone	ND	110	1000		µg/L	100	6/13/2017 8:30:00 PM	R43484
Carbon disulfide	ND	40	1000		µg/L	100	6/13/2017 8:30:00 PM	R43484
Carbon Tetrachloride	ND	11	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Chlorobenzene	ND	11	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Chloroethane	ND	23	200		µg/L	100	6/13/2017 8:30:00 PM	R43484
Chloroform	ND	40	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Chloromethane	ND	29	300		µg/L	100	6/13/2017 8:30:00 PM	R43484
2-Chlorotoluene	ND	40	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
4-Chlorotoluene	ND	40	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
cis-1,2-DCE	ND	20	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	6/13/2017 8:30:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-009
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	6/13/2017 8:30:00 PM	R43484
Dibromochloromethane	ND	7.2	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Dibromomethane	ND	9.1	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,3-Dichlorobenzene	ND	15	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,4-Dichlorobenzene	ND	40	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Dichlorodifluoromethane	ND	100	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,1-Dichloroethane	ND	40	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,1-Dichloroethene	ND	8.1	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2-Dichloropropane	ND	10	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,3-Dichloropropane	ND	17	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
2,2-Dichloropropane	ND	16	200		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,1-Dichloropropene	ND	9.3	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Hexachlorobutadiene	ND	80	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
2-Hexanone	ND	66	1000		µg/L	100	6/13/2017 8:30:00 PM	R43484
Isopropylbenzene	13	5.1	100	J	µg/L	100	6/13/2017 8:30:00 PM	R43484
4-Isopropyltoluene	ND	9.6	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	6/13/2017 8:30:00 PM	R43484
Methylene Chloride	ND	11	300		µg/L	100	6/13/2017 8:30:00 PM	R43484
n-Butylbenzene	ND	13	300		µg/L	100	6/13/2017 8:30:00 PM	R43484
n-Propylbenzene	31	7.4	100	J	µg/L	100	6/13/2017 8:30:00 PM	R43484
sec-Butylbenzene	ND	11	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Styrene	ND	16	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
tert-Butylbenzene	ND	10	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	6/13/2017 8:30:00 PM	R43484
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
trans-1,2-DCE	ND	18	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,1,2-Trichloroethane	ND	14	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Trichloroethene (TCE)	ND	11	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Trichlorofluoromethane	ND	18	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
1,2,3-Trichloropropane	ND	39	200		µg/L	100	6/13/2017 8:30:00 PM	R43484
Vinyl chloride	ND	18	100		µg/L	100	6/13/2017 8:30:00 PM	R43484
Xylenes, Total	2800	32	150		µg/L	100	6/13/2017 8:30:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	99.5	0	70-130		%Rec	100	6/13/2017 8:30:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-009
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	100	6/13/2017 8:30:00 PM	R43484
Surr: Dibromofluoromethane	105	0	70-130		%Rec	100	6/13/2017 8:30:00 PM	R43484
Surr: Toluene-d8	100	0	70-130		%Rec	100	6/13/2017 8:30:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:35:00 PM
Lab ID: 1706558-010
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	56	0.36	1.0		mg/L	1	6/14/2017 3:29:09 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 3:29:09 AM	32230
Surr: DNOP	119	0	72.4-157		%Rec	1	6/14/2017 3:29:09 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.73	0.12	0.25		mg/L	5	6/15/2017 9:46:19 AM	R43527
Surr: BFB	208	0	52.3-138	S	%Rec	5	6/15/2017 9:46:19 AM	R43527
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.87	0.044	0.10		mg/L	1	6/15/2017 3:21:40 PM	R43563
Chloride	790	25	50		mg/L	100	6/24/2017 5:21:31 AM	A43793
Bromide	3.0	0.29	2.0		mg/L	20	6/15/2017 3:34:04 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 3:21:40 PM	R43563
Sulfate	0.16	0.096	0.50	J	mg/L	1	6/15/2017 3:21:40 PM	R43563
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/17/2017 12:59:38 PM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	6.7	0.0085	0.020	*	mg/L	10	6/19/2017 5:21:50 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 5:20:11 PM	A43626
Calcium	99	0.078	1.0		mg/L	1	6/19/2017 5:20:11 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 5:20:11 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 5:20:11 PM	A43626
Iron	7.3	0.16	0.20	*	mg/L	10	6/19/2017 5:21:50 PM	A43626
Magnesium	34	0.25	1.0		mg/L	1	6/19/2017 5:20:11 PM	A43626
Manganese	1.3	0.0038	0.020	*	mg/L	10	6/19/2017 5:21:50 PM	A43626
Potassium	5.1	0.11	1.0		mg/L	1	6/19/2017 5:20:11 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 5:20:11 PM	A43626
Sodium	720	1.6	10		mg/L	10	6/19/2017 5:21:50 PM	A43626
Zinc	0.084	0.0011	0.010		mg/L	1	6/19/2017 5:20:11 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	6.7	0.0093	0.020	*	mg/L	10	6/22/2017 6:25:02 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 6:23:18 PM	32416
Chromium	0.0043	0.0011	0.0060	J	mg/L	1	6/22/2017 6:23:18 PM	32416
Copper	0.0085	0.0017	0.0060		mg/L	1	6/22/2017 6:23:18 PM	32416
Iron	12	0.20	0.40	*	mg/L	20	6/27/2017 2:15:50 PM	32416
Manganese	1.4	0.011	0.020	*	mg/L	10	6/22/2017 6:25:02 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 6:23:18 PM	32416
Zinc	0.020	0.0028	0.010		mg/L	1	6/22/2017 6:23:18 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0051	0.0035	0.020	J	mg/L	20	6/21/2017 8:02:12 PM	A43708

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-39
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:35:00 PM
Lab ID: 1706558-010
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00087	0.00017	0.00050		mg/L	1	6/19/2017 8:14:37 PM	D43632
Selenium	0.016	0.0019	0.0050		mg/L	5	6/21/2017 7:59:08 PM	A43708
Uranium	0.00013	0.000050	0.00050	J	mg/L	1	6/19/2017 8:14:37 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0042	0.0015	0.0050	J	mg/L	5	6/23/2017 9:56:24 AM	32416
Lead	0.011	0.000095	0.00050		mg/L	1	6/23/2017 9:53:23 AM	32416
Selenium	0.0098	0.0036	0.0050		mg/L	5	6/23/2017 9:56:24 AM	32416
Uranium	0.00067	0.00015	0.00050		mg/L	1	6/23/2017 9:53:23 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00010	0.000037	0.00020	J	mg/L	1	6/22/2017 10:13:08 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Acenaphthylene	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Aniline	ND	15	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Anthracene	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Azobenzene	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Benz(a)anthracene	ND	19	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Benzo(a)pyrene	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Benzoic acid	ND	20	100	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Benzyl alcohol	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Bis(2-ethylhexyl)phthalate	ND	24	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Carbazole	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
4-Chloroaniline	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2-Chloronaphthalene	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2-Chlorophenol	ND	38	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Chrysene	ND	19	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:35:00 PM
Lab ID: 1706558-010
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Dibenzofuran	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Diethyl phthalate	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Dimethyl phthalate	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Fluoranthene	ND	21	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Fluorene	41	20	50	JD	µg/L	1	6/20/2017 2:05:01 PM	32245
Hexachlorobenzene	ND	19	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Hexachloroethane	ND	6.0	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Isophorone	ND	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
1-Methylnaphthalene	360	17	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2-Methylnaphthalene	110	16	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2-Methylphenol	ND	17	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
3+4-Methylphenol	ND	16	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Naphthalene	98	14	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2-Nitroaniline	ND	25	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
3-Nitroaniline	ND	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
4-Nitroaniline	ND	20	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Nitrobenzene	ND	18	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2-Nitrophenol	ND	26	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
4-Nitrophenol	ND	27	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Pentachlorophenol	ND	25	100	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Phenanthrene	74	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Phenol	ND	16	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:35:00 PM
Lab ID: 1706558-010
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	22	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Pyridine	ND	11	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	6/20/2017 2:05:01 PM	32245
Surr: 2-Fluorophenol	43.9	0	15-98.1	D	%Rec	1	6/20/2017 2:05:01 PM	32245
Surr: Phenol-d5	35.1	0	15-80.7	D	%Rec	1	6/20/2017 2:05:01 PM	32245
Surr: 2,4,6-Tribromophenol	72.6	0	15-112	D	%Rec	1	6/20/2017 2:05:01 PM	32245
Surr: Nitrobenzene-d5	79.0	0	27.2-90.7	D	%Rec	1	6/20/2017 2:05:01 PM	32245
Surr: 2-Fluorobiphenyl	71.0	0	23.3-85.6	D	%Rec	1	6/20/2017 2:05:01 PM	32245
Surr: 4-Terphenyl-d14	60.1	0	27.6-107	D	%Rec	1	6/20/2017 2:05:01 PM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	12	0.31	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Toluene	ND	0.32	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Ethylbenzene	57	0.47	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Methyl tert-butyl ether (MTBE)	ND	1.2	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2,4-Trimethylbenzene	29	0.56	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Naphthalene	110	0.57	10		µg/L	5	6/13/2017 8:53:00 PM	R43484
1-Methylnaphthalene	240	0.80	20		µg/L	5	6/13/2017 8:53:00 PM	R43484
2-Methylnaphthalene	98	0.76	20		µg/L	5	6/13/2017 8:53:00 PM	R43484
Acetone	ND	4.1	50		µg/L	5	6/13/2017 8:53:00 PM	R43484
Bromobenzene	ND	0.70	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Bromodichloromethane	ND	0.88	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Bromoform	ND	1.1	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Bromomethane	ND	1.3	15		µg/L	5	6/13/2017 8:53:00 PM	R43484
2-Butanone	ND	5.7	50		µg/L	5	6/13/2017 8:53:00 PM	R43484
Carbon disulfide	ND	2.0	50		µg/L	5	6/13/2017 8:53:00 PM	R43484
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Chlorobenzene	ND	0.53	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Chloroethane	ND	1.2	10		µg/L	5	6/13/2017 8:53:00 PM	R43484
Chloroform	ND	2.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Chloromethane	ND	1.5	15		µg/L	5	6/13/2017 8:53:00 PM	R43484
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:35:00 PM
Lab ID: 1706558-010
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	6/13/2017 8:53:00 PM	R43484
Dibromochloromethane	ND	0.36	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Dibromomethane	ND	0.45	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
2,2-Dichloropropane	ND	0.79	10		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
2-Hexanone	ND	3.3	50		µg/L	5	6/13/2017 8:53:00 PM	R43484
Isopropylbenzene	28	0.26	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
4-Isopropyltoluene	8.2	0.48	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	6/13/2017 8:53:00 PM	R43484
Methylene Chloride	ND	0.54	15		µg/L	5	6/13/2017 8:53:00 PM	R43484
n-Butylbenzene	16	0.65	15		µg/L	5	6/13/2017 8:53:00 PM	R43484
n-Propylbenzene	40	0.37	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
sec-Butylbenzene	25	0.55	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Styrene	ND	0.78	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
tert-Butylbenzene	0.67	0.52	5.0	J	µg/L	5	6/13/2017 8:53:00 PM	R43484
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	6/13/2017 8:53:00 PM	R43484
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	6/13/2017 8:53:00 PM	R43484
Vinyl chloride	ND	0.89	5.0		µg/L	5	6/13/2017 8:53:00 PM	R43484
Xylenes, Total	ND	1.6	7.5		µg/L	5	6/13/2017 8:53:00 PM	R43484
Surr: 1,2-Dichloroethane-d4	94.6	0	70-130		%Rec	5	6/13/2017 8:53:00 PM	R43484

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:35:00 PM
Lab ID: 1706558-010
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	5	6/13/2017 8:53:00 PM	R43484
Surr: Dibromofluoromethane	104	0	70-130		%Rec	5	6/13/2017 8:53:00 PM	R43484
Surr: Toluene-d8	99.5	0	70-130		%Rec	5	6/13/2017 8:53:00 PM	R43484

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 2nd QTR MKTF
Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-011
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	43	0.36	1.0		mg/L	1	6/14/2017 3:56:58 AM	32230
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/14/2017 3:56:58 AM	32230
Surr: DNOP	114	0	72.4-157		%Rec	1	6/14/2017 3:56:58 AM	32230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.59	0.12	0.25		mg/L	5	6/15/2017 10:33:24 AM	R43527
Surr: BFB	184	0	52.3-138	S	%Rec	5	6/15/2017 10:33:24 AM	R43527
EPA METHOD 300.0: ANIONS							Analyst: **LGT**	
Fluoride	0.88	0.044	0.10		mg/L	1	6/15/2017 3:46:29 PM	R43563
Chloride	820	25	50		mg/L	100	6/24/2017 5:33:55 AM	A43793
Bromide	3.0	0.29	2.0		mg/L	20	6/15/2017 3:58:54 PM	R43563
Phosphorus, Orthophosphate (As P)	ND	0.25	0.50	H	mg/L	1	6/15/2017 3:46:29 PM	R43563
Sulfate	0.42	0.096	0.50	J	mg/L	1	6/15/2017 3:46:29 PM	R43563
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/17/2017 1:12:03 PM	R43610
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	6.5	0.0085	0.020	*	mg/L	10	6/19/2017 5:25:30 PM	A43626
Cadmium	ND	0.0010	0.0020		mg/L	1	6/19/2017 5:23:48 PM	A43626
Calcium	97	0.078	1.0		mg/L	1	6/19/2017 5:23:48 PM	A43626
Chromium	ND	0.0010	0.0060		mg/L	1	6/19/2017 5:23:48 PM	A43626
Copper	ND	0.0032	0.0060		mg/L	1	6/19/2017 5:23:48 PM	A43626
Iron	6.8	0.16	0.20	*	mg/L	10	6/19/2017 5:25:30 PM	A43626
Magnesium	33	0.25	1.0		mg/L	1	6/19/2017 5:23:48 PM	A43626
Manganese	1.2	0.0038	0.020	*	mg/L	10	6/19/2017 5:25:30 PM	A43626
Potassium	5.0	0.11	1.0		mg/L	1	6/19/2017 5:23:48 PM	A43626
Silver	ND	0.00088	0.0050		mg/L	1	6/19/2017 5:23:48 PM	A43626
Sodium	710	1.6	10		mg/L	10	6/19/2017 5:25:30 PM	A43626
Zinc	0.012	0.0011	0.010		mg/L	1	6/19/2017 5:23:48 PM	A43626
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	6.3	0.0093	0.020	*	mg/L	10	6/22/2017 6:28:41 PM	32416
Cadmium	ND	0.00058	0.0020		mg/L	1	6/22/2017 6:27:00 PM	32416
Chromium	0.0014	0.0011	0.0060	J	mg/L	1	6/22/2017 6:27:00 PM	32416
Copper	0.0041	0.0017	0.0060	J	mg/L	1	6/22/2017 6:27:00 PM	32416
Iron	9.2	0.10	0.20	*	mg/L	10	6/22/2017 6:28:41 PM	32416
Manganese	1.3	0.011	0.020	*	mg/L	10	6/22/2017 6:28:41 PM	32416
Silver	ND	0.00042	0.0050		mg/L	1	6/22/2017 6:27:00 PM	32416
Zinc	0.0097	0.0028	0.010	J	mg/L	1	6/22/2017 6:27:00 PM	32416
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0051	0.0035	0.020	J	mg/L	20	6/21/2017 8:08:18 PM	A43708

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: Duplicate
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Collection Date: 6/8/2017 1:00:00 PM
Lab ID: 1706558-011
Matrix: AQUEOUS
Received Date: 6/9/2017 2:05:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00030	0.00017	0.00050	J	mg/L	1	6/19/2017 8:23:51 PM	D43632
Selenium	0.015	0.0019	0.0050		mg/L	5	6/21/2017 8:05:15 PM	A43708
Uranium	0.000079	0.000050	0.00050	J	mg/L	1	6/19/2017 8:23:51 PM	D43632
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0044	0.0015	0.0050	J	mg/L	5	6/23/2017 10:02:25 AM	32416
Lead	0.0061	0.000095	0.00050		mg/L	1	6/23/2017 9:59:24 AM	32416
Selenium	0.0099	0.0036	0.0050		mg/L	5	6/23/2017 10:02:25 AM	32416
Uranium	0.00034	0.00015	0.00050	J	mg/L	1	6/23/2017 9:59:24 AM	32416
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000084	0.000037	0.00020	J	mg/L	1	6/22/2017 10:15:01 AM	32408
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Acenaphthylene	ND	3.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Aniline	ND	3.1	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Anthracene	ND	3.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Azobenzene	ND	4.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Benzoic acid	ND	3.9	20		µg/L	1	6/20/2017 2:33:06 PM	32245
Benzyl alcohol	ND	4.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/20/2017 2:33:06 PM	32245
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Carbazole	12	4.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
4-Chloroaniline	ND	3.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2-Chlorophenol	ND	7.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Chrysene	ND	3.8	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Di-n-octyl phthalate	5.3	4.7	10	J	µg/L	1	6/20/2017 2:33:06 PM	32245

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Dibenzofuran	5.6	4.1	10	J	µg/L	1	6/20/2017 2:33:06 PM	32245
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/20/2017 2:33:06 PM	32245
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 2:33:06 PM	32245
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Diethyl phthalate	ND	4.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/20/2017 2:33:06 PM	32245
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/20/2017 2:33:06 PM	32245
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/20/2017 2:33:06 PM	32245
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/20/2017 2:33:06 PM	32245
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Fluoranthene	ND	4.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Fluorene	9.6	4.0	10	J	µg/L	1	6/20/2017 2:33:06 PM	32245
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Hexachloroethane	ND	1.2	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Isophorone	ND	4.4	10		µg/L	1	6/20/2017 2:33:06 PM	32245
1-Methylnaphthalene	120	3.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2-Methylnaphthalene	48	3.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2-Methylphenol	ND	3.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/20/2017 2:33:06 PM	32245
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Naphthalene	52	2.9	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2-Nitroaniline	ND	4.9	10		µg/L	1	6/20/2017 2:33:06 PM	32245
3-Nitroaniline	ND	4.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
4-Nitroaniline	ND	4.0	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Nitrobenzene	ND	3.6	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2-Nitrophenol	ND	5.2	10		µg/L	1	6/20/2017 2:33:06 PM	32245
4-Nitrophenol	ND	5.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Pentachlorophenol	ND	4.9	20		µg/L	1	6/20/2017 2:33:06 PM	32245
Phenanthrene	15	4.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Phenol	ND	3.1	10		µg/L	1	6/20/2017 2:33:06 PM	32245

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Pyridine	ND	2.3	10		µg/L	1	6/20/2017 2:33:06 PM	32245
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/20/2017 2:33:06 PM	32245
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/20/2017 2:33:06 PM	32245
Surr: 2-Fluorophenol	29.7	0	15-98.1		%Rec	1	6/20/2017 2:33:06 PM	32245
Surr: Phenol-d5	24.2	0	15-80.7		%Rec	1	6/20/2017 2:33:06 PM	32245
Surr: 2,4,6-Tribromophenol	57.6	0	15-112		%Rec	1	6/20/2017 2:33:06 PM	32245
Surr: Nitrobenzene-d5	55.4	0	27.2-90.7		%Rec	1	6/20/2017 2:33:06 PM	32245
Surr: 2-Fluorobiphenyl	56.0	0	23.3-85.6		%Rec	1	6/20/2017 2:33:06 PM	32245
Surr: 4-Terphenyl-d14	45.4	0	27.6-107		%Rec	1	6/20/2017 2:33:06 PM	32245
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	12	0.31	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Toluene	ND	0.32	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Ethylbenzene	58	0.47	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Methyl tert-butyl ether (MTBE)	ND	1.2	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2,4-Trimethylbenzene	30	0.56	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Naphthalene	110	0.57	10		µg/L	5	6/14/2017 11:58:51 AM	W43504
1-Methylnaphthalene	220	0.80	20		µg/L	5	6/14/2017 11:58:51 AM	W43504
2-Methylnaphthalene	88	0.76	20		µg/L	5	6/14/2017 11:58:51 AM	W43504
Acetone	ND	4.1	50		µg/L	5	6/14/2017 11:58:51 AM	W43504
Bromobenzene	ND	0.70	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Bromodichloromethane	ND	0.88	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Bromoform	ND	1.1	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Bromomethane	ND	1.3	15		µg/L	5	6/14/2017 11:58:51 AM	W43504
2-Butanone	ND	5.7	50		µg/L	5	6/14/2017 11:58:51 AM	W43504
Carbon disulfide	ND	2.0	50		µg/L	5	6/14/2017 11:58:51 AM	W43504
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Chlorobenzene	ND	0.53	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Chloroethane	ND	1.2	10		µg/L	5	6/14/2017 11:58:51 AM	W43504
Chloroform	ND	2.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Chloromethane	ND	1.5	15		µg/L	5	6/14/2017 11:58:51 AM	W43504
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	6/14/2017 11:58:51 AM	W43504
Dibromochloromethane	ND	0.36	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Dibromomethane	ND	0.45	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
2,2-Dichloropropane	ND	0.79	10		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
2-Hexanone	ND	3.3	50		µg/L	5	6/14/2017 11:58:51 AM	W43504
Isopropylbenzene	25	0.26	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
4-Isopropyltoluene	6.3	0.48	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	6/14/2017 11:58:51 AM	W43504
Methylene Chloride	ND	0.54	15		µg/L	5	6/14/2017 11:58:51 AM	W43504
n-Butylbenzene	13	0.65	15	J	µg/L	5	6/14/2017 11:58:51 AM	W43504
n-Propylbenzene	40	0.37	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
sec-Butylbenzene	19	0.55	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Styrene	ND	0.78	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	6/14/2017 11:58:51 AM	W43504
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	6/14/2017 11:58:51 AM	W43504
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	6/14/2017 11:58:51 AM	W43504
Vinyl chloride	1.7	0.89	5.0	J	µg/L	5	6/14/2017 11:58:51 AM	W43504
Xylenes, Total	ND	1.6	7.5		µg/L	5	6/14/2017 11:58:51 AM	W43504
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	5	6/14/2017 11:58:51 AM	W43504

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: 4-Bromofluorobenzene	98.0	0	70-130		%Rec	5	6/14/2017 11:58:51 AM	W43504
Surr: Dibromofluoromethane	102	0	70-130		%Rec	5	6/14/2017 11:58:51 AM	W43504
Surr: Toluene-d8	104	0	70-130		%Rec	5	6/14/2017 11:58:51 AM	W43504

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374374** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	0.0052	0.0060								J
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	0.24	1.0								J
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374378** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	84.5	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			
Calcium	0.55	1.0	0.5000	0	109	50	150			J
Chromium	0.0064	0.0060	0.006000	0	107	50	150			
Copper	0.0058	0.0060	0.006000	0	96.3	50	150			J
Iron	0.023	0.020	0.02000	0	116	50	150			
Magnesium	0.56	1.0	0.5000	0	112	50	150			J
Manganese	0.0019	0.0020	0.002000	0	94.0	50	150			J
Potassium	0.58	1.0	0.5000	0	116	50	150			J
Silver	0.0051	0.0050	0.005000	0	102	50	150			
Sodium	0.64	1.0	0.5000	0	129	50	150			J
Zinc	0.0050	0.010	0.005000	0	99.0	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374379** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	97.0	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.6	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43626**	RunNo: **43626**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374379** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.48	0.0060	0.5000	0	95.7	85	115			
Iron	0.49	0.020	0.5000	0	97.2	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.47	0.0020	0.5000	0	93.8	85	115			
Potassium	50	1.0	50.00	0	99.4	85	115			
Silver	0.099	0.0050	0.1000	0	98.8	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.8	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43653**	RunNo: **43653**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43653**	RunNo: **43653**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375738** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	90.0	50	150			J
Iron	0.024	0.020	0.02000	0	121	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Sodium	0.53	1.0	0.5000	0	107	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43653**	RunNo: **43653**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375739** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.0	85	115			
Iron	0.47	0.020	0.5000	0	95.0	85	115			
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			
Sodium	49	1.0	50.00	0	98.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **MB-32416**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **32416**	RunNo: **43729**
Prep Date: **6/21/2017**	Analysis Date: **6/22/2017**	SeqNo: **1377914** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-32416**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **32416**	RunNo: **43729**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1377915** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	88.5	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Chromium	0.0060	0.0060	0.006000	0	101	50	150			
Copper	0.0058	0.0060	0.006000	0	97.5	50	150			J
Iron	0.020	0.020	0.02000	0	100	50	150			
Manganese	0.0021	0.0020	0.002000	0	105	50	150			
Silver	0.0048	0.0050	0.005000	0	96.2	50	150			J
Zinc	0.0060	0.010	0.005000	0	121	50	150			J

Sample ID **LCS-32416**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32416**	RunNo: **43729**
Prep Date: **6/21/2017**	Analysis Date: **6/22/2017**	SeqNo: **1377916** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.3	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.4	85	115			
Chromium	0.48	0.0060	0.5000	0	95.4	85	115			
Copper	0.47	0.0060	0.5000	0	94.4	85	115			
Iron	0.47	0.020	0.5000	0	94.5	85	115			
Manganese	0.46	0.0020	0.5000	0	92.6	85	115			
Silver	0.093	0.0050	0.1000	0	93.2	85	115			
Zinc	0.47	0.010	0.5000	0	94.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374735** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.6	85	115			
Selenium	0.023	0.0010	0.02500	0	91.8	85	115			
Uranium	0.012	0.00050	0.01250	0	92.5	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374738** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	97.4	50	150			J
Selenium	0.00090	0.0010	0.001000	0	90.3	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	96.0	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D43632**	RunNo: **43632**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **1706558-008EMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-15**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375606** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.062	0.0025	0.06250	0	99.3	70	130	4.95	20	
Uranium	0.071	0.0025	0.06250	0.0005747	113	70	130	5.72	20	

Sample ID **1706558-008EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-15**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375607** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.065	0.0025	0.06250	0	104	70	130			
Uranium	0.076	0.0025	0.06250	0.0005747	120	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375616** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.7	85	115			
Selenium	0.023	0.0010	0.02500	0	90.2	85	115			
Uranium	0.011	0.00050	0.01250	0	91.3	85	115			

Sample ID **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375620** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	95.2	50	150			J
Selenium	0.00088	0.0010	0.001000	0	87.8	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.5	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C43652**	RunNo: **43652**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375625** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43708**	RunNo: **43708**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1376846** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.0	85	115			
Lead	0.012	0.00050	0.01250	0	94.0	85	115			
Selenium	0.025	0.0010	0.02500	0	99.2	85	115			
Uranium	0.012	0.00050	0.01250	0	92.8	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43708**	RunNo: **43708**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1376848** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.4	50	150			J
Selenium	0.0010	0.0010	0.001000	0	101	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43708**	RunNo: **43708**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1376848** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00049	0.00050	0.0005000	0	97.8	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43708**	RunNo: **43708**
Prep Date:	Analysis Date: **6/21/2017**	SeqNo: **1376850** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID	**MB-32416**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32416**	RunNo:	**43749**					
Prep Date:	**6/21/2017**	Analysis Date:	**6/23/2017**	SeqNo:	**1378070**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-32416**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32416**	RunNo:	**43749**					
Prep Date:	**6/21/2017**	Analysis Date:	**6/23/2017**	SeqNo:	**1378071**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.3	85	115			
Lead	0.012	0.00050	0.01250	0	97.1	85	115			
Selenium	0.023	0.0010	0.02500	0	92.3	85	115			
Uranium	0.012	0.00050	0.01250	0	95.9	85	115			

Sample ID	**MSLLLCS-32416**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**32416**	RunNo:	**43749**					
Prep Date:	**6/21/2017**	Analysis Date:	**6/23/2017**	SeqNo:	**1378072**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00086	0.0010	0.001000	0	85.8	50	150			J
Lead	0.00047	0.00050	0.0005000	0	94.4	50	150			J
Selenium	0.00075	0.0010	0.001000	0	75.4	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.2	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID	**MB-32408**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**32408**	RunNo:	**43711**					
Prep Date:	**6/21/2017**	Analysis Date:	**6/22/2017**	SeqNo:	**1377006**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000053	0.00020								J

Sample ID	**LCS-32408**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**32408**	RunNo:	**43711**					
Prep Date:	**6/21/2017**	Analysis Date:	**6/22/2017**	SeqNo:	**1377007**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.4	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43563**	RunNo: **43563**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1372229** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43563**	RunNo: **43563**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1372230** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	109	90	110			
Chloride	4.9	0.50	5.000	0	97.8	90	110			
Bromide	2.5	0.10	2.500	0	98.9	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	99.0	90	110			
Sulfate	9.9	0.50	10.00	0	98.7	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43610**	RunNo: **43610**
Prep Date:	Analysis Date: **6/17/2017**	SeqNo: **1373811** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43610**	RunNo: **43610**
Prep Date:	Analysis Date: **6/17/2017**	SeqNo: **1373812** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A43793**	RunNo: **43793**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1379448** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A43793**	RunNo: **43793**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1379449** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.0	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43827**	RunNo: **43827**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381049** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43827**	RunNo: **43827**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381050** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.6	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43827**	RunNo: **43827**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381917** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43827**	RunNo: **43827**
Prep Date:	Analysis Date: **6/27/2017**	SeqNo: **1381918** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	98.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **LCS-32230**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32230**	RunNo: **43422**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368693** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	113	82.8	146			
Surr: DNOP	0.52		0.5000		104	72.4	157			

Sample ID **MB-32230**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32230**	RunNo: **43422**
Prep Date: **6/12/2017**	Analysis Date: **6/13/2017**	SeqNo: **1368694** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.92		1.000		91.6	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G43469**	RunNo: **43469**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1368744** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	23		20.00		113	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G43469**	RunNo: **43469**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1368745** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	102	79.1	123			
Surr: BFB	24		20.00		121	52.3	138			

Sample ID **1706558-004AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-22**	Batch ID: **G43469**	RunNo: **43469**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1368748** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	39	2.5	25.00	14.18	99.5	53.2	134			
Surr: BFB	1200		1000		119	52.3	138			

Sample ID **1706558-004AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-22**	Batch ID: **G43469**	RunNo: **43469**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1368749** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	38	2.5	25.00	14.18	97.0	53.2	134	1.65	20	
Surr: BFB	1200		1000		121	52.3	138	0	0	

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R43527**	RunNo: **43527**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371492** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	23		20.00		116	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R43527**	RunNo: **43527**
Prep Date:	Analysis Date: **6/15/2017**	SeqNo: **1371494** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID	**2.5UG GRO LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**
Client ID:	**LCSW**	Batch ID:	**R43527**	RunNo:	**43527**
Prep Date:		Analysis Date:	**6/15/2017**	SeqNo:	**1371494** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	93.8	79.1	123			
Surr: BFB	25		20.00		123	52.3	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369396** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Ethylbenzene	20	1.0	20.00	0	102	70	130			
Methyl tert-butyl ether (MTBE)	38	1.0	40.00	0	96.2	70	130			
1,2,4-Trimethylbenzene	19	1.0	20.00	0	97.2	70	130			
1,3,5-Trimethylbenzene	19	1.0	20.00	0	96.4	70	130			
1,2-Dichloroethane (EDC)	20	1.0	20.00	0	100	62.2	143			
1,2-Dibromoethane (EDB)	19	1.0	20.00	0	93.8	70	130			
Naphthalene	16	2.0	20.00	0	81.6	70	130			
1-Methylnaphthalene	16	4.0	20.00	0	80.0	60	140			
Acetone	39	10	40.00	0	98.2	60	140			
Bromobenzene	19	1.0	20.00	0	97.1	70	130			
Bromodichloromethane	22	1.0	20.00	0	109	70	130			
Bromoform	19	1.0	20.00	0	93.0	70	130			
Bromomethane	16	3.0	20.00	0	79.2	60	140			
2-Butanone	45	10	40.00	0	111	60	140			
Carbon disulfide	43	10	40.00	0	106	60	140			
Carbon Tetrachloride	21	1.0	20.00	0	106	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
Chloroethane	21	2.0	20.00	0	103	60	140			
Chloroform	22	1.0	20.00	0	109	70	130			
Chloromethane	15	3.0	20.00	0	77.0	60	140			
2-Chlorotoluene	19	1.0	20.00	0	95.6	70	130			
4-Chlorotoluene	19	1.0	20.00	0	96.1	70	130			
cis-1,2-DCE	23	1.0	20.00	0	114	70	130			
cis-1,3-Dichloropropene	19	1.0	20.00	0	94.9	70	130			
1,2-Dibromo-3-chloropropane	16	2.0	20.00	0	80.9	70	130			
Dibromochloromethane	18	1.0	20.00	0	91.6	70	130			
Dibromomethane	21	1.0	20.00	0	106	70	130			
1,2-Dichlorobenzene	19	1.0	20.00	0	93.1	70	130			
1,3-Dichlorobenzene	20	1.0	20.00	0	98.4	70	130			
1,4-Dichlorobenzene	20	1.0	20.00	0	97.6	67.2	141			
Dichlorodifluoromethane	23	1.0	20.00	0	116	60	140			
1,1-Dichloroethane	21	1.0	20.00	0	103	52.6	157			
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130			
1,2-Dichloropropane	21	1.0	20.00	0	103	63.7	138			
1,3-Dichloropropane	19	1.0	20.00	0	93.5	70	130			
2,2-Dichloropropane	21	2.0	20.00	0	105	70	130			
1,1-Dichloropropene	21	1.0	20.00	0	104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369396** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Hexachlorobutadiene	16	1.0	20.00	0	81.2	70	130			
2-Hexanone	33	10	40.00	0	83.1	60	140			
Isopropylbenzene	20	1.0	20.00	0	101	70	130			
4-Isopropyltoluene	20	1.0	20.00	0	98.7	70	130			
4-Methyl-2-pentanone	37	10	40.00	0	92.3	60	140			
Methylene Chloride	21	3.0	20.00	0	105	70	130			
n-Butylbenzene	18	3.0	20.00	0	89.4	70	130			
n-Propylbenzene	19	1.0	20.00	0	95.4	70	130			
sec-Butylbenzene	19	1.0	20.00	0	93.9	70	130			
Styrene	20	1.0	20.00	0	100	70	130			
tert-Butylbenzene	19	1.0	20.00	0	95.7	70	130			
1,1,1,2-Tetrachloroethane	19	1.0	20.00	0	95.9	70	130			
1,1,2,2-Tetrachloroethane	19	2.0	20.00	0	93.0	65.9	133			
Tetrachloroethene (PCE)	21	1.0	20.00	0	105	70	130			
trans-1,2-DCE	21	1.0	20.00	0	105	70	130			
trans-1,3-Dichloropropene	17	1.0	20.00	0	84.3	70	130			
1,2,3-Trichlorobenzene	17	1.0	20.00	0	84.0	70	130			
1,2,4-Trichlorobenzene	17	1.0	20.00	0	84.7	70	130			
1,1,1-Trichloroethane	21	1.0	20.00	0	103	70	130			
1,1,2-Trichloroethane	19	1.0	20.00	0	93.3	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	107	70	130			
Trichlorofluoromethane	22	1.0	20.00	0	109	70	130			
1,2,3-Trichloropropane	19	2.0	20.00	0	93.9	69.7	129			
Vinyl chloride	18	1.0	20.00	0	91.3	70	130			
Xylenes, Total	60	1.5	60.00	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369397** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369397** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369397** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.2	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			

Sample ID **1706558-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-33**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369403** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	98.5	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **1706558-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-33**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369403** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Sample ID **1706558-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-33**	Batch ID: **R43484**	RunNo: **43484**
Prep Date:	Analysis Date: **6/13/2017**	SeqNo: **1369404** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130	1.18	20	
Toluene	19	1.0	20.00	0	96.9	70	130	1.65	20	
Chlorobenzene	20	1.0	20.00	0	101	70	130	1.83	20	
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130	5.65	20	
Trichloroethene (TCE)	20	1.0	20.00	0	97.8	70	130	4.94	20	
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		107	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		98.3	70	130	0	0	

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43504**	RunNo: **43504**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370145** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	0.31	4.0								J
2-Methylnaphthalene	0.22	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	2.3	10								J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43504**	RunNo: **43504**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370145** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43504**	RunNo: **43504**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370145** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.5	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43504**	RunNo: **43504**
Prep Date:	Analysis Date: **6/14/2017**	SeqNo: **1370146** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.6	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Chlorobenzene	22	1.0	20.00	0	108	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.2	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.3	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.5	70	130			
Surr: Toluene-d8	11		10.00		107	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **lcs-32245**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32245**	RunNo: **43664**
Prep Date: **6/13/2017**	Analysis Date: **6/20/2017**	SeqNo: **1375446** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	60	10	100.0	0	60.5	41.2	98.9			
4-Chloro-3-methylphenol	120	10	200.0	0	61.6	29.1	111			
2-Chlorophenol	110	10	200.0	0	56.4	23.3	108			
1,4-Dichlorobenzene	52	10	100.0	0	52.1	29.4	84.5			
2,4-Dinitrotoluene	55	10	100.0	0	54.7	36.6	88.7			
N-Nitrosodi-n-propylamine	66	10	100.0	0	65.8	46.9	106			
4-Nitrophenol	94	10	200.0	0	47.0	15	74.7			
Pentachlorophenol	110	20	200.0	0	56.0	28.1	85.4			
Phenol	85	10	200.0	0	42.7	15	78.2			
Pyrene	66	10	100.0	0	66.3	44.4	96.8			
1,2,4-Trichlorobenzene	61	10	100.0	0	61.0	34.3	89			
Surr: 2-Fluorophenol	99		200.0		49.7	15	98.1			
Surr: Phenol-d5	91		200.0		45.3	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		69.2	15	112			
Surr: Nitrobenzene-d5	70		100.0		70.1	27.2	90.7			
Surr: 2-Fluorobiphenyl	66		100.0		66.4	23.3	85.6			
Surr: 4-Terphenyl-d14	57		100.0		57.2	27.6	107			

Sample ID **lcsd-32245**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32245**	RunNo: **43664**
Prep Date: **6/13/2017**	Analysis Date: **6/20/2017**	SeqNo: **1375447** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	65	10	100.0	0	64.7	41.2	98.9	6.74	37.4	
4-Chloro-3-methylphenol	140	10	200.0	0	70.1	29.1	111	12.9	26.8	
2-Chlorophenol	130	10	200.0	0	62.8	23.3	108	10.7	30.3	
1,4-Dichlorobenzene	57	10	100.0	0	57.2	29.4	84.5	9.19	32	
2,4-Dinitrotoluene	58	10	100.0	0	58.0	36.6	88.7	5.75	36.7	
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.0	46.9	106	11.7	29.9	
4-Nitrophenol	75	10	200.0	0	37.6	15	74.7	22.3	28.8	
Pentachlorophenol	120	20	200.0	0	61.2	28.1	85.4	8.82	38.2	
Phenol	79	10	200.0	0	39.3	15	78.2	8.36	39.8	
Pyrene	75	10	100.0	0	74.8	44.4	96.8	12.1	28.3	
1,2,4-Trichlorobenzene	67	10	100.0	0	67.2	34.3	89	9.70	39.8	
Surr: 2-Fluorophenol	97		200.0		48.5	15	98.1	0	0	
Surr: Phenol-d5	79		200.0		39.7	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		75.3	15	112	0	0	
Surr: Nitrobenzene-d5	80		100.0		80.4	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	72		100.0		72.3	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF

Sample ID **lcsd-32245**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32245**	RunNo: **43664**
Prep Date: **6/13/2017**	Analysis Date: **6/20/2017**	SeqNo: **1375447** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	62		100.0		62.2	27.6	107	0	0	

Sample ID **mb-32245**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32245**	RunNo: **43664**
Prep Date: **6/13/2017**	Analysis Date: **6/20/2017**	SeqNo: **1375448** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	7.8	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**
11-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2nd QTR MKTF

Sample ID **mb-32245**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32245**	RunNo: **43664**
Prep Date: **6/13/2017**	Analysis Date: **6/20/2017**	SeqNo: **1375448** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	4.2	10								J
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **mb-32245**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32245**	RunNo: **43664**
Prep Date: **6/13/2017**	Analysis Date: **6/20/2017**	SeqNo: **1375448** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		57.9	15	98.1			
Surr: Phenol-d5	110		200.0		54.1	15	80.7			
Surr: 2,4,6-Tribromophenol	150		200.0		77.3	15	112			
Surr: Nitrobenzene-d5	83		100.0		83.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	76		100.0		75.9	23.3	85.6			
Surr: 4-Terphenyl-d14	64		100.0		63.9	27.6	107			

Sample ID **mb-32356**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32356**	RunNo: **43713**
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376917** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		53.6	15	98.1			
Surr: Phenol-d5	80		200.0		39.9	15	80.7			
Surr: 2,4,6-Tribromophenol	170		200.0		84.0	15	112			
Surr: Nitrobenzene-d5	87		100.0		87.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	71		100.0		70.6	23.3	85.6			
Surr: 4-Terphenyl-d14	71		100.0		70.8	27.6	107			

Sample ID **lcs-32356**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32356**	RunNo: **43713**
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376918** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	94		200.0		47.2	15	98.1			
Surr: Phenol-d5	72		200.0		35.8	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		77.8	15	112			
Surr: Nitrobenzene-d5	80		100.0		80.1	27.2	90.7			
Surr: 2-Fluorobiphenyl	67		100.0		67.2	23.3	85.6			
Surr: 4-Terphenyl-d14	65		100.0		64.7	27.6	107			

Sample ID **lcsd-32356**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32356**	RunNo: **43713**
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376919** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	81		200.0		40.6	15	98.1	0	0	
Surr: Phenol-d5	63		200.0		31.5	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		65.0	15	112	0	0	
Surr: Nitrobenzene-d5	70		100.0		70.2	27.2	90.7	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **lcsd-32356**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32356**	RunNo: **43713**
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376919** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	56		100.0		56.4	23.3	85.6	0	0	
Surr: 4-Terphenyl-d14	56		100.0		56.3	27.6	107	0	0	

Sample ID **mb-32582**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390263** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		53.8	15	98.1			
Surr: Phenol-d5	88		200.0		43.9	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		67.6	15	112			
Surr: Nitrobenzene-d5	80		100.0		80.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	67		100.0		67.3	23.3	85.6			
Surr: 4-Terphenyl-d14	67		100.0		67.3	27.6	107			

Sample ID **mb-32651**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32651**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390264** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	100		200.0		49.8	15	98.1			
Surr: Phenol-d5	85		200.0		42.4	15	80.7			
Surr: 2,4,6-Tribromophenol	120		200.0		61.6	15	112			
Surr: Nitrobenzene-d5	78		100.0		77.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	71		100.0		71.1	23.3	85.6			
Surr: 4-Terphenyl-d14	61		100.0		61.2	27.6	107			

Sample ID **lcs-32582**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390265** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	92		200.0		45.9	15	98.1			
Surr: Phenol-d5	81		200.0		40.5	15	80.7			
Surr: 2,4,6-Tribromophenol	140		200.0		71.5	15	112			
Surr: Nitrobenzene-d5	72		100.0		71.8	27.2	90.7			
Surr: 2-Fluorobiphenyl	65		100.0		64.7	23.3	85.6			
Surr: 4-Terphenyl-d14	67		100.0		67.1	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706558**

11-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2nd QTR MKTF

Sample ID **lcs-32651**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32651**	RunNo: **44069**
Prep Date: **7/6/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390266** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	85		200.0		42.4	15	98.1			
Surr: Phenol-d5	73		200.0		36.7	15	80.7			
Surr: 2,4,6-Tribromophenol	110		200.0		57.4	15	112			
Surr: Nitrobenzene-d5	71		100.0		71.0	27.2	90.7			
Surr: 2-Fluorobiphenyl	65		100.0		65.4	23.3	85.6			
Surr: 4-Terphenyl-d14	57		100.0		56.7	27.6	107			

Sample ID **lcsd-32582**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32582**	RunNo: **44069**
Prep Date: **6/30/2017**	Analysis Date: **7/7/2017**	SeqNo: **1390267** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	100		200.0		51.6	15	98.1	0	0	
Surr: Phenol-d5	88		200.0		44.1	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	150		200.0		76.0	15	112	0	0	
Surr: Nitrobenzene-d5	77		100.0		77.5	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	69		100.0		69.3	23.3	85.6	0	0	
Surr: 4-Terphenyl-d14	68		100.0		68.0	27.6	107	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1706558** RcptNo: **1**

Received By: **Anne Thorne** **6/9/2017 2:05:00 PM** Anne Thorne

Completed By: **Ashley Gallegos** **6/12/2017 9:16:40 AM** AG

Reviewed By: IO 6/12/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	~~Yes~~ ☑	No ☑ SRC	
9. Was preservative added to bottles?	Yes ☑	~~No~~ ☑ SRC	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 27 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? Yes
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: SRC

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks: For metals analysis: Added 1 mL HNO_3 to -004F, -006F, -008F, -009F, -010F, -011F for acceptable pH. Held 24 hrs prior to analysis for. 06/12/17 @ 1315 SR

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other_____
☐ EDD (Type) _____

Turn-Around Time:
X Standard ☐ Rush_____

Project Name:
2017 2ND QTR (MKTF)

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler: C. JOHNSON/G VIGIL

On Ice: X Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706558	Analysis Request: 8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1	Air Bubbles (Y or N)
6/7/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X							
6/7/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X							
6/8/2017	805	AQUEOUS	MKTF-33	MISC	MISC	-003	X	X	X	X	X	X		
6/8/2017	1240	AQUEOUS	MKTF-22	MISC	MISC	-004	X	X	X	X	X	X		
6/8/2017	830	AQUEOUS	MKTF-4	MISC	MISC	-005	X	X	X	X	X	X		
6/8/2017	855	AQUEOUS	MKTF-11	MISC	MISC	-006	X	X	X	X	X	X		
6/8/2017	935	AQUEOUS	MKTF-10	MISC	MISC	-007	X	X	X	X	X	X		
6/8/2017	10 00	AQUEOUS	MKTF-15	MISC	MISC	-008	X	X	X	X	X	X		
6/8/2017	1300	AQUEOUS	MKTF-16	MISC	MISC	-009	X	X	X	X	X	X		
6/8/2017	1335	AQUEOUS	MKTF-39	MISC	MISC	-010	X	X	X	X	X	X		
6/8/2017	13 00	AQUEOUS	DUPLICATE	MISC	MISC	-011	X	X	X	X	X	X		

Date	Time	Relinquished by	Received by	Date	Time
6/8/17	1640		Eugene Vigil	6/9/17	1100
6/9/17	1405			6/09/17	1405

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 18, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 2ND QTR (MKTF) OrderNo.: 1706876

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 6/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 7:00:00 AM
Lab ID: 1706876-001 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Toluene	0.13	0.064	1.0	J	µg/L	1	6/19/2017 11:17:41 PM	W43599
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Naphthalene	ND	0.11	2.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
2-Methylnaphthalene	0.26	0.15	4.0	J	µg/L	1	6/19/2017 11:17:41 PM	W43599
Acetone	3.8	0.82	10	J	µg/L	1	6/19/2017 11:17:41 PM	W43599
Bromobenzene	ND	0.14	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Bromoform	ND	0.21	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Bromomethane	ND	0.26	3.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
2-Butanone	ND	1.1	10		µg/L	1	6/19/2017 11:17:41 PM	W43599
Carbon disulfide	ND	0.40	10		µg/L	1	6/19/2017 11:17:41 PM	W43599
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Chloroethane	ND	0.23	2.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Chloroform	ND	0.40	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Chloromethane	ND	0.29	3.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Dibromomethane	ND	0.091	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/19/2017 11:17:41 PM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 7:00:00 AM
Lab ID: 1706876-001 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
2-Hexanone	ND	0.66	10		µg/L	1	6/19/2017 11:17:41 PM	W43599
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/19/2017 11:17:41 PM	W43599
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Styrene	ND	0.16	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/19/2017 11:17:41 PM	W43599
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/19/2017 11:17:41 PM	W43599
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	6/19/2017 11:17:41 PM	W43599
Surr: 4-Bromofluorobenzene	93.5	0	70-130		%Rec	1	6/19/2017 11:17:41 PM	W43599
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	6/19/2017 11:17:41 PM	W43599
Surr: Toluene-d8	102	0	70-130		%Rec	1	6/19/2017 11:17:41 PM	W43599

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 2ND QTR (MKTF)
Collection Date:
Lab ID: 1706876-002
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/16/2017 1:48:03 PM	G43569
Surr: BFB	115	0	52.3-138		%Rec	1	6/16/2017 1:48:03 PM	G43569
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Toluene	ND	0.064	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Naphthalene	ND	0.11	2.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Acetone	ND	0.82	10		µg/L	1	6/19/2017 11:46:15 PM	W43599
Bromobenzene	ND	0.14	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Bromoform	ND	0.21	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Bromomethane	ND	0.26	3.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
2-Butanone	ND	1.1	10		µg/L	1	6/19/2017 11:46:15 PM	W43599
Carbon disulfide	ND	0.40	10		µg/L	1	6/19/2017 11:46:15 PM	W43599
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Chloroethane	ND	0.23	2.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Chloroform	ND	0.40	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Chloromethane	ND	0.29	3.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Dibromomethane	ND	0.091	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 2ND QTR (MKTF)
Collection Date:
Lab ID: 1706876-002 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
2-Hexanone	ND	0.66	10		µg/L	1	6/19/2017 11:46:15 PM	W43599
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/19/2017 11:46:15 PM	W43599
Methylene Chloride	0.13	0.11	3.0	J	µg/L	1	6/19/2017 11:46:15 PM	W43599
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Styrene	ND	0.16	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/19/2017 11:46:15 PM	W43599
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/19/2017 11:46:15 PM	W43599
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	6/19/2017 11:46:15 PM	W43599
Surr: 4-Bromofluorobenzene	95.3	0	70-130		%Rec	1	6/19/2017 11:46:15 PM	W43599
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	6/19/2017 11:46:15 PM	W43599
Surr: Toluene-d8	100	0	70-130		%Rec	1	6/19/2017 11:46:15 PM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:45:00 AM
Lab ID: 1706876-003 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	7.1	0.36	1.0		mg/L	1	6/19/2017 1:21:49 PM	32333
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 1:21:49 PM	32333
Surr: DNOP	109	0	72.4-157		%Rec	1	6/19/2017 1:21:49 PM	32333
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.83	0.025	0.050		mg/L	1	6/16/2017 2:11:48 PM	G43569
Surr: BFB	178	0	52.3-138	S	%Rec	1	6/16/2017 2:11:48 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	ND	0.22	0.50		mg/L	5	6/24/2017 12:08:26 PM	R43798
Chloride	190	5.0	10		mg/L	20	6/24/2017 12:45:41 PM	R43798
Bromide	1.1	0.073	0.50		mg/L	5	6/24/2017 12:08:26 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 12:08:26 PM	R43798
Sulfate	0.53	0.48	2.5	J	mg/L	5	6/24/2017 12:08:26 PM	R43798
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/24/2017 5:06:16 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.9	0.0085	0.020		mg/L	10	6/22/2017 4:15:46 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:14:08 PM	B43729
Calcium	83	0.078	1.0		mg/L	1	6/22/2017 4:14:08 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:14:08 PM	B43729
Copper	0.0063	0.0032	0.0060		mg/L	1	6/22/2017 4:14:08 PM	B43729
Iron	2.6	0.16	0.20	*	mg/L	10	6/22/2017 4:15:46 PM	B43729
Magnesium	22	0.25	1.0		mg/L	1	6/22/2017 4:14:08 PM	B43729
Manganese	1.9	0.0038	0.020	*	mg/L	10	6/22/2017 4:15:46 PM	B43729
Potassium	0.74	0.11	1.0	J	mg/L	1	6/22/2017 4:14:08 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:14:08 PM	B43729
Sodium	280	1.6	10		mg/L	10	6/22/2017 4:15:46 PM	B43729
Zinc	0.011	0.0011	0.010		mg/L	1	6/22/2017 4:14:08 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.4	0.0093	0.020	*	mg/L	10	6/28/2017 3:00:45 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 2:59:03 PM	32508
Chromium	0.0048	0.0011	0.0060	J	mg/L	1	6/28/2017 2:59:03 PM	32508
Copper	0.0032	0.0017	0.0060	J	mg/L	1	6/28/2017 2:59:03 PM	32508
Iron	7.0	0.10	0.20	*	mg/L	10	6/28/2017 3:00:45 PM	32508
Manganese	2.3	0.011	0.020	*	mg/L	10	6/28/2017 3:00:45 PM	32508
Silver	ND	0.00042	0.0050		mg/L	1	6/28/2017 2:59:03 PM	32508
Zinc	0.020	0.0028	0.010		mg/L	1	6/28/2017 2:59:03 PM	32508
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0029	0.00018	0.0010		mg/L	1	6/23/2017 8:31:46 PM	B43765

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:45:00 AM
Lab ID: 1706876-003 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/23/2017 8:31:46 PM	B43765
Selenium	0.0025	0.0019	0.0050	J	mg/L	5	6/28/2017 5:46:02 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0015	0.0050		mg/L	5	6/29/2017 11:02:15 AM	32508
Lead	0.0088	0.000095	0.00050		mg/L	1	6/29/2017 10:59:14 AM	32508
Selenium	0.0041	0.0036	0.0050	J	mg/L	5	7/6/2017 8:13:25 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/27/2017 1:25:49 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	8.5	3.6	10	J	µg/L	1	6/21/2017 4:59:04 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Benzoic acid	ND	3.9	20		µg/L	1	6/21/2017 4:59:04 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/21/2017 4:59:04 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Carbazole	ND	4.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Dibenzofuran	5.1	4.1	10	J	µg/L	1	6/21/2017 4:59:04 PM	32356

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Client Sample ID: MKTF-18
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:45:00 AM
Lab ID: 1706876-003 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 4:59:04 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 4:59:04 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 4:59:04 PM	32356
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/21/2017 4:59:04 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 4:59:04 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 4:59:04 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Fluorene	7.0	4.0	10	J	µg/L	1	6/21/2017 4:59:04 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 4:59:04 PM	32356
1-Methylnaphthalene	79	3.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2-Methylnaphthalene	23	3.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 4:59:04 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Naphthalene	19	2.9	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 4:59:04 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 4:59:04 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 4:59:04 PM	32356
Phenanthrene	8.0	4.3	10	J	µg/L	1	6/21/2017 4:59:04 PM	32356
Phenol	ND	3.1	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 4:59:04 PM	32356

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:45:00 AM
Lab ID: 1706876-003 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 4:59:04 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 4:59:04 PM	32356
Surr: 2-Fluorophenol	46.9	0	15-98.1		%Rec	1	6/21/2017 4:59:04 PM	32356
Surr: Phenol-d5	35.3	0	15-80.7		%Rec	1	6/21/2017 4:59:04 PM	32356
Surr: 2,4,6-Tribromophenol	75.2	0	15-112		%Rec	1	6/21/2017 4:59:04 PM	32356
Surr: Nitrobenzene-d5	77.7	0	27.2-90.7		%Rec	1	6/21/2017 4:59:04 PM	32356
Surr: 2-Fluorobiphenyl	71.0	0	23.3-85.6		%Rec	1	6/21/2017 4:59:04 PM	32356
Surr: 4-Terphenyl-d14	63.2	0	27.6-107		%Rec	1	6/21/2017 4:59:04 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	30	0.12	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Toluene	ND	0.13	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Ethylbenzene	22	0.19	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Methyl tert-butyl ether (MTBE)	100	0.48	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2,4-Trimethylbenzene	ND	0.23	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,3,5-Trimethylbenzene	ND	0.17	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2-Dichloroethane (EDC)	ND	0.80	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2-Dibromoethane (EDB)	ND	0.26	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Naphthalene	28	0.23	4.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1-Methylnaphthalene	120	0.32	8.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
2-Methylnaphthalene	35	0.30	8.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Acetone	ND	1.6	20	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Bromobenzene	ND	0.28	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Bromodichloromethane	ND	0.35	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Bromoform	ND	0.42	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Bromomethane	ND	0.51	6.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
2-Butanone	ND	2.3	20	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Carbon disulfide	ND	0.80	20	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Carbon Tetrachloride	ND	0.22	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Chlorobenzene	ND	0.21	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Chloroethane	ND	0.47	4.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Chloroform	ND	0.80	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Chloromethane	ND	0.59	6.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
2-Chlorotoluene	ND	0.80	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
4-Chlorotoluene	ND	0.80	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
cis-1,2-DCE	3.3	0.41	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
cis-1,3-Dichloropropene	ND	0.16	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2-Dibromo-3-chloropropane	ND	2.8	4.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Dibromochloromethane	ND	0.14	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:45:00 AM
Lab ID: 1706876-003 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.18	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2-Dichlorobenzene	ND	0.18	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,3-Dichlorobenzene	ND	0.30	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,4-Dichlorobenzene	ND	0.80	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Dichlorodifluoromethane	ND	2.0	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,1-Dichloroethane	0.93	0.80	2.0	JD	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,1-Dichloroethene	0.80	0.16	2.0	JD	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2-Dichloropropane	ND	0.20	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,3-Dichloropropane	ND	0.33	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
2,2-Dichloropropane	ND	0.31	4.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,1-Dichloropropene	ND	0.19	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Hexachlorobutadiene	ND	1.6	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
2-Hexanone	ND	1.3	20	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Isopropylbenzene	4.2	0.10	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
4-Isopropyltoluene	0.65	0.19	2.0	JD	µg/L	2	6/20/2017 10:48:59 AM	W43666
4-Methyl-2-pentanone	ND	1.4	20	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Methylene Chloride	ND	0.22	6.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
n-Butylbenzene	3.1	0.26	6.0	JD	µg/L	2	6/20/2017 10:48:59 AM	W43666
n-Propylbenzene	7.3	0.15	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
sec-Butylbenzene	3.0	0.22	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Styrene	ND	0.31	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
tert-Butylbenzene	ND	0.21	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,1,1,2-Tetrachloroethane	ND	0.21	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,1,2,2-Tetrachloroethane	ND	0.27	4.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Tetrachloroethene (PCE)	ND	0.26	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
trans-1,2-DCE	ND	0.37	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
trans-1,3-Dichloropropene	ND	0.44	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2,3-Trichlorobenzene	ND	0.23	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2,4-Trichlorobenzene	ND	0.28	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,1,1-Trichloroethane	ND	0.15	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,1,2-Trichloroethane	ND	0.28	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Trichloroethene (TCE)	ND	0.22	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Trichlorofluoromethane	ND	0.37	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
1,2,3-Trichloropropane	ND	0.78	4.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Vinyl chloride	ND	0.36	2.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Xylenes, Total	ND	0.64	3.0	D	µg/L	2	6/20/2017 10:48:59 AM	W43666
Surr: 1,2-Dichloroethane-d4	104	0	70-130	D	%Rec	2	6/20/2017 10:48:59 AM	W43666
Surr: 4-Bromofluorobenzene	95.0	0	70-130	D	%Rec	2	6/20/2017 10:48:59 AM	W43666
Surr: Dibromofluoromethane	102	0	70-130	D	%Rec	2	6/20/2017 10:48:59 AM	W43666

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-18
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:45:00 AM
Lab ID: 1706876-003 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	101	0	70-130	D	%Rec	2	6/20/2017 10:48:59 AM	W43666

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 9:35:00 AM
Lab ID: 1706876-004
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	6/27/2017 4:50:27 PM	32489
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	14	0.36	1.0		mg/L	1	6/19/2017 1:46:51 PM	32333
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 1:46:51 PM	32333
Surr: DNOP	118	0	72.4-157		%Rec	1	6/19/2017 1:46:51 PM	32333
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	34	1.2	2.5		mg/L	50	6/16/2017 2:35:35 PM	G43569
Surr: BFB	122	0	52.3-138		%Rec	50	6/16/2017 2:35:35 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	0.56	0.22	0.50		mg/L	5	6/24/2017 12:58:05 PM	R43798
Chloride	140	5.0	10		mg/L	20	6/24/2017 1:10:30 PM	R43798
Bromide	0.88	0.073	0.50		mg/L	5	6/24/2017 12:58:05 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 12:58:05 PM	R43798
Sulfate	ND	0.48	2.5		mg/L	5	6/24/2017 12:58:05 PM	R43798
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/24/2017 5:18:40 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	4.7	0.0085	0.020	*	mg/L	10	6/22/2017 4:19:21 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:17:40 PM	B43729
Calcium	120	0.78	10		mg/L	10	6/22/2017 4:19:21 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:17:40 PM	B43729
Copper	ND	0.0032	0.0060		mg/L	1	6/22/2017 4:17:40 PM	B43729
Iron	14	0.33	0.40	*	mg/L	20	6/27/2017 3:42:38 PM	C43828
Magnesium	34	0.25	1.0		mg/L	1	6/22/2017 4:17:40 PM	B43729
Manganese	1.8	0.0038	0.020	*	mg/L	10	6/22/2017 4:19:21 PM	B43729
Potassium	0.79	0.11	1.0	J	mg/L	1	6/22/2017 4:17:40 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:17:40 PM	B43729
Sodium	210	1.6	10		mg/L	10	6/22/2017 4:19:21 PM	B43729
Zinc	0.012	0.0011	0.010		mg/L	1	6/22/2017 4:17:40 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	4.7	0.0093	0.020	*	mg/L	10	6/28/2017 3:04:22 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 3:02:42 PM	32508
Chromium	ND	0.0011	0.0060		mg/L	1	6/28/2017 3:02:42 PM	32508
Copper	ND	0.0017	0.0060		mg/L	1	6/28/2017 3:02:42 PM	32508
Iron	16	0.20	0.40	*	mg/L	20	7/3/2017 1:54:06 PM	32508
Manganese	1.9	0.011	0.020	*	mg/L	10	6/28/2017 3:04:22 PM	32508
Silver	ND	0.00042	0.0050		mg/L	1	6/28/2017 3:02:42 PM	32508
Zinc	0.076	0.0028	0.010		mg/L	1	6/28/2017 3:02:42 PM	32508

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 9:35:00 AM
Lab ID: 1706876-004
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.013	0.00018	0.0010	*	mg/L	1	6/23/2017 8:34:50 PM	B43765
Lead	0.0020	0.00017	0.00050		mg/L	1	6/23/2017 8:34:50 PM	B43765
Selenium	0.0026	0.0019	0.0050	J	mg/L	5	6/28/2017 5:49:05 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.012	0.00030	0.0010	*	mg/L	1	6/29/2017 11:05:15 AM	32508
Lead	0.0084	0.000095	0.00050		mg/L	1	6/29/2017 11:05:15 AM	32508
Selenium	0.0044	0.0036	0.0050	J	mg/L	5	7/6/2017 8:16:26 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/27/2017 1:27:50 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	9.9	3.6	10	J	µg/L	1	6/21/2017 5:28:04 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Benzoic acid	ND	3.9	20		µg/L	1	6/21/2017 5:28:04 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/21/2017 5:28:04 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Carbazole	9.9	4.6	10	J	µg/L	1	6/21/2017 5:28:04 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 5:28:04 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 9:35:00 AM
Lab ID: 1706876-004 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenzofuran	4.8	4.1	10	J	µg/L	1	6/21/2017 5:28:04 PM	32356
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 5:28:04 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 5:28:04 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 5:28:04 PM	32356
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/21/2017 5:28:04 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 5:28:04 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 5:28:04 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Fluorene	12	4.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 5:28:04 PM	32356
1-Methylnaphthalene	350	17	50		µg/L	5	6/22/2017 12:55:23 PM	32356
2-Methylnaphthalene	540	16	50		µg/L	5	6/22/2017 12:55:23 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 5:28:04 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Naphthalene	520	14	50		µg/L	5	6/22/2017 12:55:23 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 5:28:04 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 5:28:04 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 5:28:04 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 5:28:04 PM	32356
Phenanthrene	8.7	4.3	10	J	µg/L	1	6/21/2017 5:28:04 PM	32356
Phenol	80	3.1	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 5:28:04 PM	32356

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 9:35:00 AM
Lab ID: 1706876-004 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 5:28:04 PM	32356
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 5:28:04 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 5:28:04 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 5:28:04 PM	32356
Surr: 2-Fluorophenol	25.1	0	15-98.1		%Rec	1	6/21/2017 5:28:04 PM	32356
Surr: Phenol-d5	39.4	0	15-80.7		%Rec	1	6/21/2017 5:28:04 PM	32356
Surr: 2,4,6-Tribromophenol	47.1	0	15-112		%Rec	1	6/21/2017 5:28:04 PM	32356
Surr: Nitrobenzene-d5	86.3	0	27.2-90.7		%Rec	1	6/21/2017 5:28:04 PM	32356
Surr: 2-Fluorobiphenyl	74.2	0	23.3-85.6		%Rec	1	6/21/2017 5:28:04 PM	32356
Surr: 4-Terphenyl-d14	68.2	0	27.6-107		%Rec	1	6/21/2017 5:28:04 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	9400	31	500		µg/L	500	6/20/2017 4:31:47 AM	W43599
Toluene	17	3.2	50	J	µg/L	50	6/20/2017 5:00:30 AM	W43599
Ethylbenzene	1600	4.7	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Methyl tert-butyl ether (MTBE)	3900	12	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2,4-Trimethylbenzene	120	5.6	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,3,5-Trimethylbenzene	24	4.4	50	J	µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Naphthalene	530	5.7	100		µg/L	50	6/20/2017 5:00:30 AM	W43599
1-Methylnaphthalene	340	8.0	200		µg/L	50	6/20/2017 5:00:30 AM	W43599
2-Methylnaphthalene	390	7.6	200		µg/L	50	6/20/2017 5:00:30 AM	W43599
Acetone	ND	41	500		µg/L	50	6/20/2017 5:00:30 AM	W43599
Bromobenzene	ND	7.0	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Bromodichloromethane	ND	8.8	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Bromoform	ND	11	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Bromomethane	ND	13	150		µg/L	50	6/20/2017 5:00:30 AM	W43599
2-Butanone	ND	57	500		µg/L	50	6/20/2017 5:00:30 AM	W43599
Carbon disulfide	ND	20	500		µg/L	50	6/20/2017 5:00:30 AM	W43599
Carbon Tetrachloride	ND	5.5	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Chlorobenzene	ND	5.3	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Chloroethane	ND	12	100		µg/L	50	6/20/2017 5:00:30 AM	W43599
Chloroform	ND	20	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Chloromethane	ND	15	150		µg/L	50	6/20/2017 5:00:30 AM	W43599
2-Chlorotoluene	ND	20	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
4-Chlorotoluene	ND	20	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
cis-1,2-DCE	ND	10	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	6/20/2017 5:00:30 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 9:35:00 AM
Lab ID: 1706876-004
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	3.6	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Dibromomethane	ND	4.5	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,4-Dichlorobenzene	ND	20	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Dichlorodifluoromethane	ND	50	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,1-Dichloroethane	ND	20	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,1-Dichloroethene	ND	4.0	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2-Dichloropropane	ND	5.1	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,3-Dichloropropane	ND	8.4	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
2,2-Dichloropropane	ND	7.9	100		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,1-Dichloropropene	ND	4.6	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Hexachlorobutadiene	ND	40	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
2-Hexanone	ND	33	500		µg/L	50	6/20/2017 5:00:30 AM	W43599
Isopropylbenzene	28	2.6	50	J	µg/L	50	6/20/2017 5:00:30 AM	W43599
4-Isopropyltoluene	ND	4.8	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
4-Methyl-2-pentanone	ND	35	500		µg/L	50	6/20/2017 5:00:30 AM	W43599
Methylene Chloride	ND	5.4	150		µg/L	50	6/20/2017 5:00:30 AM	W43599
n-Butylbenzene	7.6	6.5	150	J	µg/L	50	6/20/2017 5:00:30 AM	W43599
n-Propylbenzene	85	3.7	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
sec-Butylbenzene	ND	5.5	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Styrene	ND	7.8	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
tert-Butylbenzene	ND	5.2	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	6/20/2017 5:00:30 AM	W43599
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
trans-1,2-DCE	ND	9.2	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Trichlorofluoromethane	ND	9.1	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
1,2,3-Trichloropropane	ND	19	100		µg/L	50	6/20/2017 5:00:30 AM	W43599
Vinyl chloride	ND	8.9	50		µg/L	50	6/20/2017 5:00:30 AM	W43599
Xylenes, Total	270	16	75		µg/L	50	6/20/2017 5:00:30 AM	W43599
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	50	6/20/2017 5:00:30 AM	W43599
Surr: 4-Bromofluorobenzene	95.9	0	70-130		%Rec	50	6/20/2017 5:00:30 AM	W43599

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 9:35:00 AM
Lab ID: 1706876-004 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	101	0	70-130		%Rec	50	6/20/2017 5:00:30 AM	W43599
Surr: Toluene-d8	101	0	70-130		%Rec	50	6/20/2017 5:00:30 AM	W43599

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:15:00 AM
Lab ID: 1706876-005 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	6/27/2017 5:05:49 PM	32489
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.1	0.36	1.0		mg/L	1	6/19/2017 2:11:52 PM	32333
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 2:11:52 PM	32333
Surr: DNOP	111	0	72.4-157		%Rec	1	6/19/2017 2:11:52 PM	32333
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.60	0.025	0.050		mg/L	1	6/16/2017 3:47:14 PM	G43569
Surr: BFB	130	0	52.3-138		%Rec	1	6/16/2017 3:47:14 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	0.30	0.22	0.50	J	mg/L	5	6/24/2017 1:22:55 PM	R43798
Chloride	150	5.0	10		mg/L	20	6/24/2017 1:35:20 PM	R43798
Bromide	1.6	0.073	0.50		mg/L	5	6/24/2017 1:22:55 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 1:22:55 PM	R43798
Sulfate	99	0.48	2.5		mg/L	5	6/24/2017 1:22:55 PM	R43798
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/24/2017 5:31:05 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.13	0.00085	0.0020		mg/L	1	6/22/2017 4:21:20 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:21:20 PM	B43729
Calcium	140	0.78	10		mg/L	10	6/22/2017 4:22:58 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:21:20 PM	B43729
Copper	ND	0.0032	0.0060		mg/L	1	6/22/2017 4:21:20 PM	B43729
Iron	3.1	0.16	0.20	*	mg/L	10	6/22/2017 4:22:58 PM	B43729
Magnesium	41	0.25	1.0		mg/L	1	6/22/2017 4:21:20 PM	B43729
Manganese	3.1	0.0038	0.020	*	mg/L	10	6/22/2017 4:22:58 PM	B43729
Potassium	0.49	0.11	1.0	J	mg/L	1	6/22/2017 4:21:20 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:21:20 PM	B43729
Sodium	140	1.6	10		mg/L	10	6/22/2017 4:22:58 PM	B43729
Zinc	0.0095	0.0011	0.010	J	mg/L	1	6/22/2017 4:21:20 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.9	0.0047	0.010	*	mg/L	5	7/13/2017 7:11:20 PM	32778
Cadmium	ND	0.00058	0.0020		mg/L	1	7/13/2017 6:57:44 PM	32778
Chromium	0.0088	0.0011	0.0060		mg/L	1	7/13/2017 6:57:44 PM	32778
Copper	0.0097	0.0017	0.0060		mg/L	1	7/13/2017 6:57:44 PM	32778
Iron	11	0.20	0.40	*	mg/L	20	7/17/2017 2:23:44 PM	32778
Manganese	4.4	0.0055	0.010	*	mg/L	5	7/13/2017 7:11:20 PM	32778
Silver	ND	0.00042	0.0050		mg/L	1	7/13/2017 6:57:44 PM	32778
Zinc	0.022	0.0028	0.010		mg/L	1	7/13/2017 6:57:44 PM	32778

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 10:15:00 AM
Lab ID: 1706876-005 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0030	0.00089	0.0050	J	mg/L	5	6/26/2017 6:25:20 PM	A43799
Lead	0.00024	0.00017	0.00050	J	mg/L	1	6/23/2017 8:37:53 PM	B43765
Selenium	ND	0.0077	0.020		mg/L	20	6/28/2017 5:52:08 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0023	0.0015	0.0050	J	mg/L	5	6/29/2017 11:32:23 AM	32508
Lead	0.013	0.000095	0.00050		mg/L	1	6/29/2017 11:29:23 AM	32508
Selenium	0.0075	0.0036	0.0050		mg/L	5	7/6/2017 8:31:32 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000045	0.000037	0.00020	J	mg/L	1	6/27/2017 1:29:53 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Benzoic acid	13	3.9	20	J	µg/L	1	6/21/2017 5:57:12 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/21/2017 5:57:12 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Carbazole	ND	4.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Dibenzofuran	ND	4.1	10		µg/L	1	6/21/2017 5:57:12 PM	32356
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 5:57:12 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 5:57:12 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 5:57:12 PM	32356
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/21/2017 5:57:12 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 5:57:12 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 5:57:12 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Fluorene	ND	4.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 5:57:12 PM	32356
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 5:57:12 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Naphthalene	ND	2.9	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 5:57:12 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 5:57:12 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 5:57:12 PM	32356
Phenanthrene	ND	4.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Phenol	ND	3.1	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 5:57:12 PM	32356

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Lab ID: 1706876-005 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 5:57:12 PM	32356
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 5:57:12 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 5:57:12 PM	32356
Surr: 2-Fluorophenol	25.1	0	15-98.1		%Rec	1	6/21/2017 5:57:12 PM	32356
Surr: Phenol-d5	28.6	0	15-80.7		%Rec	1	6/21/2017 5:57:12 PM	32356
Surr: 2,4,6-Tribromophenol	39.5	0	15-112		%Rec	1	6/21/2017 5:57:12 PM	32356
Surr: Nitrobenzene-d5	70.0	0	27.2-90.7		%Rec	1	6/21/2017 5:57:12 PM	32356
Surr: 2-Fluorobiphenyl	64.0	0	23.3-85.6		%Rec	1	6/21/2017 5:57:12 PM	32356
Surr: 4-Terphenyl-d14	58.0	0	27.6-107		%Rec	1	6/21/2017 5:57:12 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2.3	0.062	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Toluene	ND	0.064	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Ethylbenzene	1.1	0.093	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Methyl tert-butyl ether (MTBE)	33	0.24	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Naphthalene	0.31	0.11	2.0	J	µg/L	1	6/20/2017 3:06:07 AM	W43599
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Acetone	ND	0.82	10		µg/L	1	6/20/2017 3:06:07 AM	W43599
Bromobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Bromoform	ND	0.21	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Bromomethane	ND	0.26	3.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
2-Butanone	ND	1.1	10		µg/L	1	6/20/2017 3:06:07 AM	W43599
Carbon disulfide	ND	0.40	10		µg/L	1	6/20/2017 3:06:07 AM	W43599
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Chlorobenzene	0.40	0.11	1.0	J	µg/L	1	6/20/2017 3:06:07 AM	W43599
Chloroethane	ND	0.23	2.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Chloroform	ND	0.40	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Chloromethane	ND	0.29	3.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/20/2017 3:06:07 AM	W43599

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Dibromomethane	ND	0.091	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,4-Dichlorobenzene	2.3	0.40	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,1-Dichloroethane	0.43	0.40	1.0	J	µg/L	1	6/20/2017 3:06:07 AM	W43599
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
2-Hexanone	ND	0.66	10		µg/L	1	6/20/2017 3:06:07 AM	W43599
Isopropylbenzene	1.1	0.051	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/20/2017 3:06:07 AM	W43599
Methylene Chloride	0.11	0.11	3.0	J	µg/L	1	6/20/2017 3:06:07 AM	W43599
n-Butylbenzene	0.19	0.13	3.0	J	µg/L	1	6/20/2017 3:06:07 AM	W43599
n-Propylbenzene	2.7	0.074	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
sec-Butylbenzene	1.4	0.11	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Styrene	ND	0.16	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/20/2017 3:06:07 AM	W43599
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/20/2017 3:06:07 AM	W43599
Surr: 1,2-Dichloroethane-d4	97.0	0	70-130		%Rec	1	6/20/2017 3:06:07 AM	W43599
Surr: 4-Bromofluorobenzene	97.8	0	70-130		%Rec	1	6/20/2017 3:06:07 AM	W43599

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Collection Date: 6/14/2017 10:15:00 AM
Lab ID: 1706876-005 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	6/20/2017 3:06:07 AM	W43599
Surr: Toluene-d8	103	0	70-130		%Rec	1	6/20/2017 3:06:07 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 1:30:00 PM
Lab ID: 1706876-006 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	11	0.36	1.0		mg/L	1	6/19/2017 2:37:06 PM	32333
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 2:37:06 PM	32333
Surr: DNOP	111	0	72.4-157		%Rec	1	6/19/2017 2:37:06 PM	32333
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	23	1.2	2.5		mg/L	50	6/16/2017 4:11:07 PM	G43569
Surr: BFB	117	0	52.3-138		%Rec	50	6/16/2017 4:11:07 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	ND	0.22	0.50		mg/L	5	6/24/2017 2:12:33 PM	R43798
Chloride	130	5.0	10		mg/L	20	6/24/2017 2:24:58 PM	R43798
Bromide	1.4	0.073	0.50		mg/L	5	6/24/2017 2:12:33 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 2:12:33 PM	R43798
Sulfate	0.73	0.48	2.5	J	mg/L	5	6/24/2017 2:12:33 PM	R43798
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/24/2017 5:43:29 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.7	0.0085	0.020		mg/L	10	6/22/2017 4:26:45 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:25:06 PM	B43729
Calcium	150	0.78	10		mg/L	10	6/22/2017 4:26:45 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:25:06 PM	B43729
Copper	ND	0.0032	0.0060		mg/L	1	6/22/2017 4:25:06 PM	B43729
Iron	10	0.33	0.40	*	mg/L	20	6/27/2017 3:44:44 PM	C43828
Magnesium	30	0.25	1.0		mg/L	1	6/22/2017 4:25:06 PM	B43729
Manganese	2.6	0.0038	0.020	*	mg/L	10	6/22/2017 4:26:45 PM	B43729
Potassium	0.76	0.11	1.0	J	mg/L	1	6/22/2017 4:25:06 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:25:06 PM	B43729
Sodium	280	1.6	10		mg/L	10	6/22/2017 4:26:45 PM	B43729
Zinc	0.011	0.0011	0.010		mg/L	1	6/22/2017 4:25:06 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.2	0.0093	0.020	*	mg/L	10	6/28/2017 3:19:48 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 3:18:01 PM	32508
Chromium	0.0059	0.0011	0.0060	J	mg/L	1	6/28/2017 3:18:01 PM	32508
Copper	0.010	0.0017	0.0060		mg/L	1	6/28/2017 3:18:01 PM	32508
Iron	17	0.20	0.40	*	mg/L	20	7/3/2017 2:12:31 PM	32508
Manganese	3.3	0.011	0.020	*	mg/L	10	6/28/2017 3:19:48 PM	32508
Silver	ND	0.00042	0.0050		mg/L	1	6/28/2017 3:18:01 PM	32508
Zinc	0.10	0.0028	0.010		mg/L	1	6/28/2017 3:18:01 PM	32508
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.014	0.00089	0.0050	*	mg/L	5	6/26/2017 6:31:26 PM	A43799

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 1:30:00 PM
Lab ID: 1706876-006
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0019	0.00017	0.00050		mg/L	1	6/23/2017 8:40:56 PM	B43765
Selenium	ND	0.0077	0.020		mg/L	20	6/28/2017 5:55:12 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.014	0.0015	0.0050	*	mg/L	5	6/29/2017 11:38:25 AM	32508
Lead	0.022	0.000095	0.00050	*	mg/L	1	6/29/2017 11:35:24 AM	32508
Selenium	ND	0.0071	0.010		mg/L	10	7/8/2017 10:33:01 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000045	0.000037	0.00020	J	mg/L	1	6/27/2017 1:31:47 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	4.2	3.6	10	J	µg/L	1	6/21/2017 6:26:42 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Benzoic acid	ND	3.9	20		µg/L	1	6/21/2017 6:26:42 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Bis(2-ethylhexyl)phthalate	5.1	4.8	10	J	µg/L	1	6/21/2017 6:26:42 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Carbazole	6.2	4.6	10	J	µg/L	1	6/21/2017 6:26:42 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Dibenzofuran	ND	4.1	10		µg/L	1	6/21/2017 6:26:42 PM	32356

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 1:30:00 PM
Lab ID: 1706876-006 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 6:26:42 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 6:26:42 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 6:26:42 PM	32356
2,4-Dimethylphenol	6.0	2.8	10	J	µg/L	1	6/21/2017 6:26:42 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 6:26:42 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 6:26:42 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Fluorene	4.5	4.0	10	J	µg/L	1	6/21/2017 6:26:42 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 6:26:42 PM	32356
1-Methylnaphthalene	110	3.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2-Methylnaphthalene	160	3.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 6:26:42 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Naphthalene	280	5.7	20		µg/L	2	6/22/2017 1:23:18 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 6:26:42 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 6:26:42 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 6:26:42 PM	32356
Phenanthrene	5.5	4.3	10	J	µg/L	1	6/21/2017 6:26:42 PM	32356
Phenol	15	3.1	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 6:26:42 PM	32356

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 1:30:00 PM
Lab ID: 1706876-006 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 6:26:42 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 6:26:42 PM	32356
Surr: 2-Fluorophenol	18.3	0	15-98.1		%Rec	1	6/21/2017 6:26:42 PM	32356
Surr: Phenol-d5	24.5	0	15-80.7		%Rec	1	6/21/2017 6:26:42 PM	32356
Surr: 2,4,6-Tribromophenol	40.2	0	15-112		%Rec	1	6/21/2017 6:26:42 PM	32356
Surr: Nitrobenzene-d5	64.8	0	27.2-90.7		%Rec	1	6/21/2017 6:26:42 PM	32356
Surr: 2-Fluorobiphenyl	57.0	0	23.3-85.6		%Rec	1	6/21/2017 6:26:42 PM	32356
Surr: 4-Terphenyl-d14	59.6	0	27.6-107		%Rec	1	6/21/2017 6:26:42 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2300	6.2	100		µg/L	100	6/20/2017 5:29:11 AM	W43599
Toluene	8.4	0.64	10	J	µg/L	10	6/20/2017 5:57:59 AM	W43599
Ethylbenzene	780	0.93	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Methyl tert-butyl ether (MTBE)	10000	24	100		µg/L	100	6/20/2017 5:29:11 AM	W43599
1,2,4-Trimethylbenzene	600	1.1	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,3,5-Trimethylbenzene	87	0.87	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Naphthalene	410	1.1	20		µg/L	10	6/20/2017 5:57:59 AM	W43599
1-Methylnaphthalene	190	1.6	40		µg/L	10	6/20/2017 5:57:59 AM	W43599
2-Methylnaphthalene	230	1.5	40		µg/L	10	6/20/2017 5:57:59 AM	W43599
Acetone	ND	8.2	100		µg/L	10	6/20/2017 5:57:59 AM	W43599
Bromobenzene	ND	1.4	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Bromodichloromethane	ND	1.8	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Bromoform	ND	2.1	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Bromomethane	ND	2.6	30		µg/L	10	6/20/2017 5:57:59 AM	W43599
2-Butanone	ND	11	100		µg/L	10	6/20/2017 5:57:59 AM	W43599
Carbon disulfide	ND	4.0	100		µg/L	10	6/20/2017 5:57:59 AM	W43599
Carbon Tetrachloride	ND	1.1	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Chlorobenzene	ND	1.1	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Chloroethane	ND	2.3	20		µg/L	10	6/20/2017 5:57:59 AM	W43599
Chloroform	ND	4.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Chloromethane	ND	2.9	30		µg/L	10	6/20/2017 5:57:59 AM	W43599
2-Chlorotoluene	ND	4.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
4-Chlorotoluene	ND	4.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
cis-1,2-DCE	ND	2.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	6/20/2017 5:57:59 AM	W43599
Dibromochloromethane	ND	0.72	10		µg/L	10	6/20/2017 5:57:59 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 1:30:00 PM
Lab ID: 1706876-006 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.91	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Dichlorodifluoromethane	ND	10	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,1-Dichloroethane	ND	4.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,1-Dichloroethene	ND	0.81	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2-Dichloropropane	ND	1.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,3-Dichloropropane	ND	1.7	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
2,2-Dichloropropane	ND	1.6	20		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,1-Dichloropropene	ND	0.93	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Hexachlorobutadiene	ND	8.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
2-Hexanone	ND	6.6	100		µg/L	10	6/20/2017 5:57:59 AM	W43599
Isopropylbenzene	30	0.51	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
4-Isopropyltoluene	4.2	0.96	10	J	µg/L	10	6/20/2017 5:57:59 AM	W43599
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	6/20/2017 5:57:59 AM	W43599
Methylene Chloride	ND	1.1	30		µg/L	10	6/20/2017 5:57:59 AM	W43599
n-Butylbenzene	10	1.3	30	J	µg/L	10	6/20/2017 5:57:59 AM	W43599
n-Propylbenzene	81	0.74	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
sec-Butylbenzene	5.0	1.1	10	J	µg/L	10	6/20/2017 5:57:59 AM	W43599
Styrene	ND	1.6	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
tert-Butylbenzene	ND	1.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	6/20/2017 5:57:59 AM	W43599
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
trans-1,2-DCE	ND	1.8	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Trichlorofluoromethane	ND	1.8	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	6/20/2017 5:57:59 AM	W43599
Vinyl chloride	ND	1.8	10		µg/L	10	6/20/2017 5:57:59 AM	W43599
Xylenes, Total	900	3.2	15		µg/L	10	6/20/2017 5:57:59 AM	W43599
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	10	6/20/2017 5:57:59 AM	W43599
Surr: 4-Bromofluorobenzene	91.5	0	70-130		%Rec	10	6/20/2017 5:57:59 AM	W43599
Surr: Dibromofluoromethane	100	0	70-130		%Rec	10	6/20/2017 5:57:59 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 1:30:00 PM
Lab ID: 1706876-006
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	104	0	70-130		%Rec	10	6/20/2017 5:57:59 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:10:00 PM
Lab ID: 1706876-007 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.2	0.36	1.0		mg/L	1	6/19/2017 3:02:10 PM	32333
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 3:02:10 PM	32333
Surr: DNOP	109	0	72.4-157		%Rec	1	6/19/2017 3:02:10 PM	32333
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	4.0	0.25	0.50		mg/L	10	6/16/2017 4:35:06 PM	G43569
Surr: BFB	148	0	52.3-138	S	%Rec	10	6/16/2017 4:35:06 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	0.81	0.22	0.50		mg/L	5	6/24/2017 2:37:22 PM	R43798
Chloride	70	1.2	2.5		mg/L	5	6/24/2017 2:37:22 PM	R43798
Bromide	0.68	0.073	0.50		mg/L	5	6/24/2017 2:37:22 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 2:37:22 PM	R43798
Sulfate	66	0.48	2.5		mg/L	5	6/24/2017 2:37:22 PM	R43798
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/24/2017 5:55:53 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.74	0.00085	0.0020		mg/L	1	6/22/2017 4:28:42 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:28:42 PM	B43729
Calcium	99	0.078	1.0		mg/L	1	6/22/2017 4:28:42 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:28:42 PM	B43729
Copper	ND	0.0032	0.0060		mg/L	1	6/22/2017 4:28:42 PM	B43729
Iron	2.9	0.16	0.20	*	mg/L	10	6/22/2017 4:36:43 PM	B43729
Magnesium	21	0.25	1.0		mg/L	1	6/22/2017 4:28:42 PM	B43729
Manganese	2.7	0.0038	0.020	*	mg/L	10	6/22/2017 4:36:43 PM	B43729
Potassium	0.63	0.11	1.0	J	mg/L	1	6/22/2017 4:28:42 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:28:42 PM	B43729
Sodium	220	1.6	10		mg/L	10	6/22/2017 4:36:43 PM	B43729
Zinc	0.0095	0.0011	0.010	J	mg/L	1	6/22/2017 4:28:42 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.56	0.00093	0.0020		mg/L	1	6/28/2017 3:22:00 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 3:22:00 PM	32508
Chromium	0.0022	0.0011	0.0060	J	mg/L	1	6/28/2017 3:22:00 PM	32508
Copper	ND	0.0017	0.0060		mg/L	1	6/28/2017 3:22:00 PM	32508
Iron	3.8	0.10	0.20	*	mg/L	10	6/28/2017 3:23:40 PM	32508
Manganese	2.5	0.011	0.020	*	mg/L	10	6/28/2017 3:23:40 PM	32508
Silver	ND	0.00042	0.0050		mg/L	1	6/28/2017 3:22:00 PM	32508
Zinc	0.030	0.0028	0.010		mg/L	1	6/28/2017 3:22:00 PM	32508
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0079	0.00018	0.0010		mg/L	1	6/23/2017 8:44:00 PM	B43765

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:10:00 PM
Lab ID: 1706876-007 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/23/2017 8:44:00 PM	B43765
Selenium	ND	0.0019	0.0050		mg/L	5	6/28/2017 6:04:25 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0080	0.00030	0.0010		mg/L	1	6/29/2017 11:41:25 AM	32508
Lead	0.0032	0.000095	0.00050		mg/L	1	6/29/2017 11:41:25 AM	32508
Selenium	0.0029	0.00071	0.0010		mg/L	1	7/6/2017 8:37:34 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/27/2017 1:33:40 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Benzoic acid	ND	3.9	20		µg/L	1	6/21/2017 6:56:05 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Bis(2-ethylhexyl)phthalate	5.0	4.8	10	J	µg/L	1	6/21/2017 6:56:05 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Carbazole	ND	4.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Dibenzofuran	ND	4.1	10		µg/L	1	6/21/2017 6:56:05 PM	32356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:10:00 PM
Lab ID: 1706876-007 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 6:56:05 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 6:56:05 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 6:56:05 PM	32356
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/21/2017 6:56:05 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 6:56:05 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 6:56:05 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Fluorene	ND	4.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 6:56:05 PM	32356
1-Methylnaphthalene	18	3.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 6:56:05 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Naphthalene	27	2.9	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 6:56:05 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 6:56:05 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 6:56:05 PM	32356
Phenanthrene	ND	4.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Phenol	5.5	3.1	10	J	µg/L	1	6/21/2017 6:56:05 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 6:56:05 PM	32356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:10:00 PM
Lab ID: 1706876-007 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 6:56:05 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 6:56:05 PM	32356
Surr: 2-Fluorophenol	46.4	0	15-98.1		%Rec	1	6/21/2017 6:56:05 PM	32356
Surr: Phenol-d5	39.8	0	15-80.7		%Rec	1	6/21/2017 6:56:05 PM	32356
Surr: 2,4,6-Tribromophenol	73.6	0	15-112		%Rec	1	6/21/2017 6:56:05 PM	32356
Surr: Nitrobenzene-d5	90.1	0	27.2-90.7		%Rec	1	6/21/2017 6:56:05 PM	32356
Surr: 2-Fluorobiphenyl	77.0	0	23.3-85.6		%Rec	1	6/21/2017 6:56:05 PM	32356
Surr: 4-Terphenyl-d14	72.3	0	27.6-107		%Rec	1	6/21/2017 6:56:05 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	260	0.31	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Toluene	1.7	0.32	5.0	J	µg/L	5	6/20/2017 4:03:15 AM	W43599
Ethylbenzene	580	4.7	50		µg/L	50	6/20/2017 11:17:55 AM	W43666
Methyl tert-butyl ether (MTBE)	390	1.2	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2,4-Trimethylbenzene	75	0.56	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Naphthalene	32	0.57	10		µg/L	5	6/20/2017 4:03:15 AM	W43599
1-Methylnaphthalene	25	0.80	20		µg/L	5	6/20/2017 4:03:15 AM	W43599
2-Methylnaphthalene	1.6	0.76	20	J	µg/L	5	6/20/2017 4:03:15 AM	W43599
Acetone	ND	4.1	50		µg/L	5	6/20/2017 4:03:15 AM	W43599
Bromobenzene	ND	0.70	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Bromodichloromethane	ND	0.88	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Bromoform	ND	1.1	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Bromomethane	ND	1.3	15		µg/L	5	6/20/2017 4:03:15 AM	W43599
2-Butanone	ND	5.7	50		µg/L	5	6/20/2017 4:03:15 AM	W43599
Carbon disulfide	ND	2.0	50		µg/L	5	6/20/2017 4:03:15 AM	W43599
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Chlorobenzene	ND	0.53	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Chloroethane	ND	1.2	10		µg/L	5	6/20/2017 4:03:15 AM	W43599
Chloroform	ND	2.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Chloromethane	ND	1.5	15		µg/L	5	6/20/2017 4:03:15 AM	W43599
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	6/20/2017 4:03:15 AM	W43599
Dibromochloromethane	ND	0.36	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:10:00 PM
Lab ID: 1706876-007 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.45	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
2,2-Dichloropropane	ND	0.79	10		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
2-Hexanone	ND	3.3	50		µg/L	5	6/20/2017 4:03:15 AM	W43599
Isopropylbenzene	35	0.26	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
4-Isopropyltoluene	2.1	0.48	5.0	J	µg/L	5	6/20/2017 4:03:15 AM	W43599
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	6/20/2017 4:03:15 AM	W43599
Methylene Chloride	ND	0.54	15		µg/L	5	6/20/2017 4:03:15 AM	W43599
n-Butylbenzene	3.5	0.65	15	J	µg/L	5	6/20/2017 4:03:15 AM	W43599
n-Propylbenzene	77	0.37	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
sec-Butylbenzene	5.9	0.55	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Styrene	ND	0.78	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	6/20/2017 4:03:15 AM	W43599
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	6/20/2017 4:03:15 AM	W43599
Vinyl chloride	ND	0.89	5.0		µg/L	5	6/20/2017 4:03:15 AM	W43599
Xylenes, Total	4.8	1.6	7.5	J	µg/L	5	6/20/2017 4:03:15 AM	W43599
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	5	6/20/2017 4:03:15 AM	W43599
Surr: 4-Bromofluorobenzene	96.1	0	70-130		%Rec	5	6/20/2017 4:03:15 AM	W43599
Surr: Dibromofluoromethane	102	0	70-130		%Rec	5	6/20/2017 4:03:15 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:10:00 PM
Lab ID: 1706876-007
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	103	0	70-130		%Rec	5	6/20/2017 4:03:15 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:50:00 PM
Lab ID: 1706876-008 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/19/2017 6:24:37 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 6:24:37 PM	32334
Surr: DNOP	103	0	72.4-157		%Rec	1	6/19/2017 6:24:37 PM	32334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/16/2017 4:59:02 PM	G43569
Surr: BFB	114	0	52.3-138		%Rec	1	6/16/2017 4:59:02 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	ND	0.22	0.50		mg/L	5	6/24/2017 3:02:11 PM	R43798
Chloride	280	5.0	10		mg/L	20	6/24/2017 3:14:35 PM	R43798
Bromide	1.8	0.073	0.50		mg/L	5	6/24/2017 3:02:11 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 3:02:11 PM	R43798
Sulfate	210	1.9	10		mg/L	20	6/24/2017 3:14:35 PM	R43798
Nitrate+Nitrite as N	8.4	0.13	1.0		mg/L	5	6/24/2017 6:08:18 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.072	0.00085	0.0020		mg/L	1	6/22/2017 4:38:38 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:38:38 PM	B43729
Calcium	69	0.078	1.0		mg/L	1	6/22/2017 4:38:38 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:38:38 PM	B43729
Copper	0.019	0.0032	0.0060		mg/L	1	6/22/2017 4:38:38 PM	B43729
Iron	0.033	0.016	0.020		mg/L	1	6/22/2017 4:38:38 PM	B43729
Magnesium	17	0.25	1.0		mg/L	1	6/22/2017 4:38:38 PM	B43729
Manganese	0.00099	0.00038	0.0020	J	mg/L	1	6/22/2017 4:38:38 PM	B43729
Potassium	1.3	0.11	1.0		mg/L	1	6/22/2017 4:38:38 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:38:38 PM	B43729
Sodium	370	1.6	10		mg/L	10	6/22/2017 4:40:33 PM	B43729
Zinc	0.010	0.0011	0.010		mg/L	1	6/22/2017 4:38:38 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.099	0.00093	0.0020		mg/L	1	6/28/2017 3:25:36 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 3:25:36 PM	32508
Chromium	0.0016	0.0011	0.0060	J	mg/L	1	6/28/2017 3:25:36 PM	32508
Copper	ND	0.0017	0.0060		mg/L	1	6/28/2017 3:25:36 PM	32508
Iron	1.6	0.10	0.20	*	mg/L	10	6/28/2017 3:27:34 PM	32508
Manganese	0.037	0.0011	0.0020		mg/L	1	6/28/2017 3:25:36 PM	32508
Silver	ND	0.00042	0.0050		mg/L	1	6/28/2017 3:25:36 PM	32508
Zinc	0.015	0.0028	0.010		mg/L	1	6/28/2017 3:25:36 PM	32508
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0015	0.00089	0.0050	J	mg/L	5	6/28/2017 6:07:28 PM	B43877

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:50:00 PM
Lab ID: 1706876-008 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/23/2017 8:47:03 PM	B43765
Selenium	ND	0.0077	0.020		mg/L	20	6/28/2017 6:10:32 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0019	0.0015	0.0050	J	mg/L	5	6/29/2017 11:56:31 AM	32508
Lead	0.0017	0.000095	0.00050		mg/L	1	6/29/2017 11:47:26 AM	32508
Selenium	0.011	0.0036	0.0050		mg/L	5	7/6/2017 8:43:35 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000050	0.000037	0.00020	J	mg/L	1	6/27/2017 1:35:35 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Benzoic acid	9.0	3.9	20	J	µg/L	1	6/21/2017 7:24:48 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Bis(2-ethylhexyl)phthalate	4.9	4.8	10	J	µg/L	1	6/21/2017 7:24:48 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Carbazole	ND	4.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Dibenzofuran	ND	4.1	10		µg/L	1	6/21/2017 7:24:48 PM	32356

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:50:00 PM
Lab ID: 1706876-008 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 7:24:48 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 7:24:48 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 7:24:48 PM	32356
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/21/2017 7:24:48 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 7:24:48 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 7:24:48 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Fluorene	ND	4.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 7:24:48 PM	32356
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 7:24:48 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Naphthalene	ND	2.9	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 7:24:48 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 7:24:48 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 7:24:48 PM	32356
Phenanthrene	ND	4.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Phenol	ND	3.1	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 7:24:48 PM	32356

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:50:00 PM
Lab ID: 1706876-008 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 7:24:48 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 7:24:48 PM	32356
Surr: 2-Fluorophenol	38.6	0	15-98.1		%Rec	1	6/21/2017 7:24:48 PM	32356
Surr: Phenol-d5	34.5	0	15-80.7		%Rec	1	6/21/2017 7:24:48 PM	32356
Surr: 2,4,6-Tribromophenol	74.4	0	15-112		%Rec	1	6/21/2017 7:24:48 PM	32356
Surr: Nitrobenzene-d5	79.7	0	27.2-90.7		%Rec	1	6/21/2017 7:24:48 PM	32356
Surr: 2-Fluorobiphenyl	66.9	0	23.3-85.6		%Rec	1	6/21/2017 7:24:48 PM	32356
Surr: 4-Terphenyl-d14	71.4	0	27.6-107		%Rec	1	6/21/2017 7:24:48 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Toluene	ND	0.064	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Methyl tert-butyl ether (MTBE)	0.38	0.24	1.0	J	µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Naphthalene	ND	0.11	2.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Acetone	5.3	0.82	10	J	µg/L	1	6/20/2017 1:11:42 AM	W43599
Bromobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Bromoform	ND	0.21	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Bromomethane	ND	0.26	3.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
2-Butanone	ND	1.1	10		µg/L	1	6/20/2017 1:11:42 AM	W43599
Carbon disulfide	ND	0.40	10		µg/L	1	6/20/2017 1:11:42 AM	W43599
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Chloroethane	ND	0.23	2.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Chloroform	ND	0.40	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Chloromethane	ND	0.29	3.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:50:00 PM
Lab ID: 1706876-008 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.091	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,1-Dichloroethene	0.59	0.081	1.0	J	µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
2-Hexanone	ND	0.66	10		µg/L	1	6/20/2017 1:11:42 AM	W43599
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/20/2017 1:11:42 AM	W43599
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Styrene	ND	0.16	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Trichloroethene (TCE)	2.0	0.11	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/20/2017 1:11:42 AM	W43599
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/20/2017 1:11:42 AM	W43599
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	6/20/2017 1:11:42 AM	W43599
Surr: 4-Bromofluorobenzene	98.2	0	70-130		%Rec	1	6/20/2017 1:11:42 AM	W43599
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	6/20/2017 1:11:42 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 2:50:00 PM
Lab ID: 1706876-008
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	104	0	70-130		%Rec	1	6/20/2017 1:11:42 AM	W43599

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 3:00:00 PM
Lab ID: 1706876-009
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	6/19/2017 7:40:56 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 7:40:56 PM	32334
Surr: DNOP	115	0	72.4-157		%Rec	1	6/19/2017 7:40:56 PM	32334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/16/2017 5:22:57 PM	G43569
Surr: BFB	110	0	52.3-138		%Rec	1	6/16/2017 5:22:57 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	ND	0.22	0.50		mg/L	5	6/24/2017 3:27:00 PM	R43798
Chloride	280	5.0	10		mg/L	20	6/24/2017 3:39:24 PM	R43798
Bromide	1.7	0.073	0.50		mg/L	5	6/24/2017 3:27:00 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 3:27:00 PM	R43798
Sulfate	210	1.9	10		mg/L	20	6/24/2017 3:39:24 PM	R43798
Nitrate+Nitrite as N	8.3	0.13	1.0		mg/L	5	6/24/2017 6:20:43 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.067	0.00085	0.0020		mg/L	1	6/22/2017 4:42:28 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:42:28 PM	B43729
Calcium	68	0.078	1.0		mg/L	1	6/22/2017 4:42:28 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:42:28 PM	B43729
Copper	ND	0.0032	0.0060		mg/L	1	6/22/2017 4:42:28 PM	B43729
Iron	0.023	0.016	0.020		mg/L	1	6/22/2017 4:42:28 PM	B43729
Magnesium	16	0.25	1.0		mg/L	1	6/22/2017 4:42:28 PM	B43729
Manganese	0.0013	0.00038	0.0020	J	mg/L	1	6/22/2017 4:42:28 PM	B43729
Potassium	1.3	0.11	1.0		mg/L	1	6/22/2017 4:42:28 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:42:28 PM	B43729
Sodium	370	1.6	10		mg/L	10	6/22/2017 4:44:23 PM	B43729
Zinc	0.015	0.0011	0.010		mg/L	1	6/22/2017 4:42:28 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00093	0.0020		mg/L	1	6/28/2017 3:29:31 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 3:29:31 PM	32508
Chromium	0.0020	0.0011	0.0060	J	mg/L	1	6/28/2017 3:29:31 PM	32508
Copper	ND	0.0017	0.0060		mg/L	1	6/28/2017 3:29:31 PM	32508
Iron	2.3	0.10	0.20	*	mg/L	10	6/28/2017 3:31:12 PM	32508
Manganese	0.055	0.0011	0.0020	*	mg/L	1	6/28/2017 3:29:31 PM	32508
Silver	ND	0.00042	0.0050		mg/L	1	6/28/2017 3:29:31 PM	32508
Zinc	0.021	0.0028	0.010		mg/L	1	6/28/2017 3:29:31 PM	32508
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0014	0.00089	0.0050	J	mg/L	5	6/28/2017 6:13:35 PM	B43877

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Lab ID: 1706876-009
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	6/23/2017 8:56:17 PM	B43765
Selenium	0.0085	0.0077	0.020	J	mg/L	20	6/28/2017 6:16:38 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0021	0.0015	0.0050	J	mg/L	5	6/29/2017 12:02:32 PM	32508
Lead	0.0025	0.000095	0.00050		mg/L	1	6/29/2017 11:59:32 AM	32508
Selenium	0.012	0.0036	0.0050		mg/L	5	7/6/2017 8:46:35 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000067	0.000037	0.00020	J	mg/L	1	6/27/2017 1:37:31 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	3.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Benzoic acid	9.7	3.9	20	J	µg/L	1	6/21/2017 7:54:14 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	6/21/2017 7:54:14 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Carbazole	ND	4.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Dibenzofuran	ND	4.1	10		µg/L	1	6/21/2017 7:54:14 PM	32356

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Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 7:54:14 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 7:54:14 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 7:54:14 PM	32356
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/21/2017 7:54:14 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 7:54:14 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 7:54:14 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Fluorene	ND	4.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 7:54:14 PM	32356
1-Methylnaphthalene	ND	3.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2-Methylnaphthalene	ND	3.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 7:54:14 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Naphthalene	ND	2.9	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 7:54:14 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 7:54:14 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 7:54:14 PM	32356
Phenanthrene	ND	4.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Phenol	ND	3.1	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 7:54:14 PM	32356

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 3:00:00 PM
Lab ID: 1706876-009
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 7:54:14 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 7:54:14 PM	32356
Surr: 2-Fluorophenol	26.1	0	15-98.1		%Rec	1	6/21/2017 7:54:14 PM	32356
Surr: Phenol-d5	25.1	0	15-80.7		%Rec	1	6/21/2017 7:54:14 PM	32356
Surr: 2,4,6-Tribromophenol	57.8	0	15-112		%Rec	1	6/21/2017 7:54:14 PM	32356
Surr: Nitrobenzene-d5	55.1	0	27.2-90.7		%Rec	1	6/21/2017 7:54:14 PM	32356
Surr: 2-Fluorobiphenyl	57.3	0	23.3-85.6		%Rec	1	6/21/2017 7:54:14 PM	32356
Surr: 4-Terphenyl-d14	61.0	0	27.6-107		%Rec	1	6/21/2017 7:54:14 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Toluene	ND	0.064	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Methyl tert-butyl ether (MTBE)	0.43	0.24	1.0	J	µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Naphthalene	ND	0.11	2.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Acetone	5.6	0.82	10	J	µg/L	1	6/20/2017 2:37:35 AM	W43599
Bromobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Bromoform	ND	0.21	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Bromomethane	ND	0.26	3.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
2-Butanone	ND	1.1	10		µg/L	1	6/20/2017 2:37:35 AM	W43599
Carbon disulfide	ND	0.40	10		µg/L	1	6/20/2017 2:37:35 AM	W43599
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Chloroethane	ND	0.23	2.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Chloroform	ND	0.40	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Chloromethane	ND	0.29	3.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 3:00:00 PM
Lab ID: 1706876-009
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.091	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,1-Dichloroethene	0.59	0.081	1.0	J	µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
2-Hexanone	ND	0.66	10		µg/L	1	6/20/2017 2:37:35 AM	W43599
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/20/2017 2:37:35 AM	W43599
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Styrene	ND	0.16	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Trichloroethene (TCE)	2.0	0.11	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/20/2017 2:37:35 AM	W43599
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/20/2017 2:37:35 AM	W43599
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	6/20/2017 2:37:35 AM	W43599
Surr: 4-Bromofluorobenzene	97.2	0	70-130		%Rec	1	6/20/2017 2:37:35 AM	W43599
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	6/20/2017 2:37:35 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/14/2017 3:00:00 PM
Lab ID: 1706876-009
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	6/20/2017 2:37:35 AM	W43599

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 1:20:00 PM
Lab ID: 1706876-010 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.4	0.36	1.0		mg/L	1	6/19/2017 8:06:11 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 8:06:11 PM	32334
Surr: DNOP	107	0	72.4-157		%Rec	1	6/19/2017 8:06:11 PM	32334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	11	0.50	1.0		mg/L	20	6/16/2017 5:46:47 PM	G43569
Surr: BFB	122	0	52.3-138		%Rec	20	6/16/2017 5:46:47 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	ND	0.22	0.50		mg/L	5	6/24/2017 3:51:48 PM	R43798
Chloride	180	5.0	10		mg/L	20	6/24/2017 4:04:13 PM	R43798
Bromide	1.7	0.073	0.50		mg/L	5	6/24/2017 3:51:48 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 3:51:48 PM	R43798
Sulfate	14	0.48	2.5		mg/L	5	6/24/2017 3:51:48 PM	R43798
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/24/2017 7:10:21 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.60	0.00085	0.0020		mg/L	1	6/22/2017 4:46:19 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:46:19 PM	B43729
Calcium	160	0.78	10		mg/L	10	6/22/2017 4:48:10 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:46:19 PM	B43729
Copper	ND	0.0032	0.0060		mg/L	1	6/22/2017 4:46:19 PM	B43729
Iron	2.3	0.16	0.20	*	mg/L	10	6/22/2017 4:48:10 PM	B43729
Magnesium	33	0.25	1.0		mg/L	1	6/22/2017 4:46:19 PM	B43729
Manganese	4.6	0.0038	0.020	*	mg/L	10	6/22/2017 4:48:10 PM	B43729
Potassium	0.55	0.11	1.0	J	mg/L	1	6/22/2017 4:46:19 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:46:19 PM	B43729
Sodium	250	1.6	10		mg/L	10	6/22/2017 4:48:10 PM	B43729
Zinc	0.015	0.0011	0.010		mg/L	1	6/22/2017 4:46:19 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.60	0.00093	0.0020		mg/L	1	6/28/2017 3:39:24 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 3:39:24 PM	32508
Chromium	ND	0.0011	0.0060		mg/L	1	6/28/2017 3:39:24 PM	32508
Copper	ND	0.0017	0.0060		mg/L	1	6/28/2017 3:39:24 PM	32508
Iron	3.5	0.10	0.20	*	mg/L	10	6/28/2017 3:41:04 PM	32508
Manganese	4.5	0.011	0.020	*	mg/L	10	6/28/2017 3:41:04 PM	32508
Silver	0.00046	0.00042	0.0050	J	mg/L	1	6/28/2017 3:39:24 PM	32508
Zinc	0.0030	0.0028	0.010	J	mg/L	1	6/28/2017 3:39:24 PM	32508
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0019	0.00089	0.0050	J	mg/L	5	6/28/2017 6:19:42 PM	B43877

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-09
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 1:20:00 PM
Lab ID: 1706876-010 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00018	0.00017	0.00050	J	mg/L	1	6/23/2017 8:59:20 PM	B43765
Selenium	0.0021	0.0019	0.0050	J	mg/L	5	6/28/2017 6:19:42 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0025	0.0015	0.0050	J	mg/L	5	6/29/2017 12:11:34 PM	32508
Lead	0.0028	0.000095	0.00050		mg/L	1	6/29/2017 12:05:33 PM	32508
Selenium	0.0081	0.0036	0.0050		mg/L	5	7/6/2017 8:49:36 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/27/2017 1:43:29 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	5.3	3.6	10	J	µg/L	1	6/21/2017 8:23:13 PM	32356
Acenaphthylene	ND	3.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Aniline	ND	3.1	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Anthracene	ND	3.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Azobenzene	ND	4.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Benz(a)anthracene	ND	3.9	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Benzo(a)pyrene	ND	4.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Benzoic acid	ND	3.9	20		µg/L	1	6/21/2017 8:23:13 PM	32356
Benzyl alcohol	ND	4.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Bis(2-ethylhexyl)phthalate	5.0	4.8	10	J	µg/L	1	6/21/2017 8:23:13 PM	32356
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Carbazole	12	4.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
4-Chloroaniline	ND	3.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2-Chloronaphthalene	ND	3.7	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2-Chlorophenol	ND	7.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Chrysene	ND	3.8	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Dibenzofuran	ND	4.1	10		µg/L	1	6/21/2017 8:23:13 PM	32356

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 1:20:00 PM
Lab ID: 1706876-010
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	6/21/2017 8:23:13 PM	32356
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 8:23:13 PM	32356
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Diethyl phthalate	ND	4.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Dimethyl phthalate	ND	3.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	6/21/2017 8:23:13 PM	32356
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	6/21/2017 8:23:13 PM	32356
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	6/21/2017 8:23:13 PM	32356
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	6/21/2017 8:23:13 PM	32356
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Fluoranthene	ND	4.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Fluorene	6.1	4.0	10	J	µg/L	1	6/21/2017 8:23:13 PM	32356
Hexachlorobenzene	ND	3.8	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Hexachlorobutadiene	ND	1.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Hexachloroethane	ND	1.2	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Isophorone	ND	4.4	10		µg/L	1	6/21/2017 8:23:13 PM	32356
1-Methylnaphthalene	59	3.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2-Methylnaphthalene	7.9	3.3	10	J	µg/L	1	6/21/2017 8:23:13 PM	32356
2-Methylphenol	ND	3.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
3+4-Methylphenol	ND	3.2	10		µg/L	1	6/21/2017 8:23:13 PM	32356
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Naphthalene	42	2.9	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2-Nitroaniline	ND	4.9	10		µg/L	1	6/21/2017 8:23:13 PM	32356
3-Nitroaniline	ND	4.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356
4-Nitroaniline	ND	4.0	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Nitrobenzene	ND	3.6	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2-Nitrophenol	ND	5.2	10		µg/L	1	6/21/2017 8:23:13 PM	32356
4-Nitrophenol	ND	5.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Pentachlorophenol	ND	4.9	20		µg/L	1	6/21/2017 8:23:13 PM	32356
Phenanthrene	7.2	4.3	10	J	µg/L	1	6/21/2017 8:23:13 PM	32356
Phenol	13	3.1	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Pyrene	ND	4.4	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Pyridine	ND	2.3	10		µg/L	1	6/21/2017 8:23:13 PM	32356

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 1:20:00 PM
Lab ID: 1706876-010 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	6/21/2017 8:23:13 PM	32356
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	6/21/2017 8:23:13 PM	32356
Surr: 2-Fluorophenol	13.8	0	15-98.1	S	%Rec	1	6/21/2017 8:23:13 PM	32356
Surr: Phenol-d5	27.7	0	15-80.7		%Rec	1	6/21/2017 8:23:13 PM	32356
Surr: 2,4,6-Tribromophenol	25.1	0	15-112		%Rec	1	6/21/2017 8:23:13 PM	32356
Surr: Nitrobenzene-d5	72.7	0	27.2-90.7		%Rec	1	6/21/2017 8:23:13 PM	32356
Surr: 2-Fluorobiphenyl	67.9	0	23.3-85.6		%Rec	1	6/21/2017 8:23:13 PM	32356
Surr: 4-Terphenyl-d14	69.2	0	27.6-107		%Rec	1	6/21/2017 8:23:13 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	3000	6.2	100		µg/L	100	6/20/2017 6:26:27 AM	W43599
Toluene	32	0.64	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Ethylbenzene	300	0.93	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Methyl tert-butyl ether (MTBE)	680	2.4	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2,4-Trimethylbenzene	87	1.1	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,3,5-Trimethylbenzene	1.3	0.87	10	J	µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Naphthalene	62	1.1	20		µg/L	10	6/20/2017 6:54:58 AM	W43599
1-Methylnaphthalene	91	1.6	40		µg/L	10	6/20/2017 6:54:58 AM	W43599
2-Methylnaphthalene	13	1.5	40	J	µg/L	10	6/20/2017 6:54:58 AM	W43599
Acetone	ND	8.2	100		µg/L	10	6/20/2017 6:54:58 AM	W43599
Bromobenzene	ND	1.4	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Bromodichloromethane	ND	1.8	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Bromoform	ND	2.1	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Bromomethane	ND	2.6	30		µg/L	10	6/20/2017 6:54:58 AM	W43599
2-Butanone	ND	11	100		µg/L	10	6/20/2017 6:54:58 AM	W43599
Carbon disulfide	ND	4.0	100		µg/L	10	6/20/2017 6:54:58 AM	W43599
Carbon Tetrachloride	ND	1.1	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Chlorobenzene	ND	1.1	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Chloroethane	ND	2.3	20		µg/L	10	6/20/2017 6:54:58 AM	W43599
Chloroform	ND	4.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Chloromethane	ND	2.9	30		µg/L	10	6/20/2017 6:54:58 AM	W43599
2-Chlorotoluene	ND	4.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
4-Chlorotoluene	ND	4.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
cis-1,2-DCE	13	2.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	6/20/2017 6:54:58 AM	W43599
Dibromochloromethane	ND	0.72	10		µg/L	10	6/20/2017 6:54:58 AM	W43599

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 1:20:00 PM
Lab ID: 1706876-010 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.91	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Dichlorodifluoromethane	ND	10	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,1-Dichloroethane	14	4.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,1-Dichloroethene	17	0.81	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2-Dichloropropane	ND	1.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,3-Dichloropropane	ND	1.7	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
2,2-Dichloropropane	ND	1.6	20		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,1-Dichloropropene	ND	0.93	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Hexachlorobutadiene	ND	8.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
2-Hexanone	ND	6.6	100		µg/L	10	6/20/2017 6:54:58 AM	W43599
Isopropylbenzene	19	0.51	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
4-Isopropyltoluene	2.4	0.96	10	J	µg/L	10	6/20/2017 6:54:58 AM	W43599
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	6/20/2017 6:54:58 AM	W43599
Methylene Chloride	ND	1.1	30		µg/L	10	6/20/2017 6:54:58 AM	W43599
n-Butylbenzene	8.6	1.3	30	J	µg/L	10	6/20/2017 6:54:58 AM	W43599
n-Propylbenzene	42	0.74	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
sec-Butylbenzene	4.4	1.1	10	J	µg/L	10	6/20/2017 6:54:58 AM	W43599
Styrene	ND	1.6	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
tert-Butylbenzene	ND	1.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	6/20/2017 6:54:58 AM	W43599
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
trans-1,2-DCE	ND	1.8	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,1,1-Trichloroethane	17	0.73	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Trichloroethene (TCE)	2.7	1.1	10	J	µg/L	10	6/20/2017 6:54:58 AM	W43599
Trichlorofluoromethane	ND	1.8	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	6/20/2017 6:54:58 AM	W43599
Vinyl chloride	ND	1.8	10		µg/L	10	6/20/2017 6:54:58 AM	W43599
Xylenes, Total	86	3.2	15		µg/L	10	6/20/2017 6:54:58 AM	W43599
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	10	6/20/2017 6:54:58 AM	W43599
Surr: 4-Bromofluorobenzene	97.8	0	70-130		%Rec	10	6/20/2017 6:54:58 AM	W43599
Surr: Dibromofluoromethane	101	0	70-130		%Rec	10	6/20/2017 6:54:58 AM	W43599

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 1:20:00 PM
Lab ID: 1706876-010
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	101	0	70-130		%Rec	10	6/20/2017 6:54:58 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 2:00:00 PM
Lab ID: 1706876-011 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.3	0.36	1.0		mg/L	1	6/19/2017 8:31:40 PM	32334
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	6/19/2017 8:31:40 PM	32334
Surr: DNOP	101	0	72.4-157		%Rec	1	6/19/2017 8:31:40 PM	32334
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	95	2.5	5.0		mg/L	100	6/16/2017 6:10:35 PM	G43569
Surr: BFB	113	0	52.3-138		%Rec	100	6/16/2017 6:10:35 PM	G43569
EPA METHOD 300.0: ANIONS							Analyst: **JRR**	
Fluoride	2.0	0.22	0.50		mg/L	5	6/24/2017 4:41:27 PM	R43798
Chloride	580	12	25		mg/L	50	6/30/2017 7:31:19 PM	R43968
Bromide	8.7	0.073	0.50		mg/L	5	6/24/2017 4:41:27 PM	R43798
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	6/24/2017 4:41:27 PM	R43798
Sulfate	0.64	0.48	2.5	J	mg/L	5	6/24/2017 4:41:27 PM	R43798
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	6/24/2017 7:22:46 PM	R43798
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	7.6	0.0085	0.020	*	mg/L	10	6/22/2017 4:51:43 PM	B43729
Cadmium	ND	0.0010	0.0020		mg/L	1	6/22/2017 4:50:05 PM	B43729
Calcium	230	0.78	10		mg/L	10	6/22/2017 4:51:43 PM	B43729
Chromium	ND	0.0010	0.0060		mg/L	1	6/22/2017 4:50:05 PM	B43729
Copper	0.0037	0.0032	0.0060	J	mg/L	1	6/22/2017 4:50:05 PM	B43729
Iron	17	0.33	0.40	*	mg/L	20	6/27/2017 3:46:51 PM	C43828
Magnesium	56	0.25	1.0		mg/L	1	6/22/2017 4:50:05 PM	B43729
Manganese	4.1	0.0038	0.020	*	mg/L	10	6/22/2017 4:51:43 PM	B43729
Potassium	2.2	0.11	1.0		mg/L	1	6/22/2017 4:50:05 PM	B43729
Silver	ND	0.00088	0.0050		mg/L	1	6/22/2017 4:50:05 PM	B43729
Sodium	340	1.6	10		mg/L	10	6/22/2017 4:51:43 PM	B43729
Zinc	0.019	0.0011	0.010		mg/L	1	6/22/2017 4:50:05 PM	B43729
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	7.5	0.0093	0.020	*	mg/L	10	6/28/2017 3:44:53 PM	32508
Cadmium	ND	0.00058	0.0020		mg/L	1	6/28/2017 3:43:10 PM	32508
Chromium	ND	0.0011	0.0060		mg/L	1	6/28/2017 3:43:10 PM	32508
Copper	0.020	0.0017	0.0060		mg/L	1	6/28/2017 3:43:10 PM	32508
Iron	17	0.20	0.40	*	mg/L	20	7/3/2017 2:14:37 PM	32508
Manganese	4.1	0.011	0.020	*	mg/L	10	6/28/2017 3:44:53 PM	32508
Silver	ND	0.00042	0.0050		mg/L	1	6/28/2017 3:43:10 PM	32508
Zinc	0.020	0.0028	0.010		mg/L	1	6/28/2017 3:43:10 PM	32508
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.021	0.0018	0.010	*	mg/L	10	6/28/2017 6:25:49 PM	B43877

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 2:00:00 PM
Lab ID: 1706876-011 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0042	0.00017	0.00050		mg/L	1	6/23/2017 9:02:23 PM	B43765
Selenium	ND	0.019	0.050		mg/L	50	6/28/2017 6:28:52 PM	B43877
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.022	0.0015	0.0050	*	mg/L	5	6/29/2017 12:20:35 PM	32508
Lead	0.012	0.000095	0.00050		mg/L	1	6/29/2017 12:17:35 PM	32508
Selenium	0.035	0.0071	0.010		mg/L	10	7/8/2017 10:38:10 AM	32508
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	6/27/2017 1:45:25 PM	32504
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
Acenaphthene	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Acenaphthylene	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Aniline	ND	15	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Anthracene	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Azobenzene	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Benz(a)anthracene	ND	19	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Benzo(a)pyrene	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Benzo(b)fluoranthene	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Benzo(g,h,i)perylene	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Benzo(k)fluoranthene	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Benzoic acid	ND	20	100		µg/L	1	6/21/2017 8:51:58 PM	32356
Benzyl alcohol	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Bis(2-chloroethoxy)methane	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Bis(2-chloroethyl)ether	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Bis(2-chloroisopropyl)ether	ND	19	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Bis(2-ethylhexyl)phthalate	25	24	50	J	µg/L	1	6/21/2017 8:51:58 PM	32356
4-Bromophenyl phenyl ether	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Butyl benzyl phthalate	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Carbazole	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
4-Chloro-3-methylphenol	ND	32	50		µg/L	1	6/21/2017 8:51:58 PM	32356
4-Chloroaniline	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2-Chloronaphthalene	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2-Chlorophenol	ND	38	50		µg/L	1	6/21/2017 8:51:58 PM	32356
4-Chlorophenyl phenyl ether	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Chrysene	ND	19	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Di-n-butyl phthalate	ND	25	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Di-n-octyl phthalate	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Dibenz(a,h)anthracene	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Dibenzofuran	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 2:00:00 PM
Lab ID: 1706876-011 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2-Dichlorobenzene	ND	10	50		µg/L	1	6/21/2017 8:51:58 PM	32356
1,3-Dichlorobenzene	ND	9.1	50		µg/L	1	6/21/2017 8:51:58 PM	32356
1,4-Dichlorobenzene	ND	11	50		µg/L	1	6/21/2017 8:51:58 PM	32356
3,3´-Dichlorobenzidine	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Diethyl phthalate	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Dimethyl phthalate	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2,4-Dichlorophenol	ND	28	100		µg/L	1	6/21/2017 8:51:58 PM	32356
2,4-Dimethylphenol	110	14	50		µg/L	1	6/21/2017 8:51:58 PM	32356
4,6-Dinitro-2-methylphenol	ND	19	100		µg/L	1	6/21/2017 8:51:58 PM	32356
2,4-Dinitrophenol	ND	13	100		µg/L	1	6/21/2017 8:51:58 PM	32356
2,4-Dinitrotoluene	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2,6-Dinitrotoluene	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Fluoranthene	ND	21	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Fluorene	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Hexachlorobenzene	ND	19	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Hexachlorobutadiene	ND	6.7	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Hexachlorocyclopentadiene	ND	6.4	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Hexachloroethane	ND	6.0	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Indeno(1,2,3-cd)pyrene	ND	21	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Isophorone	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
1-Methylnaphthalene	28	17	50	J	µg/L	1	6/21/2017 8:51:58 PM	32356
2-Methylnaphthalene	37	16	50	J	µg/L	1	6/21/2017 8:51:58 PM	32356
2-Methylphenol	130	17	50		µg/L	1	6/21/2017 8:51:58 PM	32356
3+4-Methylphenol	130	16	50		µg/L	1	6/21/2017 8:51:58 PM	32356
N-Nitrosodi-n-propylamine	ND	23	50		µg/L	1	6/21/2017 8:51:58 PM	32356
N-Nitrosodimethylamine	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
N-Nitrosodiphenylamine	ND	19	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Naphthalene	180	14	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2-Nitroaniline	ND	25	50		µg/L	1	6/21/2017 8:51:58 PM	32356
3-Nitroaniline	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
4-Nitroaniline	ND	20	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Nitrobenzene	ND	18	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2-Nitrophenol	ND	26	50		µg/L	1	6/21/2017 8:51:58 PM	32356
4-Nitrophenol	ND	27	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Pentachlorophenol	ND	25	100		µg/L	1	6/21/2017 8:51:58 PM	32356
Phenanthrene	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Phenol	73	16	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Pyrene	ND	22	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Pyridine	ND	11	50		µg/L	1	6/21/2017 8:51:58 PM	32356

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 2:00:00 PM
Lab ID: 1706876-011 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **JDC**	
1,2,4-Trichlorobenzene	ND	11	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2,4,5-Trichlorophenol	ND	26	50		µg/L	1	6/21/2017 8:51:58 PM	32356
2,4,6-Trichlorophenol	ND	27	50		µg/L	1	6/21/2017 8:51:58 PM	32356
Surr: 2-Fluorophenol	6.63	0	15-98.1	S	%Rec	1	6/21/2017 8:51:58 PM	32356
Surr: Phenol-d5	19.8	0	15-80.7		%Rec	1	6/21/2017 8:51:58 PM	32356
Surr: 2,4,6-Tribromophenol	13.4	0	15-112	S	%Rec	1	6/21/2017 8:51:58 PM	32356
Surr: Nitrobenzene-d5	74.1	0	27.2-90.7		%Rec	1	6/21/2017 8:51:58 PM	32356
Surr: 2-Fluorobiphenyl	59.7	0	23.3-85.6		%Rec	1	6/21/2017 8:51:58 PM	32356
Surr: 4-Terphenyl-d14	61.0	0	27.6-107		%Rec	1	6/21/2017 8:51:58 PM	32356
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	21000	62	1000		µg/L	1000	6/20/2017 7:23:32 AM	W43599
Toluene	3500	6.4	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Ethylbenzene	700	9.3	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Methyl tert-butyl ether (MTBE)	160	24	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2,4-Trimethylbenzene	1600	11	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,3,5-Trimethylbenzene	480	8.7	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Naphthalene	290	11	200		µg/L	100	6/20/2017 7:52:15 AM	W43599
1-Methylnaphthalene	58	16	400	J	µg/L	100	6/20/2017 7:52:15 AM	W43599
2-Methylnaphthalene	49	15	400	J	µg/L	100	6/20/2017 7:52:15 AM	W43599
Acetone	ND	82	1000		µg/L	100	6/20/2017 7:52:15 AM	W43599
Bromobenzene	ND	14	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Bromodichloromethane	ND	18	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Bromoform	ND	21	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Bromomethane	ND	26	300		µg/L	100	6/20/2017 7:52:15 AM	W43599
2-Butanone	ND	110	1000		µg/L	100	6/20/2017 7:52:15 AM	W43599
Carbon disulfide	ND	40	1000		µg/L	100	6/20/2017 7:52:15 AM	W43599
Carbon Tetrachloride	ND	11	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Chlorobenzene	ND	11	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Chloroethane	ND	23	200		µg/L	100	6/20/2017 7:52:15 AM	W43599
Chloroform	ND	40	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Chloromethane	ND	29	300		µg/L	100	6/20/2017 7:52:15 AM	W43599
2-Chlorotoluene	ND	40	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
4-Chlorotoluene	ND	40	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
cis-1,2-DCE	ND	20	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	6/20/2017 7:52:15 AM	W43599
Dibromochloromethane	ND	7.2	100		µg/L	100	6/20/2017 7:52:15 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 2:00:00 PM
Lab ID: 1706876-011
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	9.1	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,3-Dichlorobenzene	ND	15	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,4-Dichlorobenzene	ND	40	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Dichlorodifluoromethane	ND	100	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,1-Dichloroethane	ND	40	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,1-Dichloroethene	ND	8.1	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2-Dichloropropane	ND	10	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,3-Dichloropropane	ND	17	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
2,2-Dichloropropane	ND	16	200		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,1-Dichloropropene	ND	9.3	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Hexachlorobutadiene	ND	80	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
2-Hexanone	ND	66	1000		µg/L	100	6/20/2017 7:52:15 AM	W43599
Isopropylbenzene	ND	5.1	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
4-Isopropyltoluene	ND	9.6	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	6/20/2017 7:52:15 AM	W43599
Methylene Chloride	ND	11	300		µg/L	100	6/20/2017 7:52:15 AM	W43599
n-Butylbenzene	ND	13	300		µg/L	100	6/20/2017 7:52:15 AM	W43599
n-Propylbenzene	ND	7.4	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
sec-Butylbenzene	ND	11	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Styrene	ND	16	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
tert-Butylbenzene	ND	10	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	6/20/2017 7:52:15 AM	W43599
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
trans-1,2-DCE	ND	18	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,1,2-Trichloroethane	ND	14	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Trichloroethene (TCE)	ND	11	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Trichlorofluoromethane	ND	18	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
1,2,3-Trichloropropane	ND	39	200		µg/L	100	6/20/2017 7:52:15 AM	W43599
Vinyl chloride	ND	18	100		µg/L	100	6/20/2017 7:52:15 AM	W43599
Xylenes, Total	14000	32	150		µg/L	100	6/20/2017 7:52:15 AM	W43599
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	100	6/20/2017 7:52:15 AM	W43599
Surr: 4-Bromofluorobenzene	96.4	0	70-130		%Rec	100	6/20/2017 7:52:15 AM	W43599
Surr: Dibromofluoromethane	103	0	70-130		%Rec	100	6/20/2017 7:52:15 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 2:00:00 PM
Lab ID: 1706876-011
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	105	0	70-130		%Rec	100	6/20/2017 7:52:15 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 7:00:00 AM
Lab ID: 1706876-012 **Matrix:** AQUEOUS **Received Date:** 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Toluene	0.12	0.064	1.0	J	µg/L	1	6/20/2017 12:14:43 AM	W43599
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Naphthalene	ND	0.11	2.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Acetone	3.7	0.82	10	J	µg/L	1	6/20/2017 12:14:43 AM	W43599
Bromobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Bromoform	ND	0.21	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Bromomethane	ND	0.26	3.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
2-Butanone	ND	1.1	10		µg/L	1	6/20/2017 12:14:43 AM	W43599
Carbon disulfide	ND	0.40	10		µg/L	1	6/20/2017 12:14:43 AM	W43599
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Chloroethane	ND	0.23	2.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Chloroform	ND	0.40	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Chloromethane	ND	0.29	3.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Dibromomethane	ND	0.091	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/20/2017 12:14:43 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 2ND QTR (MKTF)
Collection Date: 6/12/2017 7:00:00 AM
Lab ID: 1706876-012
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
2-Hexanone	ND	0.66	10		µg/L	1	6/20/2017 12:14:43 AM	W43599
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/20/2017 12:14:43 AM	W43599
Methylene Chloride	ND	0.11	3.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Styrene	ND	0.16	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/20/2017 12:14:43 AM	W43599
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/20/2017 12:14:43 AM	W43599
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	6/20/2017 12:14:43 AM	W43599
Surr: 4-Bromofluorobenzene	99.6	0	70-130		%Rec	1	6/20/2017 12:14:43 AM	W43599
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	6/20/2017 12:14:43 AM	W43599
Surr: Toluene-d8	103	0	70-130		%Rec	1	6/20/2017 12:14:43 AM	W43599

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 2ND QTR (MKTF)
Collection Date:
Lab ID: 1706876-013
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	6/16/2017 6:34:32 PM	G43569
Surr: BFB	113	0	52.3-138		%Rec	1	6/16/2017 6:34:32 PM	G43569
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Toluene	ND	0.064	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Ethylbenzene	ND	0.093	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Naphthalene	ND	0.11	2.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Acetone	ND	0.82	10		µg/L	1	6/20/2017 12:43:13 AM	W43599
Bromobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Bromodichloromethane	ND	0.18	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Bromoform	ND	0.21	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Bromomethane	ND	0.26	3.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
2-Butanone	ND	1.1	10		µg/L	1	6/20/2017 12:43:13 AM	W43599
Carbon disulfide	ND	0.40	10		µg/L	1	6/20/2017 12:43:13 AM	W43599
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Chlorobenzene	ND	0.11	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Chloroethane	ND	0.23	2.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Chloroform	ND	0.40	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Chloromethane	ND	0.29	3.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Dibromochloromethane	ND	0.072	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Dibromomethane	ND	0.091	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 2017 2ND QTR (MKTF)
Collection Date:
Lab ID: 1706876-013
Matrix: AQUEOUS
Received Date: 6/15/2017 11:15:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
2-Hexanone	ND	0.66	10		µg/L	1	6/20/2017 12:43:13 AM	W43599
Isopropylbenzene	ND	0.051	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	6/20/2017 12:43:13 AM	W43599
Methylene Chloride	0.12	0.11	3.0	J	µg/L	1	6/20/2017 12:43:13 AM	W43599
n-Butylbenzene	ND	0.13	3.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
n-Propylbenzene	ND	0.074	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Styrene	ND	0.16	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Vinyl chloride	ND	0.18	1.0		µg/L	1	6/20/2017 12:43:13 AM	W43599
Xylenes, Total	ND	0.32	1.5		µg/L	1	6/20/2017 12:43:13 AM	W43599
Surr: 1,2-Dichloroethane-d4	108	0	70-130		%Rec	1	6/20/2017 12:43:13 AM	W43599
Surr: 4-Bromofluorobenzene	96.6	0	70-130		%Rec	1	6/20/2017 12:43:13 AM	W43599
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	6/20/2017 12:43:13 AM	W43599
Surr: Toluene-d8	103	0	70-130		%Rec	1	6/20/2017 12:43:13 AM	W43599

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43729**	RunNo: **43729**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1377500** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43729**	RunNo: **43729**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1377501** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	92.0	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	105	50	150			
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0066	0.0060	0.006000	0	109	50	150			
Copper	0.0065	0.0060	0.006000	0	108	50	150			
Iron	0.022	0.020	0.02000	0	109	50	150			
Magnesium	0.55	1.0	0.5000	0	110	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.0	50	150			J
Potassium	0.59	1.0	0.5000	0	117	50	150			J
Silver	0.0049	0.0050	0.005000	0	98.8	50	150			J
Sodium	0.56	1.0	0.5000	0	111	50	150			J
Zinc	0.0050	0.010	0.005000	0	99.4	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43729**	RunNo: **43729**
Prep Date:	Analysis Date: **6/22/2017**	SeqNo: **1377502** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.5	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.9	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.2	85	115			

Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID	**LCS-B**	SampType: **LCS**		TestCode: **EPA Method 200.7: Dissolved Metals**						
Client ID:	**LCSW**	Batch ID: **B43729**		RunNo: **43729**						
Prep Date:		Analysis Date: **6/22/2017**		SeqNo: **1377502**		Units: **mg/L**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper		0.48	0.0060	0.5000	0	96.6	85	115			
Iron		0.48	0.020	0.5000	0	96.1	85	115			
Magnesium		51	1.0	50.00	0	103	85	115			
Manganese		0.47	0.0020	0.5000	0	93.6	85	115			
Potassium		49	1.0	50.00	0	98.7	85	115			
Silver		0.10	0.0050	0.1000	0	99.7	85	115			
Sodium		50	1.0	50.00	0	101	85	115			
Zinc		0.47	0.010	0.5000	0	94.8	85	115			

Sample ID	**MB-C**	SampType: **MBLK**		TestCode: **EPA Method 200.7: Dissolved Metals**						
Client ID:	**PBW**	Batch ID: **C43828**		RunNo: **43828**						
Prep Date:		Analysis Date: **6/27/2017**		SeqNo: **1381066**		Units: **mg/L**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.020								

Sample ID	**LCSLL-C**	SampType: **LCSLL**		TestCode: **EPA Method 200.7: Dissolved Metals**						
Client ID:	**BatchQC**	Batch ID: **C43828**		RunNo: **43828**						
Prep Date:		Analysis Date: **6/27/2017**		SeqNo: **1381067**		Units: **mg/L**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.025	0.020	0.02000	0	125	50	150			

Sample ID	**LCS-C**	SampType: **LCS**		TestCode: **EPA Method 200.7: Dissolved Metals**						
Client ID:	**LCSW**	Batch ID: **C43828**		RunNo: **43828**						
Prep Date:		Analysis Date: **6/27/2017**		SeqNo: **1381068**		Units: **mg/L**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.49	0.020	0.5000	0	98.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **MB-32508**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **32508**	RunNo: **43863**
Prep Date: **6/27/2017**	Analysis Date: **6/28/2017**	SeqNo: **1382544** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-32508**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **32508**	RunNo: **43863**
Prep Date:	Analysis Date: **6/28/2017**	SeqNo: **1382545** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	104	50	150			
Cadmium	0.0016	0.0020	0.002000	0	79.0	50	150			J
Chromium	0.0056	0.0060	0.006000	0	94.0	50	150			J
Copper	0.0053	0.0060	0.006000	0	87.7	50	150			J
Iron	0.018	0.020	0.02000	0	87.6	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.5	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.6	50	150			J
Zinc	0.0051	0.010	0.005000	0	102	50	150			J

Sample ID **LCS-32508**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32508**	RunNo: **43863**
Prep Date: **6/27/2017**	Analysis Date: **6/28/2017**	SeqNo: **1382546** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.1	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.0	85	115			
Chromium	0.47	0.0060	0.5000	0	94.9	85	115			
Copper	0.48	0.0060	0.5000	0	95.9	85	115			
Iron	0.47	0.020	0.5000	0	94.2	85	115			
Manganese	0.46	0.0020	0.5000	0	92.4	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.46	0.010	0.5000	0	91.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **MB-32778**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **32778**	RunNo: **44206**
Prep Date: **7/12/2017**	Analysis Date: **7/13/2017**	SeqNo: **1396028** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-32778**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **32778**	RunNo: **44206**
Prep Date:	Analysis Date: **7/13/2017**	SeqNo: **1396029** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	95.5	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			
Chromium	0.0059	0.0060	0.006000	0	98.7	50	150			J
Copper	0.0077	0.0060	0.006000	0	128	50	150			
Iron	0.018	0.020	0.02000	0	88.4	50	150			J
Manganese	0.0020	0.0020	0.002000	0	98.5	50	150			J
Silver	0.0049	0.0050	0.005000	0	97.4	50	150			J
Zinc	0.0050	0.010	0.005000	0	99.4	50	150			J

Sample ID **LCS-32778**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **32778**	RunNo: **44206**
Prep Date: **7/12/2017**	Analysis Date: **7/13/2017**	SeqNo: **1396030** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.1	85	115			
Cadmium	0.47	0.0020	0.5000	0	94.3	85	115			
Chromium	0.47	0.0060	0.5000	0	94.6	85	115			
Copper	0.48	0.0060	0.5000	0	96.7	85	115			
Iron	0.48	0.020	0.5000	0	96.1	85	115			
Manganese	0.46	0.0020	0.5000	0	92.7	85	115			
Silver	0.098	0.0050	0.1000	0	98.1	85	115			
Zinc	0.44	0.010	0.5000	0	88.7	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID	**1706876-005GMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-35**	Batch ID:	**32778**		RunNo:	**44206**				
Prep Date:	**7/12/2017**	Analysis Date:	**7/13/2017**		SeqNo:	**1396032**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.45	0.0020	0.5000	0	90.1	70	130			
Chromium	0.46	0.0060	0.5000	0.008800	90.0	70	130			
Copper	0.49	0.0060	0.5000	0.009690	96.4	70	130			
Silver	0.097	0.0050	0.1000	0	97.3	70	130			
Zinc	0.43	0.010	0.5000	0.02234	81.0	70	130			

Sample ID	**1706876-005GMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-35**	Batch ID:	**32778**		RunNo:	**44206**				
Prep Date:	**7/12/2017**	Analysis Date:	**7/13/2017**		SeqNo:	**1396033**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.46	0.0020	0.5000	0	92.8	70	130	2.94	20	
Chromium	0.47	0.0060	0.5000	0.008800	93.0	70	130	3.25	20	
Copper	0.50	0.0060	0.5000	0.009690	98.8	70	130	2.42	20	
Silver	0.10	0.0050	0.1000	0	100	70	130	2.78	20	
Zinc	0.44	0.010	0.5000	0.02234	83.7	70	130	3.13	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43765**	RunNo: **43765**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378699** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	104	85	115			
Lead	0.013	0.00050	0.01250	0	100	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43765**	RunNo: **43765**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378700** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	109	50	150			
Lead	0.00051	0.00050	0.0005000	0	101	50	150			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43765**	RunNo: **43765**
Prep Date:	Analysis Date: **6/23/2017**	SeqNo: **1378701** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A43799**	RunNo: **43799**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1379718** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.7	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A43799**	RunNo: **43799**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1379719** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	114	50	150			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A43799**	RunNo: **43799**
Prep Date:	Analysis Date: **6/26/2017**	SeqNo: **1379720** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00019	0.0010								J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B43877**	RunNo: **43877**
Prep Date:	Analysis Date: **6/28/2017**	SeqNo: **1382891** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B43877**	RunNo: **43877**
Prep Date:	Analysis Date: **6/28/2017**	SeqNo: **1382892** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00093	0.0010	0.001000	0	93.5	50	150			J
Selenium	0.00093	0.0010	0.001000	0	92.8	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B43877**	RunNo: **43877**
Prep Date:	Analysis Date: **6/28/2017**	SeqNo: **1382893** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID	**MB-32508**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**32508**	RunNo:	**43837**					
Prep Date:	**6/27/2017**	Analysis Date:	**6/27/2017**	SeqNo:	**1381421**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-32508**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**32508**	RunNo:	**43837**					
Prep Date:	**6/27/2017**	Analysis Date:	**6/27/2017**	SeqNo:	**1381422**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.012	0.00050	0.01250	0	95.8	85	115			
Selenium	0.024	0.0010	0.02500	0	94.1	85	115			

Sample ID	**MSLLLCS-32508**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**32508**	RunNo:	**43837**					
Prep Date:	**6/27/2017**	Analysis Date:	**6/27/2017**	SeqNo:	**1381423**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00099	0.0010	0.001000	0	99.0	50	150			J
Lead	0.00044	0.00050	0.0005000	0	88.7	50	150			J
Selenium	0.00087	0.0010	0.001000	0	87.0	50	150			J

Sample ID	**1706876-004GLLMS**	SampType:	**MSDLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**MKTF-36**	Batch ID:	**32508**	RunNo:	**43882**					
Prep Date:	**6/27/2017**	Analysis Date:	**6/29/2017**	SeqNo:	**1383483**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.036	0.0010	0.02500	0.01174	97.1	70	130	0.573	20	
Lead	0.021	0.00050	0.01250	0.008427	103	70	130	0.236	20	

Sample ID	**1706876-004GLLMS**	SampType:	**MSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**MKTF-36**	Batch ID:	**32508**	RunNo:	**43882**					
Prep Date:	**6/27/2017**	Analysis Date:	**6/29/2017**	SeqNo:	**1383485**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.036	0.0010	0.02500	0.01174	96.3	70	130			
Lead	0.021	0.00050	0.01250	0.008427	104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **1706876-010GLLMS** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-09** Batch ID: **32508** RunNo: **43882**
Prep Date: **6/27/2017** Analysis Date: **6/29/2017** SeqNo: **1383498** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.029	0.0050	0.02500	0.002533	105	70	130			

Sample ID **1706876-010GLLMS** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-09** Batch ID: **32508** RunNo: **43882**
Prep Date: **6/27/2017** Analysis Date: **6/29/2017** SeqNo: **1383499** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.016	0.00050	0.01250	0.002842	103	70	130			

Sample ID **1706876-004GLLMS** SampType: **MSDLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-36** Batch ID: **32508** RunNo: **44018**
Prep Date: **6/27/2017** Analysis Date: **7/6/2017** SeqNo: **1388107** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.028	0.0050	0.02500	0.004368	94.9	70	130	4.14	20	

Sample ID **1706876-004GLLMS** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-36** Batch ID: **32508** RunNo: **44018**
Prep Date: **6/27/2017** Analysis Date: **7/6/2017** SeqNo: **1388108** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.027	0.0050	0.02500	0.004368	90.3	70	130			

Sample ID **1706876-010GLLMS** SampType: **MSLL** TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-09** Batch ID: **32508** RunNo: **44018**
Prep Date: **6/27/2017** Analysis Date: **7/6/2017** SeqNo: **1388116** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.031	0.0050	0.02500	0.008144	91.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID	**MB-32504**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**32504**	RunNo:	**43819**					
Prep Date:	**6/27/2017**	Analysis Date:	**6/27/2017**	SeqNo:	**1380679**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-32504**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**32504**	RunNo:	**43819**					
Prep Date:	**6/27/2017**	Analysis Date:	**6/27/2017**	SeqNo:	**1380680**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	93.8	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43798**	RunNo: **43798**
Prep Date:	Analysis Date: **6/24/2017**	SeqNo: **1381110** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43798**	RunNo: **43798**
Prep Date:	Analysis Date: **6/24/2017**	SeqNo: **1381111** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	108	90	110			
Chloride	4.7	0.50	5.000	0	95.0	90	110			
Bromide	2.4	0.10	2.500	0	97.7	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.2	90	110			
Sulfate	9.7	0.50	10.00	0	97.1	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.3	90	110			

Sample ID **1706876-003EMS**	SampType: **ms**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MKTF-18**	Batch ID: **R43798**	RunNo: **43798**
Prep Date:	Analysis Date: **6/24/2017**	SeqNo: **1381113** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.1	0.50	2.500	0	123	68.4	112			S
Bromide	13	0.50	12.50	1.052	95.0	77	108			
Sulfate	48	2.5	50.00	0.5309	95.2	87.1	118			

Sample ID **1706876-003EMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **MKTF-18**	Batch ID: **R43798**	RunNo: **43798**
Prep Date:	Analysis Date: **6/24/2017**	SeqNo: **1381114** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.0	0.50	2.500	0	121	68.4	112	1.62	20	S
Bromide	13	0.50	12.50	1.052	93.7	77	108	1.26	20	
Sulfate	48	2.5	50.00	0.5309	95.0	87.1	118	0.190	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R43968**	RunNo: **43968**
Prep Date:	Analysis Date: **6/30/2017**	SeqNo: **1386000** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R43968**	RunNo: **43968**
Prep Date:	Analysis Date: **6/30/2017**	SeqNo: **1386001** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID	**MB-32489**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**32489**	RunNo:	**43857**					
Prep Date:	**6/26/2017**	Analysis Date:	**6/27/2017**	SeqNo:	**1382402**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-32489**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**32489**	RunNo:	**43857**					
Prep Date:	**6/26/2017**	Analysis Date:	**6/27/2017**	SeqNo:	**1382403**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	108	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **LCS-32333**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32333**	RunNo: **43596**
Prep Date: **6/16/2017**	Analysis Date: **6/19/2017**	SeqNo: **1373452** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.1	1.0	5.000	0	102	82.8	146			
Surr: DNOP	0.56		0.5000		111	72.4	157			

Sample ID **MB-32333**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32333**	RunNo: **43596**
Prep Date: **6/16/2017**	Analysis Date: **6/19/2017**	SeqNo: **1373453** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		112	72.4	157			

Sample ID **1706876-008CMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-34**	Batch ID: **32334**	RunNo: **43597**
Prep Date: **6/16/2017**	Analysis Date: **6/19/2017**	SeqNo: **1374161** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.9	1.0	5.000	0	98.4	87.2	145			
Surr: DNOP	0.45		0.5000		90.4	72.4	157			

Sample ID **1706876-008CMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-34**	Batch ID: **32334**	RunNo: **43597**
Prep Date: **6/16/2017**	Analysis Date: **6/19/2017**	SeqNo: **1374162** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.1	1.0	5.000	0	101	87.2	145	2.92	20	
Surr: DNOP	0.50		0.5000		99.1	72.4	157	0	0	

Sample ID **LCS-32334**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **32334**	RunNo: **43597**
Prep Date: **6/16/2017**	Analysis Date: **6/19/2017**	SeqNo: **1374170** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.9	1.0	5.000	0	97.9	82.8	146			
Surr: DNOP	0.47		0.5000		93.2	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **MB-32334**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **32334**	RunNo: **43597**
Prep Date: **6/16/2017**	Analysis Date: **6/19/2017**	SeqNo: **1374171** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.85		1.000		84.8	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G43569**	RunNo: **43569**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1373084** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	22		20.00		111	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G43569**	RunNo: **43569**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1373085** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	89.5	79.1	123			
Surr: BFB	24		20.00		122	52.3	138			

Sample ID **1706876-004BMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-36**	Batch ID: **G43569**	RunNo: **43569**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1373099** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	58	2.5	25.00	34.27	93.0	53.2	134			
Surr: BFB	1300		1000		132	52.3	138			

Sample ID **1706876-004BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-36**	Batch ID: **G43569**	RunNo: **43569**
Prep Date:	Analysis Date: **6/16/2017**	SeqNo: **1373100** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	54	2.5	25.00	34.27	80.4	53.2	134	5.67	20	
Surr: BFB	1300		1000		131	52.3	138	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43599**	RunNo: **43599**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374263** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43599**	RunNo: **43599**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374263** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.0	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.1	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.8	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43599**	RunNo: **43599**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374264** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.1	70	130			
Toluene	20	1.0	20.00	0	98.9	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43599**	RunNo: **43599**
Prep Date:	Analysis Date: **6/19/2017**	SeqNo: **1374264** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.9	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.1	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID **1706876-008a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-34**	Batch ID: **W43599**	RunNo: **43599**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1374279** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	20	1.0	20.00	0	98.7	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	23	1.0	20.00	0.5868	114	70	130			
Trichloroethene (TCE)	21	1.0	20.00	1.993	95.5	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.0	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **1706876-008a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-34**	Batch ID: **W43599**	RunNo: **43599**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1374280** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130	6.64	20	
Toluene	19	1.0	20.00	0	96.6	70	130	2.09	20	
Chlorobenzene	20	1.0	20.00	0	99.9	70	130	2.79	20	
1,1-Dichloroethene	22	1.0	20.00	0.5868	108	70	130	5.88	20	
Trichloroethene (TCE)	20	1.0	20.00	1.993	88.4	70	130	7.01	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.8		10.00		98.2	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		102	70	130	0	0	
Surr: Toluene-d8	10		10.00		102	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43666**	RunNo: **43666**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375484** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	0.35	4.0								J
2-Methylnaphthalene	0.25	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	2.4	10								J
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W43666**	RunNo: **43666**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375484** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	0.12	1.0								J
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43666**	RunNo: **43666**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375485** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W43666**	RunNo: **43666**
Prep Date:	Analysis Date: **6/20/2017**	SeqNo: **1375485** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	115	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	98.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **mb-32356**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBW**	Batch ID: **32356**	RunNo: **43713**	
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376917**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	12	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	5.2	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**
18-Jul-17

Client: Western Refining Southwest, Gallup
Project: 2017 2ND QTR (MKTF)

Sample ID **mb-32356**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **32356**	RunNo: **43713**
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376917** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	110		200.0		53.6	15	98.1			
Surr: Phenol-d5	80		200.0		39.9	15	80.7			
Surr: 2,4,6-Tribromophenol	170		200.0		84.0	15	112			
Surr: Nitrobenzene-d5	87		100.0		87.3	27.2	90.7			
Surr: 2-Fluorobiphenyl	71		100.0		70.6	23.3	85.6			
Surr: 4-Terphenyl-d14	71		100.0		70.8	27.6	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID **lcs-32356**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **32356**	RunNo: **43713**
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376918** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	70.2	41.2	98.9			
4-Chloro-3-methylphenol	150	10	200.0	0	75.0	29.1	111			
2-Chlorophenol	150	10	200.0	0	73.2	23.3	108			
1,4-Dichlorobenzene	49	10	100.0	0	48.6	29.4	84.5			
2,4-Dinitrotoluene	71	10	100.0	0	70.9	36.6	88.7			
N-Nitrosodi-n-propylamine	79	10	100.0	0	79.1	46.9	106			
4-Nitrophenol	90	10	200.0	0	44.8	15	74.7			
Pentachlorophenol	150	20	200.0	0	72.8	28.1	85.4			
Phenol	91	10	200.0	0	45.4	15	78.2			
Pyrene	80	10	100.0	0	80.1	44.4	96.8			
1,2,4-Trichlorobenzene	63	10	100.0	0	63.2	34.3	89			
Surr: 2-Fluorophenol	94		200.0		47.2	15	98.1			
Surr: Phenol-d5	72		200.0		35.8	15	80.7			
Surr: 2,4,6-Tribromophenol	160		200.0		77.8	15	112			
Surr: Nitrobenzene-d5	80		100.0		80.1	27.2	90.7			
Surr: 2-Fluorobiphenyl	67		100.0		67.2	23.3	85.6			
Surr: 4-Terphenyl-d14	65		100.0		64.7	27.6	107			

Sample ID **lcsd-32356**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **32356**	RunNo: **43713**
Prep Date: **6/19/2017**	Analysis Date: **6/21/2017**	SeqNo: **1376919** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	56	10	100.0	0	56.1	41.2	98.9	22.2	37.4	
4-Chloro-3-methylphenol	120	10	200.0	0	59.2	29.1	111	23.5	26.8	
2-Chlorophenol	110	10	200.0	0	55.9	23.3	108	26.8	30.3	
1,4-Dichlorobenzene	35	10	100.0	0	35.1	29.4	84.5	32.2	32	R
2,4-Dinitrotoluene	54	10	100.0	0	53.5	36.6	88.7	27.9	36.7	
N-Nitrosodi-n-propylamine	63	10	100.0	0	62.7	46.9	106	23.1	29.9	
4-Nitrophenol	70	10	200.0	0	34.9	15	74.7	24.7	28.8	
Pentachlorophenol	110	20	200.0	0	54.0	28.1	85.4	29.7	38.2	
Phenol	62	10	200.0	0	31.2	15	78.2	36.9	39.8	
Pyrene	64	10	100.0	0	64.0	44.4	96.8	22.3	28.3	
1,2,4-Trichlorobenzene	44	10	100.0	0	44.2	34.3	89	35.4	39.8	
Surr: 2-Fluorophenol	81		200.0		40.6	15	98.1	0	0	
Surr: Phenol-d5	63		200.0		31.5	15	80.7	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		65.0	15	112	0	0	
Surr: Nitrobenzene-d5	70		100.0		70.2	27.2	90.7	0	0	
Surr: 2-Fluorobiphenyl	56		100.0		56.4	23.3	85.6	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1706876**

18-Jul-17

Client: Western Refining Southwest, Gallup

Project: 2017 2ND QTR (MKTF)

Sample ID	**lcsd-32356**	SampType:	**LCSD**	TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID:	**32356**	RunNo:	**43713**					
Prep Date:	**6/19/2017**	Analysis Date:	**6/21/2017**	SeqNo:	**1376919**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	56		100.0		56.3	27.6	107	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1706876 RcptNo: 1

Received By: Anne Thorne 6/15/2017 11:15:00 AM Anne Thorne
Completed By: Anne Thorne 6/15/2017 12:55:59 PM Anne Thorne
Reviewed By: ENM 06/16/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 27 (<2 or >12 unless noted)
Adjusted? NO
Checked by: AS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
2	1.0	Good	Yes			

Chain-of-Custody Record

Client:	Western Refining Company
	GALLUP REFINERY
Mailing Address:	92 GIANT CROSSING ROAD, GALLUP, NM 87301
Phone #:	505-722-3833
Email or Fax#:	505-863-0930
QA/QC Package:	☒ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other: ☐ EDD (Type):

Turn-Around Time:	X Standard ☐ Rush
Project Name:	2017 2ND QTR (MKTF)
Project Manager:	C. JOHNSON (cheryl.johnson@wnr.com)
Sampler:	C. JOHNSON/G VIGIL
On Ice:	☒ Yes ☐ No
Sample Temperature:	1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1706876	Analysis Request: 8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1	Air Bubbles (Y or N)
6/14/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X							
6/14/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X							
6/14/2017	1045	AQUEOUS	MKTF-18	MISC	MISC	-003	X	X	X	X	X	X		
6/14/2017	935	AQUEOUS	MKTF-36	MISC	MISC	-004	X	X	X	X	X	X	X	
6/14/2017	1015	AQUEOUS	MKTF-35	MISC	MISC	-005	X	X	X	X	X	X	X	
6/14/2017	1330	AQUEOUS	MKTF-19	MISC	MISC	-006	X	X	X	X	X	X		
6/14/2017	1410	AQUEOUS	MKTF-17	MISC	MISC	-007	X	X	X	X	X	X		
6/14/2017	1450	AQUEOUS	MKTF-34	MISC	MISC	-008	X	X	X	X	X	X		
6/14/2017	1500	AQUEOUS	DUPLICATE	MISC	MISC	-009	X	X	X	X	X	X		
6/12/2017	1320	AQUEOUS	MKTF-09	MISC	MISC	-010	X	X	X	X	X	X		
6/12/2017	1400	AQUEOUS	MKTF-20	MISC	MISC	-011	X	X	X	X	X	X		
6/12/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-012	X							
6/12/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-013	X							

Date: 6/15/17	Time: 1115	Relinquished by:	Received by:	Date: 6/15/17	Time: 1115
Date:	Time:	Relinquished by:	Received by:	Date:	Time:

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 04, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 Qtrly GW OrderNo.: 1709272

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 11 sample(s) on 9/6/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 7:00:00 AM
Lab ID: 1709272-001
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.12	0.062	1.0	J	µg/L	1	9/8/2017 10:01:00 PM	R45508
Toluene	0.25	0.064	1.0	J	µg/L	1	9/8/2017 10:01:00 PM	R45508
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Naphthalene	ND	0.11	2.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Acetone	5.5	0.82	10	J	µg/L	1	9/8/2017 10:01:00 PM	R45508
Bromobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Bromoform	ND	0.21	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Bromomethane	ND	0.26	3.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
2-Butanone	ND	1.1	10		µg/L	1	9/8/2017 10:01:00 PM	R45508
Carbon disulfide	ND	0.40	10		µg/L	1	9/8/2017 10:01:00 PM	R45508
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Chloroethane	ND	0.23	2.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Chloroform	ND	0.40	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Chloromethane	ND	0.29	3.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Dibromomethane	ND	0.091	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/8/2017 10:01:00 PM	R45508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 7:00:00 AM
Lab ID: 1709272-001
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
2-Hexanone	ND	0.66	10		µg/L	1	9/8/2017 10:01:00 PM	R45508
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/8/2017 10:01:00 PM	R45508
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Styrene	ND	0.16	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/8/2017 10:01:00 PM	R45508
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/8/2017 10:01:00 PM	R45508
Surr: 1,2-Dichloroethane-d4	99.7	0	70-130		%Rec	1	9/8/2017 10:01:00 PM	R45508
Surr: 4-Bromofluorobenzene	99.3	0	70-130		%Rec	1	9/8/2017 10:01:00 PM	R45508
Surr: Dibromofluoromethane	99.4	0	70-130		%Rec	1	9/8/2017 10:01:00 PM	R45508
Surr: Toluene-d8	93.9	0	70-130		%Rec	1	9/8/2017 10:01:00 PM	R45508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Qtrly GW
Collection Date:
Lab ID: 1709272-002
Matrix: TRIP BLANK
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Toluene	ND	0.064	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Naphthalene	ND	0.11	2.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Acetone	3.5	0.82	10	J	µg/L	1	9/8/2017 10:25:00 PM	R45508
Bromobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Bromoform	ND	0.21	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Bromomethane	ND	0.26	3.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
2-Butanone	ND	1.1	10		µg/L	1	9/8/2017 10:25:00 PM	R45508
Carbon disulfide	ND	0.40	10		µg/L	1	9/8/2017 10:25:00 PM	R45508
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Chloroethane	ND	0.23	2.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Chloroform	ND	0.40	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Chloromethane	ND	0.29	3.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Dibromomethane	ND	0.091	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/8/2017 10:25:00 PM	R45508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Qtrly GW
Collection Date:
Lab ID: 1709272-002
Matrix: TRIP BLANK
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
2-Hexanone	ND	0.66	10		µg/L	1	9/8/2017 10:25:00 PM	R45508
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/8/2017 10:25:00 PM	R45508
Methylene Chloride	0.27	0.11	3.0	J	µg/L	1	9/8/2017 10:25:00 PM	R45508
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Styrene	ND	0.16	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/8/2017 10:25:00 PM	R45508
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/8/2017 10:25:00 PM	R45508
Surr: 1,2-Dichloroethane-d4	98.4	0	70-130		%Rec	1	9/8/2017 10:25:00 PM	R45508
Surr: 4-Bromofluorobenzene	96.4	0	70-130		%Rec	1	9/8/2017 10:25:00 PM	R45508
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/8/2017 10:25:00 PM	R45508
Surr: Toluene-d8	93.4	0	70-130		%Rec	1	9/8/2017 10:25:00 PM	R45508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 10:40:00 AM
Lab ID: 1709272-003
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.7	0.36	1.0		mg/L	1	9/11/2017 1:12:58 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 1:12:58 PM	33767
Surr: DNOP	127	0	72.4-157		%Rec	1	9/11/2017 1:12:58 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.63	0.025	0.050		mg/L	1	9/13/2017 2:45:50 PM	G45593
Surr: BFB	179	0	52.3-138	S	%Rec	1	9/13/2017 2:45:50 PM	G45593
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.5	0.22	0.50		mg/L	5	9/19/2017 11:53:47 AM	R45764
Chloride	280	5.0	10		mg/L	20	9/19/2017 12:06:12 PM	R45764
Bromide	1.1	0.073	0.50		mg/L	5	9/19/2017 11:53:47 AM	R45764
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/19/2017 11:53:47 AM	R45764
Sulfate	6.5	0.48	2.5		mg/L	5	9/19/2017 11:53:47 AM	R45764
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/19/2017 11:16:28 PM	A45725
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.4	0.0085	0.020	*	mg/L	10	9/14/2017 11:06:12 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:04:07 PM	D45632
Calcium	76	0.078	1.0		mg/L	1	9/14/2017 11:04:07 PM	D45632
Chromium	0.0017	0.0013	0.0060	J	mg/L	1	9/14/2017 11:04:07 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:04:07 PM	D45632
Iron	0.56	0.016	0.020	*	mg/L	1	9/14/2017 11:04:07 PM	D45632
Magnesium	15	0.25	1.0		mg/L	1	9/14/2017 11:04:07 PM	D45632
Manganese	0.89	0.00039	0.0020	*	mg/L	1	9/14/2017 11:04:07 PM	D45632
Potassium	0.53	0.11	1.0	J	mg/L	1	9/14/2017 11:04:07 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:04:07 PM	D45632
Sodium	370	1.6	10		mg/L	10	9/14/2017 11:06:12 PM	D45632
Zinc	0.026	0.0021	0.010		mg/L	1	9/14/2017 11:04:07 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.2	0.0093	0.020	*	mg/L	10	9/19/2017 7:27:54 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 7:26:11 PM	33920
Chromium	0.0029	0.0018	0.0060	J	mg/L	1	9/19/2017 7:26:11 PM	33920
Copper	0.0051	0.0017	0.0060	J	mg/L	1	9/19/2017 7:26:11 PM	33920
Iron	5.7	0.10	0.20	*	mg/L	10	9/19/2017 7:27:54 PM	33920
Manganese	1.1	0.011	0.020	*	mg/L	10	9/19/2017 7:27:54 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 7:26:11 PM	33920
Zinc	0.017	0.0033	0.010		mg/L	1	9/19/2017 7:26:11 PM	33920
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0054	0.00089	0.0050		mg/L	5	9/13/2017 5:39:44 PM	C45610

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EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	9/13/2017 5:39:44 PM	C45610
Selenium	ND	0.0077	0.020		mg/L	20	9/13/2017 5:45:51 PM	C45610
Uranium	0.00054	0.00025	0.0025	J	mg/L	5	9/13/2017 5:39:44 PM	C45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0068	0.00030	0.0010		mg/L	1	9/19/2017 11:23:07 AM	33920
Lead	0.0044	0.000095	0.00050		mg/L	1	9/19/2017 11:23:07 AM	33920
Selenium	0.0056	0.00071	0.0010		mg/L	1	9/19/2017 11:23:07 AM	33920
Uranium	0.00056	0.00015	0.00050		mg/L	1	9/19/2017 11:23:07 AM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:40:13 AM	34020
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Acenaphthylene	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Aniline	ND	15	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Anthracene	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Azobenzene	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Benz(a)anthracene	ND	19	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Benzo(a)pyrene	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Benzoic acid	40	20	100	JD	µg/L	1	9/19/2017 4:22:02 PM	33814
Benzyl alcohol	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Bis(2-ethylhexyl)phthalate	25	24	50	JD	µg/L	1	9/19/2017 4:22:02 PM	33814
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Carbazole	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
4-Chloroaniline	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2-Chloronaphthalene	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2-Chlorophenol	ND	38	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Chrysene	ND	19	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Dibenzofuran	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Diethyl phthalate	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Dimethyl phthalate	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Fluoranthene	ND	21	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Fluorene	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Hexachlorobenzene	ND	19	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Hexachloroethane	ND	6.0	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Isophorone	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
1-Methylnaphthalene	ND	17	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2-Methylnaphthalene	ND	16	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2-Methylphenol	ND	17	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
3+4-Methylphenol	ND	16	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Naphthalene	ND	14	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2-Nitroaniline	ND	25	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
3-Nitroaniline	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
4-Nitroaniline	ND	20	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Nitrobenzene	ND	18	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2-Nitrophenol	ND	26	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
4-Nitrophenol	ND	27	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Pentachlorophenol	ND	25	100	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Phenanthrene	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Phenol	ND	16	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	22	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Pyridine	ND	11	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	9/19/2017 4:22:02 PM	33814
Surr: 2-Fluorophenol	20.7	0	15-88	D	%Rec	1	9/19/2017 4:22:02 PM	33814
Surr: Phenol-d5	15.8	0	15-72.4	D	%Rec	1	9/19/2017 4:22:02 PM	33814
Surr: 2,4,6-Tribromophenol	45.8	0	15-117	D	%Rec	1	9/19/2017 4:22:02 PM	33814
Surr: Nitrobenzene-d5	36.1	0	33.5-120	D	%Rec	1	9/19/2017 4:22:02 PM	33814
Surr: 2-Fluorobiphenyl	33.6	0	26.5-109	D	%Rec	1	9/19/2017 4:22:02 PM	33814
Surr: 4-Terphenyl-d14	49.0	0	21.7-98.7	D	%Rec	1	9/19/2017 4:22:02 PM	33814
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	30	0.062	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Toluene	0.30	0.064	1.0	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
Ethylbenzene	37	0.093	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Methyl tert-butyl ether (MTBE)	140	0.24	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2,4-Trimethylbenzene	0.23	0.11	1.0	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Naphthalene	2.6	0.11	2.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1-Methylnaphthalene	2.3	0.16	4.0	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
2-Methylnaphthalene	0.48	0.15	4.0	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
Acetone	7.3	0.82	10	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
Bromobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Bromoform	ND	0.21	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Bromomethane	ND	0.26	3.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
2-Butanone	ND	1.1	10		µg/L	1	9/8/2017 10:49:00 PM	R45508
Carbon disulfide	ND	0.40	10		µg/L	1	9/8/2017 10:49:00 PM	R45508
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Chloroethane	ND	0.23	2.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Chloroform	ND	0.40	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Chloromethane	ND	0.29	3.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508

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EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Dibromomethane	ND	0.091	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
2-Hexanone	ND	0.66	10		µg/L	1	9/8/2017 10:49:00 PM	R45508
Isopropylbenzene	3.4	0.051	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/8/2017 10:49:00 PM	R45508
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
n-Butylbenzene	0.47	0.13	3.0	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
n-Propylbenzene	3.5	0.074	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
sec-Butylbenzene	1.1	0.11	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Styrene	ND	0.16	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
tert-Butylbenzene	0.18	0.10	1.0	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/8/2017 10:49:00 PM	R45508
Xylenes, Total	0.78	0.32	1.5	J	µg/L	1	9/8/2017 10:49:00 PM	R45508
Surr: 1,2-Dichloroethane-d4	97.2	0	70-130		%Rec	1	9/8/2017 10:49:00 PM	R45508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 10:40:00 AM
Lab ID: 1709272-003
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	98.8	0	70-130		%Rec	1	9/8/2017 10:49:00 PM	R45508
Surr: Dibromofluoromethane	99.0	0	70-130		%Rec	1	9/8/2017 10:49:00 PM	R45508
Surr: Toluene-d8	93.6	0	70-130		%Rec	1	9/8/2017 10:49:00 PM	R45508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:45:00 AM
Lab ID: 1709272-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/11/2017 1:35:08 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 1:35:08 PM	33767
Surr: DNOP	131	0	72.4-157		%Rec	1	9/11/2017 1:35:08 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.055	0.025	0.050		mg/L	1	9/13/2017 3:33:25 PM	G45593
Surr: BFB	104	0	52.3-138		%Rec	1	9/13/2017 3:33:25 PM	G45593
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.082	0.00085	0.0020		mg/L	1	9/14/2017 11:08:06 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:08:06 PM	D45632
Chromium	ND	0.0013	0.0060		mg/L	1	9/14/2017 11:08:06 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:08:06 PM	D45632
Iron	0.14	0.016	0.020		mg/L	1	9/14/2017 11:08:06 PM	D45632
Manganese	0.12	0.00039	0.0020	*	mg/L	1	9/14/2017 11:08:06 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:08:06 PM	D45632
Zinc	0.021	0.0021	0.010		mg/L	1	9/14/2017 11:08:06 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.21	0.00093	0.0020		mg/L	1	9/19/2017 7:35:44 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 7:35:44 PM	33920
Chromium	0.0085	0.0018	0.0060		mg/L	1	9/19/2017 7:35:44 PM	33920
Copper	0.0084	0.0017	0.0060		mg/L	1	9/19/2017 7:35:44 PM	33920
Iron	4.3	0.10	0.20	*	mg/L	10	9/19/2017 7:37:36 PM	33920
Manganese	0.19	0.0011	0.0020	*	mg/L	1	9/19/2017 7:35:44 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 7:35:44 PM	33920
Zinc	0.064	0.0033	0.010		mg/L	1	9/19/2017 7:35:44 PM	33920
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0041	0.0035	0.020	J	mg/L	20	9/13/2017 5:51:57 PM	C45610
Lead	0.00058	0.00017	0.00050		mg/L	1	9/13/2017 4:05:59 PM	B45610
Selenium	0.0093	0.0077	0.020	J	mg/L	20	9/13/2017 5:51:57 PM	C45610
Uranium	0.043	0.00025	0.0025	*	mg/L	5	9/13/2017 5:48:54 PM	C45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0062	0.0030	0.010	J	mg/L	10	9/20/2017 8:34:26 AM	33920
Lead	0.0050	0.000095	0.00050		mg/L	1	9/19/2017 11:26:08 AM	33920
Selenium	0.012	0.0036	0.0050		mg/L	5	9/19/2017 12:17:24 PM	33920
Uranium	0.041	0.00077	0.0025	*	mg/L	5	9/19/2017 12:17:24 PM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:41:54 AM	34020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:45:00 AM
Lab ID: 1709272-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Acenaphthylene	ND	3.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Aniline	ND	3.1	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Anthracene	ND	3.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Azobenzene	ND	4.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Benzoic acid	7.7	3.9	20	J	µg/L	1	9/19/2017 4:50:05 PM	33814
Benzyl alcohol	ND	4.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Bis(2-ethylhexyl)phthalate	4.9	4.8	10	J	µg/L	1	9/19/2017 4:50:05 PM	33814
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Carbazole	ND	4.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
4-Chloroaniline	ND	3.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2-Chlorophenol	ND	7.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Chrysene	ND	3.8	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Dibenzofuran	ND	4.1	10		µg/L	1	9/19/2017 4:50:05 PM	33814
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/19/2017 4:50:05 PM	33814
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/19/2017 4:50:05 PM	33814
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Diethyl phthalate	ND	4.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/19/2017 4:50:05 PM	33814
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/19/2017 4:50:05 PM	33814
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/19/2017 4:50:05 PM	33814
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/19/2017 4:50:05 PM	33814

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:45:00 AM
Lab ID: 1709272-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Fluoranthene	ND	4.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Fluorene	ND	4.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Hexachloroethane	ND	1.2	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Isophorone	ND	4.4	10		µg/L	1	9/19/2017 4:50:05 PM	33814
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2-Methylphenol	ND	3.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/19/2017 4:50:05 PM	33814
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Naphthalene	ND	2.9	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2-Nitroaniline	ND	4.9	10		µg/L	1	9/19/2017 4:50:05 PM	33814
3-Nitroaniline	ND	4.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
4-Nitroaniline	ND	4.0	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Nitrobenzene	ND	3.6	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2-Nitrophenol	ND	5.2	10		µg/L	1	9/19/2017 4:50:05 PM	33814
4-Nitrophenol	ND	5.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Pentachlorophenol	ND	4.9	20		µg/L	1	9/19/2017 4:50:05 PM	33814
Phenanthrene	ND	4.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Phenol	ND	3.1	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Pyrene	ND	4.4	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Pyridine	ND	2.3	10		µg/L	1	9/19/2017 4:50:05 PM	33814
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/19/2017 4:50:05 PM	33814
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/19/2017 4:50:05 PM	33814
Surr: 2-Fluorophenol	27.7	0	15-88		%Rec	1	9/19/2017 4:50:05 PM	33814
Surr: Phenol-d5	20.6	0	15-72.4		%Rec	1	9/19/2017 4:50:05 PM	33814
Surr: 2,4,6-Tribromophenol	50.1	0	15-117		%Rec	1	9/19/2017 4:50:05 PM	33814
Surr: Nitrobenzene-d5	46.3	0	33.5-120		%Rec	1	9/19/2017 4:50:05 PM	33814
Surr: 2-Fluorobiphenyl	52.1	0	26.5-109		%Rec	1	9/19/2017 4:50:05 PM	33814
Surr: 4-Terphenyl-d14	51.1	0	21.7-98.7		%Rec	1	9/19/2017 4:50:05 PM	33814
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:45:00 AM
Lab ID: 1709272-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Toluene	ND	0.064	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Methyl tert-butyl ether (MTBE)	18	0.24	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Naphthalene	ND	0.11	2.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Acetone	3.9	0.82	10	J	µg/L	1	9/8/2017 11:13:00 PM	R45508
Bromobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Bromoform	ND	0.21	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Bromomethane	ND	0.26	3.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
2-Butanone	ND	1.1	10		µg/L	1	9/8/2017 11:13:00 PM	R45508
Carbon disulfide	ND	0.40	10		µg/L	1	9/8/2017 11:13:00 PM	R45508
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Chloroethane	ND	0.23	2.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Chloroform	ND	0.40	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Chloromethane	ND	0.29	3.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Dibromomethane	ND	0.091	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/8/2017 11:13:00 PM	R45508

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:45:00 AM
Lab ID: 1709272-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
2-Hexanone	ND	0.66	10		µg/L	1	9/8/2017 11:13:00 PM	R45508
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/8/2017 11:13:00 PM	R45508
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Styrene	ND	0.16	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/8/2017 11:13:00 PM	R45508
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/8/2017 11:13:00 PM	R45508
Surr: 1,2-Dichloroethane-d4	98.4	0	70-130		%Rec	1	9/8/2017 11:13:00 PM	R45508
Surr: 4-Bromofluorobenzene	97.1	0	70-130		%Rec	1	9/8/2017 11:13:00 PM	R45508
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/8/2017 11:13:00 PM	R45508
Surr: Toluene-d8	94.1	0	70-130		%Rec	1	9/8/2017 11:13:00 PM	R45508

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:15:00 AM
Lab ID: 1709272-005
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/11/2017 1:57:10 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 1:57:10 PM	33767
Surr: DNOP	135	0	72.4-157		%Rec	1	9/11/2017 1:57:10 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.12	0.025	0.050		mg/L	1	9/13/2017 3:57:08 PM	G45593
Surr: BFB	121	0	52.3-138		%Rec	1	9/13/2017 3:57:08 PM	G45593
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.3	0.0085	0.020		mg/L	10	9/14/2017 11:19:55 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:12:04 PM	D45632
Chromium	ND	0.0013	0.0060		mg/L	1	9/14/2017 11:12:04 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:12:04 PM	D45632
Iron	0.088	0.016	0.020		mg/L	1	9/14/2017 11:12:04 PM	D45632
Manganese	1.3	0.0039	0.020	*	mg/L	10	9/14/2017 11:19:55 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:12:04 PM	D45632
Zinc	0.046	0.0021	0.010		mg/L	1	9/14/2017 11:12:04 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.4	0.0093	0.020		mg/L	10	9/19/2017 7:41:11 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 7:39:30 PM	33920
Chromium	ND	0.0018	0.0060		mg/L	1	9/19/2017 7:39:30 PM	33920
Copper	ND	0.0017	0.0060		mg/L	1	9/19/2017 7:39:30 PM	33920
Iron	1.5	0.10	0.20	*	mg/L	10	9/19/2017 7:41:11 PM	33920
Manganese	1.4	0.011	0.020	*	mg/L	10	9/19/2017 7:41:11 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 7:39:30 PM	33920
Zinc	ND	0.0033	0.010		mg/L	1	9/19/2017 7:39:30 PM	33920
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0039	0.00089	0.0050	J	mg/L	5	9/13/2017 5:55:01 PM	C45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 4:09:02 PM	B45610
Selenium	ND	0.0077	0.020		mg/L	20	9/13/2017 5:58:04 PM	C45610
Uranium	0.010	0.000050	0.00050		mg/L	1	9/13/2017 4:09:02 PM	B45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0072	0.00030	0.0010		mg/L	1	9/19/2017 11:29:08 AM	33920
Lead	0.00054	0.000095	0.00050		mg/L	1	9/19/2017 11:29:08 AM	33920
Selenium	0.0082	0.00071	0.0010		mg/L	1	9/19/2017 11:29:08 AM	33920
Uranium	0.010	0.00015	0.00050		mg/L	1	9/19/2017 11:29:08 AM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:43:36 AM	34020

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:15:00 AM
Lab ID: 1709272-005
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Acenaphthylene	ND	3.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Aniline	ND	3.1	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Anthracene	ND	3.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Azobenzene	ND	4.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Benzoic acid	ND	3.9	20		µg/L	1	9/19/2017 5:18:35 PM	33814
Benzyl alcohol	ND	4.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Bis(2-ethylhexyl)phthalate	4.9	4.8	10	J	µg/L	1	9/19/2017 5:18:35 PM	33814
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Carbazole	ND	4.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
4-Chloroaniline	ND	3.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2-Chlorophenol	ND	7.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Chrysene	ND	3.8	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Dibenzofuran	ND	4.1	10		µg/L	1	9/19/2017 5:18:35 PM	33814
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/19/2017 5:18:35 PM	33814
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/19/2017 5:18:35 PM	33814
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Diethyl phthalate	ND	4.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/19/2017 5:18:35 PM	33814
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/19/2017 5:18:35 PM	33814
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/19/2017 5:18:35 PM	33814
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/19/2017 5:18:35 PM	33814

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:15:00 AM
Lab ID: 1709272-005
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Fluoranthene	ND	4.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Fluorene	ND	4.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Hexachloroethane	ND	1.2	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Isophorone	ND	4.4	10		µg/L	1	9/19/2017 5:18:35 PM	33814
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2-Methylphenol	ND	3.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/19/2017 5:18:35 PM	33814
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Naphthalene	ND	2.9	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2-Nitroaniline	ND	4.9	10		µg/L	1	9/19/2017 5:18:35 PM	33814
3-Nitroaniline	ND	4.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
4-Nitroaniline	ND	4.0	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Nitrobenzene	ND	3.6	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2-Nitrophenol	ND	5.2	10		µg/L	1	9/19/2017 5:18:35 PM	33814
4-Nitrophenol	ND	5.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Pentachlorophenol	ND	4.9	20		µg/L	1	9/19/2017 5:18:35 PM	33814
Phenanthrene	ND	4.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Phenol	ND	3.1	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Pyrene	ND	4.4	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Pyridine	ND	2.3	10		µg/L	1	9/19/2017 5:18:35 PM	33814
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/19/2017 5:18:35 PM	33814
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/19/2017 5:18:35 PM	33814
Surr: 2-Fluorophenol	29.7	0	15-88		%Rec	1	9/19/2017 5:18:35 PM	33814
Surr: Phenol-d5	23.7	0	15-72.4		%Rec	1	9/19/2017 5:18:35 PM	33814
Surr: 2,4,6-Tribromophenol	55.7	0	15-117		%Rec	1	9/19/2017 5:18:35 PM	33814
Surr: Nitrobenzene-d5	58.1	0	33.5-120		%Rec	1	9/19/2017 5:18:35 PM	33814
Surr: 2-Fluorobiphenyl	61.4	0	26.5-109		%Rec	1	9/19/2017 5:18:35 PM	33814
Surr: 4-Terphenyl-d14	53.9	0	21.7-98.7		%Rec	1	9/19/2017 5:18:35 PM	33814
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:15:00 AM
Lab ID: 1709272-005 **Matrix:** AQUEOUS **Received Date:** 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	2.5	0.062	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Toluene	ND	0.064	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Ethylbenzene	1.1	0.093	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Methyl tert-butyl ether (MTBE)	41	0.24	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Naphthalene	0.50	0.11	2.0	J	µg/L	1	9/8/2017 11:37:00 PM	R45508
1-Methylnaphthalene	0.55	0.16	4.0	J	µg/L	1	9/8/2017 11:37:00 PM	R45508
2-Methylnaphthalene	0.42	0.15	4.0	J	µg/L	1	9/8/2017 11:37:00 PM	R45508
Acetone	5.2	0.82	10	J	µg/L	1	9/8/2017 11:37:00 PM	R45508
Bromobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Bromoform	ND	0.21	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Bromomethane	ND	0.26	3.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
2-Butanone	ND	1.1	10		µg/L	1	9/8/2017 11:37:00 PM	R45508
Carbon disulfide	ND	0.40	10		µg/L	1	9/8/2017 11:37:00 PM	R45508
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Chloroethane	ND	0.23	2.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Chloroform	ND	0.40	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Chloromethane	ND	0.29	3.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Dibromomethane	ND	0.091	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/8/2017 11:37:00 PM	R45508

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:15:00 AM
Lab ID: 1709272-005
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
2-Hexanone	ND	0.66	10		µg/L	1	9/8/2017 11:37:00 PM	R45508
Isopropylbenzene	0.060	0.051	1.0	J	µg/L	1	9/8/2017 11:37:00 PM	R45508
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/8/2017 11:37:00 PM	R45508
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Styrene	ND	0.16	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/8/2017 11:37:00 PM	R45508
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/8/2017 11:37:00 PM	R45508
Surr: 1,2-Dichloroethane-d4	98.1	0	70-130		%Rec	1	9/8/2017 11:37:00 PM	R45508
Surr: 4-Bromofluorobenzene	99.7	0	70-130		%Rec	1	9/8/2017 11:37:00 PM	R45508
Surr: Dibromofluoromethane	98.8	0	70-130		%Rec	1	9/8/2017 11:37:00 PM	R45508
Surr: Toluene-d8	93.7	0	70-130		%Rec	1	9/8/2017 11:37:00 PM	R45508

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: Duplicate
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:25:00 AM
Lab ID: 1709272-006
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/11/2017 2:19:18 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 2:19:18 PM	33767
Surr: DNOP	140	0	72.4-157		%Rec	1	9/11/2017 2:19:18 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.13	0.025	0.050		mg/L	1	9/13/2017 4:21:00 PM	G45593
Surr: BFB	123	0	52.3-138		%Rec	1	9/13/2017 4:21:00 PM	G45593
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.2	0.0085	0.020		mg/L	10	9/14/2017 11:23:56 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:21:49 PM	D45632
Chromium	ND	0.0013	0.0060		mg/L	1	9/14/2017 11:21:49 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:21:49 PM	D45632
Iron	0.086	0.016	0.020		mg/L	1	9/14/2017 11:21:49 PM	D45632
Manganese	1.3	0.0039	0.020	*	mg/L	10	9/14/2017 11:23:56 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:21:49 PM	D45632
Zinc	0.028	0.0021	0.010		mg/L	1	9/14/2017 11:21:49 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.4	0.0093	0.020		mg/L	10	9/19/2017 7:44:48 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 7:43:06 PM	33920
Chromium	ND	0.0018	0.0060		mg/L	1	9/19/2017 7:43:06 PM	33920
Copper	ND	0.0017	0.0060		mg/L	1	9/19/2017 7:43:06 PM	33920
Iron	1.5	0.10	0.20	*	mg/L	10	9/19/2017 7:44:48 PM	33920
Manganese	1.4	0.011	0.020	*	mg/L	10	9/19/2017 7:44:48 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 7:43:06 PM	33920
Zinc	ND	0.0033	0.010		mg/L	1	9/19/2017 7:43:06 PM	33920
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0038	0.00089	0.0050	J	mg/L	5	9/13/2017 6:01:07 PM	C45610
Lead	0.00020	0.00017	0.00050	J	mg/L	1	9/13/2017 4:12:06 PM	B45610
Selenium	ND	0.0077	0.020		mg/L	20	9/13/2017 6:04:11 PM	C45610
Uranium	0.012	0.000050	0.00050		mg/L	1	9/13/2017 4:12:06 PM	B45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0071	0.00030	0.0010		mg/L	1	9/19/2017 11:32:09 AM	33920
Lead	0.00070	0.000095	0.00050		mg/L	1	9/19/2017 11:32:09 AM	33920
Selenium	0.0080	0.00071	0.0010		mg/L	1	9/19/2017 11:32:09 AM	33920
Uranium	0.011	0.00015	0.00050		mg/L	1	9/19/2017 11:32:09 AM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:45:19 AM	34020

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:25:00 AM
Lab ID: 1709272-006
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Acenaphthylene	ND	3.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Aniline	ND	3.1	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Anthracene	ND	3.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Azobenzene	ND	4.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Benzoic acid	7.0	3.9	20	J	µg/L	1	9/19/2017 5:47:21 PM	33814
Benzyl alcohol	ND	4.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	9/19/2017 5:47:21 PM	33814
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Carbazole	ND	4.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
4-Chloroaniline	ND	3.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2-Chlorophenol	ND	7.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Chrysene	ND	3.8	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Dibenzofuran	ND	4.1	10		µg/L	1	9/19/2017 5:47:21 PM	33814
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/19/2017 5:47:21 PM	33814
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/19/2017 5:47:21 PM	33814
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Diethyl phthalate	ND	4.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/19/2017 5:47:21 PM	33814
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/19/2017 5:47:21 PM	33814
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/19/2017 5:47:21 PM	33814
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/19/2017 5:47:21 PM	33814

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:25:00 AM
Lab ID: 1709272-006
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Fluoranthene	ND	4.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Fluorene	ND	4.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Hexachloroethane	ND	1.2	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Isophorone	ND	4.4	10		µg/L	1	9/19/2017 5:47:21 PM	33814
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2-Methylphenol	ND	3.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/19/2017 5:47:21 PM	33814
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Naphthalene	ND	2.9	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2-Nitroaniline	ND	4.9	10		µg/L	1	9/19/2017 5:47:21 PM	33814
3-Nitroaniline	ND	4.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
4-Nitroaniline	ND	4.0	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Nitrobenzene	ND	3.6	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2-Nitrophenol	ND	5.2	10		µg/L	1	9/19/2017 5:47:21 PM	33814
4-Nitrophenol	ND	5.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Pentachlorophenol	ND	4.9	20		µg/L	1	9/19/2017 5:47:21 PM	33814
Phenanthrene	ND	4.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Phenol	ND	3.1	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Pyrene	ND	4.4	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Pyridine	ND	2.3	10		µg/L	1	9/19/2017 5:47:21 PM	33814
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/19/2017 5:47:21 PM	33814
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/19/2017 5:47:21 PM	33814
Surr: 2-Fluorophenol	31.6	0	15-88		%Rec	1	9/19/2017 5:47:21 PM	33814
Surr: Phenol-d5	25.1	0	15-72.4		%Rec	1	9/19/2017 5:47:21 PM	33814
Surr: 2,4,6-Tribromophenol	52.1	0	15-117		%Rec	1	9/19/2017 5:47:21 PM	33814
Surr: Nitrobenzene-d5	59.2	0	33.5-120		%Rec	1	9/19/2017 5:47:21 PM	33814
Surr: 2-Fluorobiphenyl	57.4	0	26.5-109		%Rec	1	9/19/2017 5:47:21 PM	33814
Surr: 4-Terphenyl-d14	54.4	0	21.7-98.7		%Rec	1	9/19/2017 5:47:21 PM	33814
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4.0	0.062	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Toluene	ND	0.064	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Ethylbenzene	2.0	0.093	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Methyl tert-butyl ether (MTBE)	48	0.24	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Naphthalene	0.71	0.11	2.0	J	µg/L	1	9/11/2017 8:16:00 PM	R45553
1-Methylnaphthalene	0.77	0.16	4.0	J	µg/L	1	9/11/2017 8:16:00 PM	R45553
2-Methylnaphthalene	0.61	0.15	4.0	J	µg/L	1	9/11/2017 8:16:00 PM	R45553
Acetone	5.5	0.82	10	J	µg/L	1	9/11/2017 8:16:00 PM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/11/2017 8:16:00 PM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/11/2017 8:16:00 PM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/11/2017 8:16:00 PM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 11:25:00 AM
Lab ID: 1709272-006
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/11/2017 8:16:00 PM	R45553
Isopropylbenzene	0.12	0.051	1.0	J	µg/L	1	9/11/2017 8:16:00 PM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/11/2017 8:16:00 PM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
n-Propylbenzene	0.15	0.074	1.0	J	µg/L	1	9/11/2017 8:16:00 PM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/11/2017 8:16:00 PM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/11/2017 8:16:00 PM	R45553
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	9/11/2017 8:16:00 PM	R45553
Surr: 4-Bromofluorobenzene	99.1	0	70-130		%Rec	1	9/11/2017 8:16:00 PM	R45553
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	9/11/2017 8:16:00 PM	R45553
Surr: Toluene-d8	93.3	0	70-130		%Rec	1	9/11/2017 8:16:00 PM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-1
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 12:15:00 PM
Lab ID: 1709272-007
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5100	36	100		mg/L	100	9/11/2017 4:32:42 PM	33767
Motor Oil Range Organics (MRO)	ND	500	500		mg/L	100	9/11/2017 4:32:42 PM	33767
Surr: DNOP	0	0	72.4-157	S	%Rec	100	9/11/2017 4:32:42 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	600	12	25		mg/L	500	9/14/2017 12:40:58 PM	G45634
Surr: BFB	180	0	52.3-138	S	%Rec	500	9/14/2017 12:40:58 PM	G45634

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: East LDU
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 1:15:00 PM
Lab ID: 1709272-008
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	6.9	0.36	1.0		mg/L	1	9/11/2017 3:03:43 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 3:03:43 PM	33767
Surr: DNOP	142	0	72.4-157		%Rec	1	9/11/2017 3:03:43 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	5.5	0.12	0.25		mg/L	5	9/13/2017 5:32:05 PM	G45593
Surr: BFB	152	0	52.3-138	S	%Rec	5	9/13/2017 5:32:05 PM	G45593
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.31	0.00085	0.0020		mg/L	1	9/14/2017 11:25:50 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:25:50 PM	D45632
Chromium	0.013	0.0013	0.0060		mg/L	1	9/14/2017 11:25:50 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:25:50 PM	D45632
Iron	0.058	0.016	0.020		mg/L	1	9/14/2017 11:25:50 PM	D45632
Manganese	0.055	0.00039	0.0020	*	mg/L	1	9/14/2017 11:25:50 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:25:50 PM	D45632
Zinc	0.022	0.0021	0.010		mg/L	1	9/14/2017 11:25:50 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.32	0.00093	0.0020		mg/L	1	9/19/2017 7:46:48 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 7:46:48 PM	33920
Chromium	0.054	0.0018	0.0060		mg/L	1	9/19/2017 7:46:48 PM	33920
Copper	0.0018	0.0017	0.0060	J	mg/L	1	9/19/2017 7:46:48 PM	33920
Iron	0.23	0.010	0.020		mg/L	1	9/19/2017 7:46:48 PM	33920
Manganese	0.058	0.0011	0.0020	*	mg/L	1	9/19/2017 7:46:48 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 7:46:48 PM	33920
Zinc	0.015	0.0033	0.010		mg/L	1	9/19/2017 7:46:48 PM	33920
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00034	0.00018	0.0010	J	mg/L	1	9/13/2017 4:15:09 PM	B45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 4:15:09 PM	B45610
Selenium	ND	0.00039	0.0010		mg/L	1	9/13/2017 4:15:09 PM	B45610
Uranium	ND	0.000050	0.00050		mg/L	1	9/13/2017 4:15:09 PM	B45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00036	0.00030	0.0010	J	mg/L	1	9/19/2017 11:35:09 AM	33920
Lead	0.00021	0.000095	0.00050	J	mg/L	1	9/19/2017 11:35:09 AM	33920
Selenium	ND	0.0036	0.0050		mg/L	5	9/20/2017 8:37:27 AM	33920
Uranium	ND	0.00015	0.00050		mg/L	1	9/19/2017 11:35:09 AM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:47:01 AM	34020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: East LDU
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 1:15:00 PM
Lab ID: 1709272-008
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **RAA**	
Benzene	530	0.62	10		µg/L	10	9/13/2017 1:21:00 PM	SL4561
Toluene	230	0.64	10		µg/L	10	9/13/2017 1:21:00 PM	SL4561
Ethylbenzene	190	0.93	10		µg/L	10	9/13/2017 1:21:00 PM	SL4561
Methyl tert-butyl ether (MTBE)	ND	2.4	10		µg/L	10	9/13/2017 1:21:00 PM	SL4561
Xylenes, Total	900	3.2	15		µg/L	10	9/13/2017 1:21:00 PM	SL4561
Surr: 1,2-Dichloroethane-d4	94.4	0	70-130		%Rec	10	9/13/2017 1:21:00 PM	SL4561
Surr: 4-Bromofluorobenzene	96.6	0	70-130		%Rec	10	9/13/2017 1:21:00 PM	SL4561
Surr: Dibromofluoromethane	98.0	0	70-130		%Rec	10	9/13/2017 1:21:00 PM	SL4561
Surr: Toluene-d8	92.9	0	70-130		%Rec	10	9/13/2017 1:21:00 PM	SL4561

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: West LDU
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 1:25:00 PM
Lab ID: 1709272-009
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	9.8	0.36	1.0		mg/L	1	9/11/2017 3:25:48 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 3:25:48 PM	33767
Surr: DNOP	143	0	72.4-157		%Rec	1	9/11/2017 3:25:48 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.76	0.12	0.25		mg/L	5	9/13/2017 8:17:19 PM	G45593
Surr: BFB	112	0	52.3-138		%Rec	5	9/13/2017 8:17:19 PM	G45593
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00085	0.0020		mg/L	1	9/14/2017 11:29:23 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:29:23 PM	D45632
Chromium	1.3	0.013	0.060	*	mg/L	10	9/14/2017 11:31:08 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:29:23 PM	D45632
Iron	26	0.82	1.0	*	mg/L	50	9/15/2017 2:59:25 PM	B45689
Manganese	9.3	0.0039	0.020	*	mg/L	10	9/14/2017 11:31:08 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:29:23 PM	D45632
Zinc	0.14	0.0021	0.010		mg/L	1	9/14/2017 11:29:23 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00093	0.0020		mg/L	1	9/19/2017 7:50:45 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 7:50:45 PM	33920
Chromium	1.3	0.018	0.060	*	mg/L	10	9/19/2017 7:52:33 PM	33920
Copper	ND	0.0017	0.0060		mg/L	1	9/19/2017 7:50:45 PM	33920
Iron	26	0.51	1.0	*	mg/L	50	9/20/2017 8:54:24 PM	33920
Manganese	9.3	0.011	0.020	*	mg/L	10	9/19/2017 7:52:33 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 7:50:45 PM	33920
Zinc	0.056	0.0033	0.010		mg/L	1	9/19/2017 7:50:45 PM	33920
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0044	0.00018	0.0010		mg/L	1	9/13/2017 4:18:12 PM	B45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 4:18:12 PM	B45610
Selenium	0.0035	0.00039	0.0010		mg/L	1	9/13/2017 4:18:12 PM	B45610
Uranium	0.00074	0.000050	0.00050		mg/L	1	9/13/2017 4:18:12 PM	B45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0038	0.0015	0.0050	J	mg/L	5	9/19/2017 12:20:24 PM	33920
Lead	0.00048	0.00048	0.0025	J	mg/L	5	9/19/2017 12:20:24 PM	33920
Selenium	ND	0.0036	0.0050		mg/L	5	9/19/2017 12:20:24 PM	33920
Uranium	ND	0.00077	0.0025		mg/L	5	9/19/2017 12:20:24 PM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:48:44 AM	34020

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: West LDU
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 1:25:00 PM
Lab ID: 1709272-009
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: **RAA**	
Benzene	88	0.31	5.0		µg/L	5	9/13/2017 1:45:00 PM	SL4561
Toluene	1.2	0.32	5.0	J	µg/L	5	9/13/2017 1:45:00 PM	SL4561
Ethylbenzene	15	0.47	5.0		µg/L	5	9/13/2017 1:45:00 PM	SL4561
Methyl tert-butyl ether (MTBE)	3.3	1.2	5.0	J	µg/L	5	9/13/2017 1:45:00 PM	SL4561
Xylenes, Total	5.1	1.6	7.5	J	µg/L	5	9/13/2017 1:45:00 PM	SL4561
Surr: 1,2-Dichloroethane-d4	98.5	0	70-130		%Rec	5	9/13/2017 1:45:00 PM	SL4561
Surr: 4-Bromofluorobenzene	98.3	0	70-130		%Rec	5	9/13/2017 1:45:00 PM	SL4561
Surr: Dibromofluoromethane	99.2	0	70-130		%Rec	5	9/13/2017 1:45:00 PM	SL4561
Surr: Toluene-d8	91.5	0	70-130		%Rec	5	9/13/2017 1:45:00 PM	SL4561

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Project: 2017 Qtrly GW
Collection Date: 9/5/2017 3:50:00 PM
Lab ID: 1709272-010
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0095		µg/L	1	9/13/2017 4:12:49 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	10	0.36	1.0		mg/L	1	9/11/2017 3:48:04 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 3:48:04 PM	33767
Surr: DNOP	140	0	72.4-157		%Rec	1	9/11/2017 3:48:04 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	1.4	0.25	0.50		mg/L	10	9/13/2017 8:41:01 PM	G45593
Surr: BFB	114	0	52.3-138		%Rec	10	9/13/2017 8:41:01 PM	G45593
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.2	0.22	0.50		mg/L	5	9/19/2017 12:18:37 PM	R45764
Chloride	1600	50	100		mg/L	200	9/21/2017 10:49:07 PM	A45821
Bromide	4.0	0.073	0.50		mg/L	5	9/19/2017 12:18:37 PM	R45764
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/19/2017 12:18:37 PM	R45764
Sulfate	8.7	0.48	2.5		mg/L	5	9/19/2017 12:18:37 PM	R45764
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/20/2017 12:06:07 AM	A45725
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.89	0.00085	0.0020		mg/L	1	9/14/2017 11:32:53 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:32:53 PM	D45632
Calcium	160	0.78	10		mg/L	10	9/14/2017 11:34:44 PM	D45632
Chromium	0.0031	0.0013	0.0060	J	mg/L	1	9/14/2017 11:32:53 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:32:53 PM	D45632
Iron	6.0	0.16	0.20	*	mg/L	10	9/14/2017 11:34:44 PM	D45632
Magnesium	32	0.25	1.0		mg/L	1	9/14/2017 11:32:53 PM	D45632
Manganese	1.6	0.0039	0.020	*	mg/L	10	9/14/2017 11:34:44 PM	D45632
Potassium	3.6	0.11	1.0		mg/L	1	9/14/2017 11:32:53 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:32:53 PM	D45632
Sodium	1300	8.2	50		mg/L	50	9/15/2017 3:01:14 PM	B45689
Zinc	0.035	0.0021	0.010		mg/L	1	9/14/2017 11:32:53 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.91	0.00093	0.0020		mg/L	1	9/19/2017 8:00:08 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 8:00:08 PM	33920
Chromium	0.0050	0.0018	0.0060	J	mg/L	1	9/19/2017 8:00:08 PM	33920
Copper	0.010	0.0017	0.0060		mg/L	1	9/19/2017 8:00:08 PM	33920
Iron	7.9	0.10	0.20	*	mg/L	10	9/19/2017 8:01:51 PM	33920
Manganese	1.6	0.011	0.020	*	mg/L	10	9/19/2017 8:01:51 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 8:00:08 PM	33920
Zinc	0.027	0.0033	0.010		mg/L	1	9/19/2017 8:00:08 PM	33920

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.014	0.0089	0.050	J*	mg/L	50	9/13/2017 6:16:29 PM	C45610
Lead	ND	0.00084	0.0025		mg/L	5	9/13/2017 6:13:25 PM	C45610
Selenium	0.028	0.019	0.050	J	mg/L	50	9/13/2017 6:16:29 PM	C45610
Uranium	0.0096	0.00025	0.0025		mg/L	5	9/13/2017 6:13:25 PM	C45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.019	0.0015	0.0050	*	mg/L	5	9/19/2017 12:23:25 PM	33920
Lead	0.011	0.00048	0.0025		mg/L	5	9/19/2017 12:23:25 PM	33920
Selenium	0.037	0.0036	0.0050		mg/L	5	9/19/2017 12:23:25 PM	33920
Uranium	0.0097	0.00077	0.0025		mg/L	5	9/19/2017 12:23:25 PM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:50:28 AM	34020
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Acenaphthylene	ND	35	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Aniline	ND	31	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Anthracene	ND	35	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Azobenzene	ND	45	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Benz(a)anthracene	ND	39	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Benzo(a)pyrene	ND	40	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Benzo(b)fluoranthene	ND	40	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Benzo(g,h,i)perylene	ND	40	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Benzo(k)fluoranthene	ND	44	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Benzoic acid	ND	39	200	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Benzyl alcohol	ND	46	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Bis(2-chloroethoxy)methane	ND	43	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Bis(2-chloroethyl)ether	ND	43	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Bis(2-chloroisopropyl)ether	ND	39	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Bis(2-ethylhexyl)phthalate	ND	48	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
4-Bromophenyl phenyl ether	ND	46	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Butyl benzyl phthalate	ND	46	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Carbazole	ND	46	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
4-Chloro-3-methylphenol	ND	63	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
4-Chloroaniline	ND	35	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2-Chloronaphthalene	ND	37	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2-Chlorophenol	ND	75	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
4-Chlorophenyl phenyl ether	ND	36	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Chrysene	ND	38	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Di-n-butyl phthalate	ND	50	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814

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Lab ID: 1709272-010 **Matrix:** AQUEOUS **Received Date:** 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Di-n-octyl phthalate	ND	47	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Dibenz(a,h)anthracene	ND	46	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Dibenzofuran	ND	41	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
1,2-Dichlorobenzene	ND	20	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
1,3-Dichlorobenzene	ND	18	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
1,4-Dichlorobenzene	ND	21	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
3,3´-Dichlorobenzidine	ND	39	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Diethyl phthalate	ND	40	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Dimethyl phthalate	ND	36	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2,4-Dichlorophenol	ND	57	200	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2,4-Dimethylphenol	32	28	100	JD	µg/L	1	9/19/2017 6:16:10 PM	33814
4,6-Dinitro-2-methylphenol	ND	39	200	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2,4-Dinitrophenol	ND	26	200	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2,4-Dinitrotoluene	ND	40	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2,6-Dinitrotoluene	ND	45	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Fluoranthene	ND	43	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Fluorene	ND	40	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Hexachlorobenzene	ND	38	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Hexachlorobutadiene	ND	13	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Hexachlorocyclopentadiene	ND	13	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Hexachloroethane	ND	12	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Indeno(1,2,3-cd)pyrene	ND	42	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Isophorone	ND	44	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
1-Methylnaphthalene	ND	33	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2-Methylnaphthalene	ND	33	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2-Methylphenol	ND	33	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
3+4-Methylphenol	ND	32	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
N-Nitrosodi-n-propylamine	ND	46	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
N-Nitrosodimethylamine	ND	35	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
N-Nitrosodiphenylamine	ND	39	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Naphthalene	ND	29	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2-Nitroaniline	ND	49	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
3-Nitroaniline	ND	43	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
4-Nitroaniline	ND	40	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Nitrobenzene	ND	36	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2-Nitrophenol	ND	52	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
4-Nitrophenol	ND	55	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Pentachlorophenol	ND	49	200	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Phenanthrene	ND	43	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Phenol	ND	31	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Pyrene	ND	44	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Pyridine	ND	23	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
1,2,4-Trichlorobenzene	ND	21	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2,4,5-Trichlorophenol	ND	51	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
2,4,6-Trichlorophenol	ND	55	100	D	µg/L	1	9/19/2017 6:16:10 PM	33814
Surr: 2-Fluorophenol	19.2	0	15-88	D	%Rec	1	9/19/2017 6:16:10 PM	33814
Surr: Phenol-d5	17.4	0	15-72.4	D	%Rec	1	9/19/2017 6:16:10 PM	33814
Surr: 2,4,6-Tribromophenol	32.4	0	15-117	D	%Rec	1	9/19/2017 6:16:10 PM	33814
Surr: Nitrobenzene-d5	40.4	0	33.5-120	D	%Rec	1	9/19/2017 6:16:10 PM	33814
Surr: 2-Fluorobiphenyl	37.5	0	26.5-109	D	%Rec	1	9/19/2017 6:16:10 PM	33814
Surr: 4-Terphenyl-d14	40.3	0	21.7-98.7	D	%Rec	1	9/19/2017 6:16:10 PM	33814
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	230	0.31	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Toluene	1.8	0.32	5.0	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
Ethylbenzene	27	0.47	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Methyl tert-butyl ether (MTBE)	270	1.2	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2,4-Trimethylbenzene	16	0.56	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Naphthalene	3.4	0.57	10	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
1-Methylnaphthalene	66	0.80	20		µg/L	5	9/11/2017 8:39:00 PM	R45553
2-Methylnaphthalene	1.2	0.76	20	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
Acetone	13	4.1	50	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
Bromobenzene	ND	0.70	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Bromodichloromethane	ND	0.88	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Bromoform	ND	1.1	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Bromomethane	ND	1.3	15		µg/L	5	9/11/2017 8:39:00 PM	R45553
2-Butanone	ND	5.7	50		µg/L	5	9/11/2017 8:39:00 PM	R45553
Carbon disulfide	ND	2.0	50		µg/L	5	9/11/2017 8:39:00 PM	R45553
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Chlorobenzene	ND	0.53	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Chloroethane	ND	1.2	10		µg/L	5	9/11/2017 8:39:00 PM	R45553
Chloroform	ND	2.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Chloromethane	ND	1.5	15		µg/L	5	9/11/2017 8:39:00 PM	R45553
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	9/11/2017 8:39:00 PM	R45553
Dibromochloromethane	ND	0.36	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Dibromomethane	ND	0.45	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
2,2-Dichloropropane	ND	0.79	10		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
2-Hexanone	ND	3.3	50		µg/L	5	9/11/2017 8:39:00 PM	R45553
Isopropylbenzene	3.2	0.26	5.0	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
4-Isopropyltoluene	0.91	0.48	5.0	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	9/11/2017 8:39:00 PM	R45553
Methylene Chloride	ND	0.54	15		µg/L	5	9/11/2017 8:39:00 PM	R45553
n-Butylbenzene	0.98	0.65	15	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
n-Propylbenzene	4.2	0.37	5.0	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
sec-Butylbenzene	0.60	0.55	5.0	J	µg/L	5	9/11/2017 8:39:00 PM	R45553
Styrene	ND	0.78	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	9/11/2017 8:39:00 PM	R45553
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	9/11/2017 8:39:00 PM	R45553
Vinyl chloride	ND	0.89	5.0		µg/L	5	9/11/2017 8:39:00 PM	R45553
Xylenes, Total	8.7	1.6	7.5		µg/L	5	9/11/2017 8:39:00 PM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 3:50:00 PM
Lab ID: 1709272-010
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	5	9/11/2017 8:39:00 PM	R45553
Surr: 4-Bromofluorobenzene	96.8	0	70-130		%Rec	5	9/11/2017 8:39:00 PM	R45553
Surr: Dibromofluoromethane	103	0	70-130		%Rec	5	9/11/2017 8:39:00 PM	R45553
Surr: Toluene-d8	91.5	0	70-130		%Rec	5	9/11/2017 8:39:00 PM	R45553

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 2:35:00 PM
Lab ID: 1709272-011
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/11/2017 4:10:22 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 4:10:22 PM	33767
Surr: DNOP	143	0	72.4-157		%Rec	1	9/11/2017 4:10:22 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/13/2017 9:04:36 PM	G45593
Surr: BFB	99.7	0	52.3-138		%Rec	1	9/13/2017 9:04:36 PM	G45593
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/19/2017 12:43:26 PM	R45764
Chloride	2300	50	100		mg/L	200	9/21/2017 11:01:32 PM	A45821
Bromide	3.5	0.073	0.50		mg/L	5	9/19/2017 12:43:26 PM	R45764
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/19/2017 12:43:26 PM	R45764
Sulfate	160	0.48	2.5		mg/L	5	9/19/2017 12:43:26 PM	R45764
Nitrate+Nitrite as N	25	0.26	2.0	*	mg/L	10	10/3/2017 12:06:10 AM	R46049
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00085	0.0020		mg/L	1	9/14/2017 11:36:31 PM	D45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 11:36:31 PM	D45632
Calcium	91	0.39	5.0		mg/L	5	9/15/2017 3:09:16 PM	B45689
Chromium	0.0029	0.0013	0.0060	J	mg/L	1	9/14/2017 11:36:31 PM	D45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 11:36:31 PM	D45632
Iron	0.040	0.016	0.020		mg/L	1	9/14/2017 11:36:31 PM	D45632
Magnesium	13	0.25	1.0		mg/L	1	9/14/2017 11:36:31 PM	D45632
Manganese	0.0016	0.00039	0.0020	J	mg/L	1	9/14/2017 11:36:31 PM	D45632
Potassium	5.4	0.11	1.0		mg/L	1	9/14/2017 11:36:31 PM	D45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 11:36:31 PM	D45632
Sodium	1400	3.3	20		mg/L	20	9/15/2017 3:15:32 PM	B45689
Zinc	0.15	0.0021	0.010		mg/L	1	9/14/2017 11:36:31 PM	D45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.14	0.00093	0.0020		mg/L	1	9/19/2017 8:03:40 PM	33920
Cadmium	ND	0.00058	0.0020		mg/L	1	9/19/2017 8:03:40 PM	33920
Chromium	0.0038	0.0018	0.0060	J	mg/L	1	9/19/2017 8:03:40 PM	33920
Copper	ND	0.0017	0.0060		mg/L	1	9/19/2017 8:03:40 PM	33920
Iron	1.9	0.051	0.10	*	mg/L	5	9/20/2017 9:02:02 PM	33920
Manganese	0.036	0.0011	0.0020		mg/L	1	9/19/2017 8:03:40 PM	33920
Silver	ND	0.0012	0.0050		mg/L	1	9/19/2017 8:03:40 PM	33920
Zinc	0.032	0.0033	0.010		mg/L	1	9/19/2017 8:03:40 PM	33920
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0089	0.050		mg/L	50	9/13/2017 6:34:51 PM	D45610

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 2:35:00 PM
Lab ID: 1709272-011
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	9/13/2017 6:28:45 PM	D45610
Selenium	0.029	0.0019	0.0050		mg/L	5	9/13/2017 6:28:45 PM	D45610
Uranium	0.027	0.00025	0.0025		mg/L	5	9/13/2017 6:28:45 PM	D45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0070	0.0060	0.020	J	mg/L	20	9/20/2017 8:46:28 AM	33920
Lead	0.0021	0.00048	0.0025	J	mg/L	5	9/19/2017 12:26:26 PM	33920
Selenium	0.028	0.0036	0.0050		mg/L	5	9/19/2017 12:26:26 PM	33920
Uranium	0.029	0.00077	0.0025		mg/L	5	9/19/2017 12:26:26 PM	33920
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 8:52:13 AM	34020
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Toluene	ND	0.064	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Methyl tert-butyl ether (MTBE)	0.57	0.24	1.0	J	µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1-Methylnaphthalene	0.54	0.16	4.0	J	µg/L	1	9/11/2017 9:03:00 PM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Acetone	5.8	0.82	10	J	µg/L	1	9/11/2017 9:03:00 PM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/11/2017 9:03:00 PM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/11/2017 9:03:00 PM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 2:35:00 PM
Lab ID: 1709272-011
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/11/2017 9:03:00 PM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/11/2017 9:03:00 PM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/11/2017 9:03:00 PM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/11/2017 9:03:00 PM	R45553
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	9/11/2017 9:03:00 PM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 2017 Qtrly GW
Collection Date: 9/5/2017 2:35:00 PM
Lab ID: 1709272-011
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	97.0	0	70-130		%Rec	1	9/11/2017 9:03:00 PM	R45553
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	9/11/2017 9:03:00 PM	R45553
Surr: Toluene-d8	92.9	0	70-130		%Rec	1	9/11/2017 9:03:00 PM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	0.0844		0.00500	1	09/15/2017 21:41	WG1020119

Method Blank (MB)

(MB) R3249766-1 09/15/17 21:24

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L935427-01 Original Sample (OS) • Duplicate (DUP)

(OS) L935427-01 09/15/17 21:41 • (DUP) R3249766-7 09/15/17 21:42

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	0.0844	0.0880	1	4		20

L935526-01 Original Sample (OS) • Duplicate (DUP)

(OS) L935526-01 09/15/17 21:50 • (DUP) R3249766-8 09/15/17 21:51

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3249766-2 09/15/17 21:25 • (LCSD) R3249766-4 09/15/17 21:30

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.101	0.104	101	104	85-115			3	20

L935423-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L935423-01 09/15/17 21:38 • (MS) R3249766-5 09/15/17 21:39 • (MSD) R3249766-6 09/15/17 21:40

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0986	0.0987	99	99	1	75-125			0	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **MB-D**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448133** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-D**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448135** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	111	50	150			
Cadmium	0.0026	0.0020	0.002000	0	131	50	150			
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0073	0.0060	0.006000	0	122	50	150			
Copper	0.0062	0.0060	0.006000	0	103	50	150			
Iron	0.021	0.020	0.02000	0	106	50	150			
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Potassium	0.58	1.0	0.5000	0	116	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.6	50	150			J
Sodium	0.52	1.0	0.5000	0	104	50	150			J
Zinc	0.0055	0.010	0.005000	0	109	50	150			J

Sample ID **LCS-D**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448137** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.0	85	115			
Calcium	49	1.0	50.00	0	98.8	85	115			
Chromium	0.48	0.0060	0.5000	0	96.3	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **LCS-D**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448137** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.48	0.0060	0.5000	0	95.8	85	115			
Iron	0.49	0.020	0.5000	0	97.8	85	115			
Magnesium	50	1.0	50.00	0	99.6	85	115			
Manganese	0.47	0.0020	0.5000	0	93.3	85	115			
Potassium	49	1.0	50.00	0	98.2	85	115			
Silver	0.10	0.0050	0.1000	0	99.6	85	115			
Sodium	49	1.0	50.00	0	98.8	85	115			
Zinc	0.47	0.010	0.5000	0	94.2	85	115			

Sample ID **1709272-011DMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **STP1-NW**	Batch ID: **D45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448187** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.58	0.0020	0.5000	0.1142	94.1	70	130			
Cadmium	0.48	0.0020	0.5000	0	96.5	70	130			
Chromium	0.48	0.0060	0.5000	0.002910	95.2	70	130			
Copper	0.53	0.0060	0.5000	0	106	70	130			
Iron	0.52	0.020	0.5000	0.03989	95.5	70	130			
Magnesium	63	1.0	50.00	13.13	99.2	70	130			
Manganese	0.46	0.0020	0.5000	0.001600	91.9	70	130			
Potassium	55	1.0	50.00	5.418	99.7	70	130			
Silver	0.087	0.0050	0.1000	0	86.8	70	130			
Zinc	0.60	0.010	0.5000	0.1455	91.1	70	130			

Sample ID **1709272-011DMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **STP1-NW**	Batch ID: **D45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448188** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.59	0.0020	0.5000	0.1142	95.0	70	130	0.811	20	
Cadmium	0.48	0.0020	0.5000	0	96.8	70	130	0.404	20	
Chromium	0.48	0.0060	0.5000	0.002910	95.7	70	130	0.554	20	
Copper	0.53	0.0060	0.5000	0	106	70	130	0.195	20	
Iron	0.52	0.020	0.5000	0.03989	95.9	70	130	0.341	20	
Magnesium	62	1.0	50.00	13.13	97.8	70	130	1.15	20	
Manganese	0.46	0.0020	0.5000	0.001600	92.0	70	130	0.143	20	
Potassium	55	1.0	50.00	5.418	98.7	70	130	0.894	20	
Silver	0.086	0.0050	0.1000	0	86.0	70	130	1.01	20	
Zinc	0.60	0.010	0.5000	0.1455	91.0	70	130	0.0433	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID	**1709272-011DMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**STP1-NW**	Batch ID: **B45689**			RunNo: **45689**					
Prep Date:		Analysis Date: **9/15/2017**			SeqNo: **1450352**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	340	5.0	250.0	91.36	98.9	70	130			

Sample ID	**1709272-011DMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**STP1-NW**	Batch ID: **B45689**			RunNo: **45689**					
Prep Date:		Analysis Date: **9/15/2017**			SeqNo: **1450353**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	340	5.0	250.0	91.36	101	70	130	1.62	20	

Sample ID	**MB-B**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **B45689**			RunNo: **45689**					
Prep Date:		Analysis Date: **9/15/2017**			SeqNo: **1450588**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Sodium	ND	1.0								

Sample ID	**LLLCS-B**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B45689**			RunNo: **45689**					
Prep Date:		Analysis Date: **9/15/2017**			SeqNo: **1450590**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Sodium	0.53	1.0	0.5000	0	105	50	150			J

Sample ID	**LCS-B**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B45689**			RunNo: **45689**					
Prep Date:		Analysis Date: **9/15/2017**			SeqNo: **1450592**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	101	85	115			
Iron	0.50	0.020	0.5000	0	99.9	85	115			
Sodium	51	1.0	50.00	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID	**1709272-011EMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**STP1-NW**	Batch ID: **33920**		RunNo: **45739**					
Prep Date:	**9/18/2017**	Analysis Date: **9/19/2017**		SeqNo: **1452355**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.61	0.0020	0.5000	0.1416	93.6	70	130			
Cadmium	0.47	0.0020	0.5000	0	93.8	70	130			
Chromium	0.47	0.0060	0.5000	0.003770	93.7	70	130			
Copper	0.51	0.0060	0.5000	0	101	70	130			
Manganese	0.49	0.0020	0.5000	0.03572	90.1	70	130			
Silver	0.10	0.0050	0.1000	0	101	70	130			
Zinc	0.47	0.010	0.5000	0.03171	87.5	70	130			

Sample ID	**1709272-011EMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**STP1-NW**	Batch ID: **33920**		RunNo: **45739**					
Prep Date:	**9/18/2017**	Analysis Date: **9/19/2017**		SeqNo: **1452356**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.60	0.0020	0.5000	0.1416	92.0	70	130	1.33	20	
Cadmium	0.47	0.0020	0.5000	0	93.2	70	130	0.689	20	
Chromium	0.47	0.0060	0.5000	0.003770	93.3	70	130	0.426	20	
Copper	0.50	0.0060	0.5000	0	100	70	130	1.13	20	
Manganese	0.48	0.0020	0.5000	0.03572	88.9	70	130	1.30	20	
Silver	0.10	0.0050	0.1000	0	100	70	130	1.24	20	
Zinc	0.47	0.010	0.5000	0.03171	87.1	70	130	0.468	20	

Sample ID	**MB-33920**	SampType: **MBLK**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID: **33920**		RunNo: **45739**					
Prep Date:	**9/18/2017**	Analysis Date: **9/19/2017**		SeqNo: **1452556**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LLLCS-33920**	SampType: **LCSLL**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID: **33920**		RunNo: **45739**					
Prep Date:	**9/18/2017**	Analysis Date: **9/19/2017**		SeqNo: **1452557**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **LLLCS-33920**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **33920**	RunNo: **45739**
Prep Date: **9/18/2017**	Analysis Date: **9/19/2017**	SeqNo: **1452557** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	97.5	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	103	50	150			
Chromium	0.0063	0.0060	0.006000	0	105	50	150			
Copper	0.0066	0.0060	0.006000	0	109	50	150			
Iron	0.024	0.020	0.02000	0	121	50	150			
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Silver	0.0055	0.0050	0.005000	0	109	50	150			
Zinc	0.0060	0.010	0.005000	0	119	50	150			J

Sample ID **LCS-33920**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **33920**	RunNo: **45739**
Prep Date: **9/18/2017**	Analysis Date: **9/19/2017**	SeqNo: **1452558** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Chromium	0.49	0.0060	0.5000	0	98.3	85	115			
Copper	0.48	0.0060	0.5000	0	95.4	85	115			
Iron	0.49	0.020	0.5000	0	97.4	85	115			
Manganese	0.47	0.0020	0.5000	0	94.9	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.48	0.010	0.5000	0	96.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID	**1709272-003ELLMS**	SampType: **MS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**NAPIS-2**	Batch ID: **C45610**		RunNo: **45610**					
Prep Date:		Analysis Date: **9/13/2017**		SeqNo: **1446759**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.005418	96.2	70	130			
Lead	0.062	0.0025	0.06250	0	98.9	70	130			
Uranium	0.065	0.0025	0.06250	0.0005388	103	70	130			

Sample ID	**1709272-011DLLMS**	SampType: **MS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**STP1-NW**	Batch ID: **D45610**		RunNo: **45610**					
Prep Date:		Analysis Date: **9/13/2017**		SeqNo: **1446777**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.064	0.0025	0.06250	0	102	70	130			
Selenium	0.14	0.0050	0.1250	0.02875	90.3	70	130			
Uranium	0.096	0.0025	0.06250	0.02744	110	70	130			

Sample ID	**LCS**	SampType: **LCS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B45610**		RunNo: **45610**					
Prep Date:		Analysis Date: **9/13/2017**		SeqNo: **1446830**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.4	85	115			
Lead	0.012	0.00050	0.01250	0	96.8	85	115			
Selenium	0.024	0.0010	0.02500	0	96.1	85	115			
Uranium	0.012	0.00050	0.01250	0	97.8	85	115			

Sample ID	**LCS**	SampType: **LCS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **C45610**		RunNo: **45610**					
Prep Date:		Analysis Date: **9/13/2017**		SeqNo: **1446831**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.9	85	115			
Lead	0.012	0.00050	0.01250	0	96.2	85	115			
Selenium	0.024	0.0010	0.02500	0	96.6	85	115			
Uranium	0.012	0.00050	0.01250	0	93.8	85	115			

Sample ID	**LCS**	SampType: **LCS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **D45610**		RunNo: **45610**					
Prep Date:		Analysis Date: **9/13/2017**		SeqNo: **1446832**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.0	85	115			
Lead	0.012	0.00050	0.01250	0	95.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446832** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	96.9	85	115			
Uranium	0.012	0.00050	0.01250	0	94.0	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446834** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00091	0.0010	0.001000	0	90.6	50	150			J
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Selenium	0.00084	0.0010	0.001000	0	84.5	50	150			J
Uranium	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446835** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00093	0.0010	0.001000	0	92.6	50	150			J
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.00093	0.0010	0.001000	0	92.8	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	95.1	50	150			J

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446836** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	93.6	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.7	50	150			J
Selenium	0.00089	0.0010	0.001000	0	89.0	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.7	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID	**1709272-008DLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**East LDU**	Batch ID:	**33920**		RunNo:	**45718**				
Prep Date:	**9/18/2017**	Analysis Date:	**9/19/2017**		SeqNo:	**1451765**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0.0003602	97.4	70	130			
Lead	0.013	0.00050	0.01250	0.0002115	101	70	130			
Uranium	0.012	0.00050	0.01250	0	100	70	130			

Sample ID	**MB-33920**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**33920**		RunNo:	**45718**				
Prep Date:	**9/18/2017**	Analysis Date:	**9/19/2017**		SeqNo:	**1451783**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-33920**	SampType:	**LCS**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**LCSW**	Batch ID:	**33920**		RunNo:	**45718**				
Prep Date:	**9/18/2017**	Analysis Date:	**9/19/2017**		SeqNo:	**1451785**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.3	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.023	0.0010	0.02500	0	93.6	85	115			
Uranium	0.012	0.00050	0.01250	0	99.5	85	115			

Sample ID	**MSLLLCS-33920**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**33920**		RunNo:	**45718**				
Prep Date:	**9/18/2017**	Analysis Date:	**9/19/2017**		SeqNo:	**1451787**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	95.8	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.6	50	150			J
Selenium	0.00092	0.0010	0.001000	0	91.8	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.3	50	150			J

Sample ID	**1709272-008DLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**East LDU**	Batch ID:	**33920**		RunNo:	**45745**				
Prep Date:	**9/18/2017**	Analysis Date:	**9/20/2017**		SeqNo:	**1452579**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0069	0.0050	0.02500	0	27.5	70	130			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID	**MB-34020**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34020**	RunNo:	**45832**					
Prep Date:	**9/22/2017**	Analysis Date:	**9/23/2017**	SeqNo:	**1456416**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34020**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34020**	RunNo:	**45832**					
Prep Date:	**9/22/2017**	Analysis Date:	**9/23/2017**	SeqNo:	**1456417**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A45725**	RunNo: **45725**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1453083** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A45725**	RunNo: **45725**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1453084** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.3	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45764**	RunNo: **45764**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1453483** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45764**	RunNo: **45764**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1453484** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	106	90	110			
Chloride	4.9	0.50	5.000	0	97.5	90	110			
Bromide	2.5	0.10	2.500	0	99.9	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.9	90	110			
Sulfate	10	0.50	10.00	0	100	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A45821**	RunNo: **45821**
Prep Date:	Analysis Date: **9/21/2017**	SeqNo: **1456045** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A45821**	RunNo: **45821**
Prep Date:	Analysis Date: **9/21/2017**	SeqNo: **1456046** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.5	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46049**	RunNo: **46049**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1464204** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS-b**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46049**	RunNo: **46049**
Prep Date:	Analysis Date: **10/2/2017**	SeqNo: **1464206** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.6	0.20	3.500	0	103	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID	**MB-33812**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446677**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-33812**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446679**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.098	0.010	0.1000	0	97.7	70	130			

Sample ID	**LCSD-33812**	SampType:	**LCSD**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSS02**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446681**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	102	70	130	4.29	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID	**LCS-33767**	SampType:	**LCS**		TestCode:	**EPA Method 8015M/D: Diesel Range**				
Client ID:	**LCSW**	Batch ID:	**33767**		RunNo:	**45538**				
Prep Date:	**9/8/2017**	Analysis Date:	**9/11/2017**		SeqNo:	**1443631**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	92.3	135			
Surr: DNOP	0.58		0.5000		116	72.4	157			

Sample ID	**MB-33767**	SampType:	**MBLK**		TestCode:	**EPA Method 8015M/D: Diesel Range**				
Client ID:	**PBW**	Batch ID:	**33767**		RunNo:	**45538**				
Prep Date:	**9/8/2017**	Analysis Date:	**9/11/2017**		SeqNo:	**1443632**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		123	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446409** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		94.9	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446410** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	89.7	75.8	123			
Surr: BFB	20		20.00		98.5	52.3	138			

Sample ID **1709272-008AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **East LDU**	Batch ID: **G45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446426** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	7.9	0.25	2.500	5.541	93.6	53.2	134			
Surr: BFB	160		100.0		161	52.3	138			S

Sample ID **1709272-008AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **East LDU**	Batch ID: **G45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446427** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	7.8	0.25	2.500	5.541	91.0	53.2	134	0.828	20	
Surr: BFB	160		100.0		159	52.3	138	0	0	S

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448195** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		94.9	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448196** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID	**2.5UG GRO LCS**	SampType: **LCS**		TestCode: **EPA Method 8015D: Gasoline Range**						
Client ID:	**LCSW**	Batch ID: **G45634**		RunNo: **45634**						
Prep Date:		Analysis Date: **9/14/2017**		SeqNo: **1448196**		Units: **mg/L**				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.45	0.050	0.5000	0	90.2	75.8	123			
Surr: BFB		21		20.00		103	52.3	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SL45614**	RunNo: **45614**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446868** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	19	1.0	20.00	0	95.0	70	130			
Ethylbenzene	19	1.0	20.00	0	94.7	70	130			
Methyl tert-butyl ether (MTBE)	40	1.0	40.00	0	101	70	130			
Xylenes, Total	58	1.5	60.00	0	95.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.2		10.00		92.4	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SL45614**	RunNo: **45614**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446871** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.9	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	9.2		10.00		92.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R45508**	RunNo: **45508**
Prep Date:	Analysis Date: **9/8/2017**	SeqNo: **1443435** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	20	1.0	20.00	0	98.3	70	130			
Chlorobenzene	20	1.0	20.00	0	99.2	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.4	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.3	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	9.4		10.00		93.5	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45508**	RunNo: **45508**
Prep Date:	Analysis Date: **9/8/2017**	SeqNo: **1443436** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	0.24	4.0								J
2-Methylnaphthalene	0.28	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45508**	RunNo: **45508**
Prep Date:	Analysis Date: **9/8/2017**	SeqNo: **1443436** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45508**	RunNo: **45508**
Prep Date:	Analysis Date: **9/8/2017**	SeqNo: **1443436** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.5	70	130			
Surr: Toluene-d8	9.4		10.00		93.5	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444465** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	99.9	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.6	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.2		10.00		92.3	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.25	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.5	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.2		10.00		92.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **lcs-33814**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **33814**	RunNo: **45731**
Prep Date: **9/12/2017**	Analysis Date: **9/19/2017**	SeqNo: **1452072** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	60	10	100.0	0	59.6	41.2	98.9			
4-Chloro-3-methylphenol	110	10	200.0	0	56.5	29.1	111			
2-Chlorophenol	96	10	200.0	0	47.9	23.3	108			
1,4-Dichlorobenzene	49	10	100.0	0	48.6	29.4	84.5			
2,4-Dinitrotoluene	56	10	100.0	0	56.1	36.6	88.7			
N-Nitrosodi-n-propylamine	69	10	100.0	0	69.2	46.9	106			
4-Nitrophenol	74	10	200.0	0	36.8	15	74.7			
Pentachlorophenol	83	20	200.0	0	41.5	28.1	85.4			
Phenol	81	10	200.0	0	40.3	15	78.2			
Pyrene	73	10	100.0	0	73.2	44.4	96.8			
1,2,4-Trichlorobenzene	58	10	100.0	0	58.5	34.3	89			
Surr: 2-Fluorophenol	78		200.0		38.9	15	88			
Surr: Phenol-d5	80		200.0		40.0	15	72.4			
Surr: 2,4,6-Tribromophenol	100		200.0		52.3	15	117			
Surr: Nitrobenzene-d5	70		100.0		69.7	33.5	120			
Surr: 2-Fluorobiphenyl	66		100.0		65.6	26.5	109			
Surr: 4-Terphenyl-d14	59		100.0		58.8	21.7	98.7			

Sample ID **lcsd-33814**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **33814**	RunNo: **45731**
Prep Date: **9/12/2017**	Analysis Date: **9/19/2017**	SeqNo: **1452073** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	48	10	100.0	0	48.4	41.2	98.9	20.8	37.4	
4-Chloro-3-methylphenol	100	10	200.0	0	52.3	29.1	111	7.61	26.8	
2-Chlorophenol	95	10	200.0	0	47.5	23.3	108	0.818	30.3	
1,4-Dichlorobenzene	38	10	100.0	0	37.8	29.4	84.5	24.8	32	
2,4-Dinitrotoluene	48	10	100.0	0	48.0	36.6	88.7	15.6	36.7	
N-Nitrosodi-n-propylamine	54	10	100.0	0	54.4	46.9	106	24.1	29.9	
4-Nitrophenol	86	10	200.0	0	43.0	15	74.7	15.4	28.8	
Pentachlorophenol	100	20	200.0	0	50.9	28.1	85.4	20.3	38.2	
Phenol	68	10	200.0	0	34.2	15	78.2	16.6	39.8	
Pyrene	67	10	100.0	0	66.6	44.4	96.8	9.56	28.3	
1,2,4-Trichlorobenzene	45	10	100.0	0	45.2	34.3	89	25.7	39.8	
Surr: 2-Fluorophenol	80		200.0		40.1	15	88	0	0	
Surr: Phenol-d5	67		200.0		33.6	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	120		200.0		59.9	15	117	0	0	
Surr: Nitrobenzene-d5	55		100.0		55.1	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	54		100.0		54.0	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID	**lcsd-33814**	SampType:	**LCSD**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**LCSS02**	Batch ID:	**33814**		RunNo:	**45731**				
Prep Date:	**9/12/2017**	Analysis Date:	**9/19/2017**		SeqNo:	**1452073**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	54		100.0		53.7	21.7	98.7	0	0	

Sample ID	**mb-33814**	SampType:	**MBLK**		TestCode:	**EPA Method 8270C: Semivolatiles**				
Client ID:	**PBW**	Batch ID:	**33814**		RunNo:	**45731**				
Prep Date:	**9/12/2017**	Analysis Date:	**9/19/2017**		SeqNo:	**1452074**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	7.6	10								J
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**
04-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Qtrly GW

Sample ID **mb-33814**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **33814**	RunNo: **45731**
Prep Date: **9/12/2017**	Analysis Date: **9/19/2017**	SeqNo: **1452074** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709272**

04-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Qtrly GW

Sample ID **mb-33814**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **33814**	RunNo: **45731**
Prep Date: **9/12/2017**	Analysis Date: **9/19/2017**	SeqNo: **1452074** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	84		200.0		42.1	15	88			
Surr: Phenol-d5	70		200.0		34.8	15	72.4			
Surr: 2,4,6-Tribromophenol	60		200.0		30.1	15	117			
Surr: Nitrobenzene-d5	72		100.0		71.7	33.5	120			
Surr: 2-Fluorobiphenyl	62		100.0		62.1	26.5	109			
Surr: 4-Terphenyl-d14	71		100.0		70.9	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709272** RcptNo: **1**

Received By: **Andy Freeman** **9/6/2017 4:35:00 PM**

Completed By: **Ashley Gallegos** **9/6/2017 6:18:57 PM**

Reviewed By: ENM 9/8/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	~~Yes ☑~~ Re	No ☒	
9. Was preservative added to bottles?	Yes ☒ Re	~~No ☑~~	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 22 ~~18~~ 1 (<2 or >12 unless noted)

Adjusted? YES

Checked by: Re

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks: 0.5 mL HNO_3 was added to -0106 and -010F for metals analysis. Samples were held 24 hrs prior to analysis. 1055 9/8/17 Re

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Yes			

Chain-of-Custody Record

Client: Western - GLP Refining

Mailing Address: 92 Giant Crossing Rd, Gallup NM

Phone #: 505 722 3833

email or Fax#:

QA/QC Package: X Standard ☐ Level 4 (Full Validation)

Accreditation ☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: X Standard ☐ Rush

Project Name: 2017 Qtly GW

Project #: NAPIS, OAPIS, LDU, STPI

Project Manager: Cheryl.A.Johnson@andeavor.com

Sampler: C Johnson

On Ice: X Yes ☐ No

Sample Temperature: 4.1 °C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709872	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals - MTCC	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Cations / Anions	Soil Gr EDB	Cyanide		Air Bubbles (Y or N)
9/5/17	0700	Aqueous	Field Blank	40ml Vial	HCl	-001										X						
			Trip Blank	40ml VOAs	HCl	-002										X						
	1040		NAPIS-2	Misc	Misc	-003			X				X			X	X	X				
	1145		NAPIS-3			-004			X				X			X	X					
	1115		~~NAPIS~~ KA-3			-005			X				X			X	X					
	1125		Duplicate			-006			X				X			X	X					
	1215		NAPIS-1			-007			X													
	1315		East LDU			-008	X		X				X									
	1325		West LDU			-009	X		X				X									
	1550		OAPIS-1			-010			X				X			X	X	X	X	X		
	1435		STPI-NW			-011			X				X			X		X				

Date	Time	Relinquished by:	Received by:	Date	Time
9/6/17	1425			9/6/17	1430
Date:	Time:	Relinquished by:	Received by:	Date	Time
9/6/17	1635			9/6/17	1635

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 09, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd Qtr OrderNo.: 1709318

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 9/6/2017 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued September 27, 2017.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: **1709318**
Date: **10/9/2017**

CLIENT: Western Refining Southwest, Gallup
Project: 2017 3rd Qtr

Analytical Notes Regarding EPA Method 8260:
Samples OW-30 and OW-13 were requested to be analyzed past the 14 day holding time.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 7:00:00 AM
Lab ID: 1709318-001
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.10	0.062	1.0	J	µg/L	1	9/11/2017 9:51:00 PM	R45553
Toluene	0.24	0.064	1.0	J	µg/L	1	9/11/2017 9:51:00 PM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Acetone	6.1	0.82	10	J	µg/L	1	9/11/2017 9:51:00 PM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/11/2017 9:51:00 PM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/11/2017 9:51:00 PM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/11/2017 9:51:00 PM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 7:00:00 AM
Lab ID: 1709318-001
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/11/2017 9:51:00 PM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/11/2017 9:51:00 PM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/11/2017 9:51:00 PM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/11/2017 9:51:00 PM	R45553
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	9/11/2017 9:51:00 PM	R45553
Surr: 4-Bromofluorobenzene	97.3	0	70-130		%Rec	1	9/11/2017 9:51:00 PM	R45553
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	9/11/2017 9:51:00 PM	R45553
Surr: Toluene-d8	92.3	0	70-130		%Rec	1	9/11/2017 9:51:00 PM	R45553

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd Qtr
Collection Date:
Lab ID: 1709318-002
Matrix: TRIP BLANK
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Toluene	ND	0.064	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Acetone	2.2	0.82	10	J	µg/L	1	9/11/2017 10:15:00 PM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/11/2017 10:15:00 PM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/11/2017 10:15:00 PM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/11/2017 10:15:00 PM	R45553

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd Qtr
Collection Date:
Lab ID: 1709318-002
Matrix: TRIP BLANK
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/11/2017 10:15:00 PM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/11/2017 10:15:00 PM	R45553
Methylene Chloride	0.20	0.11	3.0	J	µg/L	1	9/11/2017 10:15:00 PM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/11/2017 10:15:00 PM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/11/2017 10:15:00 PM	R45553
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	9/11/2017 10:15:00 PM	R45553
Surr: 4-Bromofluorobenzene	94.9	0	70-130		%Rec	1	9/11/2017 10:15:00 PM	R45553
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	9/11/2017 10:15:00 PM	R45553
Surr: Toluene-d8	93.0	0	70-130		%Rec	1	9/11/2017 10:15:00 PM	R45553

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:10:00 AM
Lab ID: 1709318-003
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/13/2017 4:43:25 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/11/2017 4:54:49 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 4:54:49 PM	33767
Surr: DNOP	133	0	72.4-157		%Rec	1	9/11/2017 4:54:49 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.9	0.12	0.25		mg/L	5	9/14/2017 1:04:37 PM	G45634
Surr: BFB	96.9	0	52.3-138		%Rec	5	9/14/2017 1:04:37 PM	G45634
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.066	0.00085	0.0020		mg/L	1	9/14/2017 7:12:26 PM	C45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 7:12:26 PM	C45632
Chromium	ND	0.0013	0.0060		mg/L	1	9/14/2017 7:12:26 PM	C45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 7:12:26 PM	C45632
Iron	0.25	0.016	0.020		mg/L	1	9/14/2017 7:12:26 PM	C45632
Manganese	0.29	0.00039	0.0020	*	mg/L	1	9/14/2017 7:12:26 PM	C45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 7:12:26 PM	C45632
Zinc	0.11	0.0021	0.010		mg/L	1	9/14/2017 7:12:26 PM	C45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.066	0.00093	0.0020		mg/L	1	9/20/2017 9:09:33 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/20/2017 9:09:33 PM	33939
Chromium	ND	0.0018	0.0060		mg/L	1	9/20/2017 9:09:33 PM	33939
Copper	ND	0.0017	0.0060		mg/L	1	9/20/2017 9:09:33 PM	33939
Iron	0.28	0.010	0.020		mg/L	1	9/20/2017 9:09:33 PM	33939
Manganese	0.29	0.0011	0.0020	*	mg/L	1	9/20/2017 9:09:33 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/20/2017 9:09:33 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/20/2017 9:09:33 PM	33939
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.00089	0.0050	J	mg/L	5	9/13/2017 6:37:55 PM	D45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 4:27:22 PM	B45610
Selenium	0.0083	0.0077	0.020	J	mg/L	20	9/13/2017 6:47:08 PM	D45610
Uranium	0.053	0.00025	0.0025	*	mg/L	5	9/13/2017 6:37:55 PM	D45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0027	0.0015	0.0050	J	mg/L	5	9/20/2017 9:29:34 AM	33939
Lead	ND	0.000095	0.00050		mg/L	1	9/20/2017 8:49:29 AM	33939
Selenium	0.0077	0.0071	0.010	J	mg/L	10	9/21/2017 11:24:26 AM	33939
Uranium	0.053	0.00077	0.0025	*	mg/L	5	9/20/2017 9:29:34 AM	33939

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:10:00 AM
Lab ID: 1709318-003
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.00018	0.0010		mg/L	5	9/22/2017 8:45:17 AM	33993
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Toluene	ND	0.64	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Ethylbenzene	ND	0.93	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Methyl tert-butyl ether (MTBE)	3800	24	100	D	µg/L	100	9/11/2017 10:39:00 PM	R45553
1,2,4-Trimethylbenzene	ND	1.1	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,3,5-Trimethylbenzene	ND	0.87	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2-Dichloroethane (EDC)	ND	4.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2-Dibromoethane (EDB)	ND	1.3	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Naphthalene	ND	1.1	20	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1-Methylnaphthalene	ND	1.6	40	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
2-Methylnaphthalene	ND	1.5	40	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Acetone	ND	8.2	100	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Bromobenzene	ND	1.4	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Bromodichloromethane	ND	1.8	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Bromoform	ND	2.1	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Bromomethane	ND	2.6	30	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
2-Butanone	ND	11	100	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Carbon disulfide	ND	4.0	100	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Chlorobenzene	ND	1.1	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Chloroethane	ND	2.3	20	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Chloroform	ND	4.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Chloromethane	ND	2.9	30	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
4-Chlorotoluene	ND	4.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
cis-1,2-DCE	ND	2.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
cis-1,3-Dichloropropene	ND	0.82	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2-Dibromo-3-chloropropane	ND	14	20	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Dibromochloromethane	ND	0.72	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Dibromomethane	ND	0.91	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2-Dichlorobenzene	ND	0.90	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,3-Dichlorobenzene	ND	1.5	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,4-Dichlorobenzene	ND	4.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Dichlorodifluoromethane	ND	10	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,1-Dichloroethane	ND	4.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,1-Dichloroethene	ND	0.81	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2-Dichloropropane	ND	1.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:10:00 AM
Lab ID: 1709318-003
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichloropropane	ND	1.7	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
2,2-Dichloropropane	ND	1.6	20	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,1-Dichloropropene	ND	0.93	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Hexachlorobutadiene	ND	8.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
2-Hexanone	ND	6.6	100	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Isopropylbenzene	ND	0.51	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
4-Isopropyltoluene	ND	0.96	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Methylene Chloride	ND	1.1	30	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
n-Butylbenzene	ND	1.3	30	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
n-Propylbenzene	ND	0.74	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
sec-Butylbenzene	ND	1.1	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Styrene	ND	1.6	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
tert-Butylbenzene	ND	1.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,1,1,2-Tetrachloroethane	ND	1.0	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,1,2,2-Tetrachloroethane	ND	1.4	20	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Tetrachloroethene (PCE)	ND	1.3	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
trans-1,3-Dichloropropene	ND	2.2	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2,3-Trichlorobenzene	ND	1.2	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2,4-Trichlorobenzene	ND	1.4	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,1,1-Trichloroethane	ND	0.73	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,1,2-Trichloroethane	ND	1.4	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Trichloroethene (TCE)	ND	1.1	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Trichlorofluoromethane	ND	1.8	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
1,2,3-Trichloropropane	ND	3.9	20	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Vinyl chloride	ND	1.8	10	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Xylenes, Total	ND	3.2	15	D	µg/L	10	9/11/2017 11:03:00 PM	R45553
Surr: 1,2-Dichloroethane-d4	106	0	70-130	D	%Rec	10	9/11/2017 11:03:00 PM	R45553
Surr: 4-Bromofluorobenzene	95.9	0	70-130	D	%Rec	10	9/11/2017 11:03:00 PM	R45553
Surr: Dibromofluoromethane	107	0	70-130	D	%Rec	10	9/11/2017 11:03:00 PM	R45553
Surr: Toluene-d8	93.0	0	70-130	D	%Rec	10	9/11/2017 11:03:00 PM	R45553

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:00:00 AM
Lab ID: 1709318-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0095		µg/L	1	9/13/2017 4:58:51 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/11/2017 5:17:08 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 5:17:08 PM	33767
Surr: DNOP	131	0	72.4-157		%Rec	1	9/11/2017 5:17:08 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.8	0.12	0.25		mg/L	5	9/14/2017 2:15:38 PM	G45634
Surr: BFB	95.5	0	52.3-138		%Rec	5	9/14/2017 2:15:38 PM	G45634
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.067	0.00085	0.0020		mg/L	1	9/14/2017 7:16:08 PM	C45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 7:16:08 PM	C45632
Chromium	ND	0.0013	0.0060		mg/L	1	9/14/2017 7:16:08 PM	C45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 7:16:08 PM	C45632
Iron	0.26	0.016	0.020		mg/L	1	9/14/2017 7:16:08 PM	C45632
Manganese	0.29	0.00039	0.0020	*	mg/L	1	9/14/2017 7:16:08 PM	C45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 7:16:08 PM	C45632
Zinc	0.023	0.0021	0.010		mg/L	1	9/14/2017 7:16:08 PM	C45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.066	0.00093	0.0020		mg/L	1	9/20/2017 9:13:14 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/20/2017 9:13:14 PM	33939
Chromium	ND	0.0018	0.0060		mg/L	1	9/20/2017 9:13:14 PM	33939
Copper	ND	0.0017	0.0060		mg/L	1	9/20/2017 9:13:14 PM	33939
Iron	0.27	0.010	0.020		mg/L	1	9/20/2017 9:13:14 PM	33939
Manganese	0.29	0.0011	0.0020	*	mg/L	1	9/20/2017 9:13:14 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/20/2017 9:13:14 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/20/2017 9:13:14 PM	33939
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0026	0.00089	0.0050	J	mg/L	5	9/13/2017 6:50:11 PM	D45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 4:36:36 PM	B45610
Selenium	ND	0.0077	0.020		mg/L	20	9/13/2017 6:53:15 PM	D45610
Uranium	0.052	0.00025	0.0025	*	mg/L	5	9/13/2017 6:50:11 PM	D45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0031	0.0015	0.0050	J	mg/L	5	9/20/2017 9:32:35 AM	33939
Lead	ND	0.000095	0.00050		mg/L	1	9/20/2017 8:52:29 AM	33939
Selenium	ND	0.0071	0.010		mg/L	10	9/21/2017 11:36:31 AM	33939
Uranium	0.053	0.00077	0.0025	*	mg/L	5	9/20/2017 9:32:35 AM	33939

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:00:00 AM
Lab ID: 1709318-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/22/2017 8:51:00 AM	33993
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.62	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Toluene	ND	0.64	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Ethylbenzene	ND	0.93	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Methyl tert-butyl ether (MTBE)	3800	24	100	D	µg/L	100	9/11/2017 11:27:00 PM	R45553
1,2,4-Trimethylbenzene	ND	1.1	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,3,5-Trimethylbenzene	ND	0.87	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2-Dichloroethane (EDC)	ND	4.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2-Dibromoethane (EDB)	ND	1.3	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Naphthalene	ND	1.1	20	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1-Methylnaphthalene	ND	1.6	40	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
2-Methylnaphthalene	ND	1.5	40	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Acetone	ND	8.2	100	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Bromobenzene	ND	1.4	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Bromodichloromethane	ND	1.8	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Bromoform	ND	2.1	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Bromomethane	ND	2.6	30	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
2-Butanone	ND	11	100	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Carbon disulfide	ND	4.0	100	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Chlorobenzene	ND	1.1	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Chloroethane	ND	2.3	20	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Chloroform	ND	4.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Chloromethane	ND	2.9	30	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
4-Chlorotoluene	ND	4.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
cis-1,2-DCE	ND	2.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
cis-1,3-Dichloropropene	ND	0.82	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2-Dibromo-3-chloropropane	ND	14	20	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Dibromochloromethane	ND	0.72	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Dibromomethane	ND	0.91	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2-Dichlorobenzene	ND	0.90	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,3-Dichlorobenzene	ND	1.5	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,4-Dichlorobenzene	ND	4.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Dichlorodifluoromethane	ND	10	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,1-Dichloroethane	ND	4.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,1-Dichloroethene	ND	0.81	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2-Dichloropropane	ND	1.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:00:00 AM
Lab ID: 1709318-004
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichloropropane	ND	1.7	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
2,2-Dichloropropane	ND	1.6	20	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,1-Dichloropropene	ND	0.93	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Hexachlorobutadiene	ND	8.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
2-Hexanone	ND	6.6	100	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Isopropylbenzene	ND	0.51	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
4-Isopropyltoluene	ND	0.96	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Methylene Chloride	ND	1.1	30	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
n-Butylbenzene	ND	1.3	30	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
n-Propylbenzene	ND	0.74	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
sec-Butylbenzene	ND	1.1	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Styrene	ND	1.6	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
tert-Butylbenzene	ND	1.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,1,1,2-Tetrachloroethane	ND	1.0	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,1,2,2-Tetrachloroethane	ND	1.4	20	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Tetrachloroethene (PCE)	ND	1.3	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
trans-1,3-Dichloropropene	ND	2.2	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2,3-Trichlorobenzene	ND	1.2	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2,4-Trichlorobenzene	ND	1.4	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,1,1-Trichloroethane	ND	0.73	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,1,2-Trichloroethane	ND	1.4	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Trichloroethene (TCE)	ND	1.1	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Trichlorofluoromethane	ND	1.8	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
1,2,3-Trichloropropane	ND	3.9	20	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Vinyl chloride	ND	1.8	10	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Xylenes, Total	ND	3.2	15	D	µg/L	10	9/11/2017 11:51:00 PM	R45553
Surr: 1,2-Dichloroethane-d4	102	0	70-130	D	%Rec	10	9/11/2017 11:51:00 PM	R45553
Surr: 4-Bromofluorobenzene	96.3	0	70-130	D	%Rec	10	9/11/2017 11:51:00 PM	R45553
Surr: Dibromofluoromethane	105	0	70-130	D	%Rec	10	9/11/2017 11:51:00 PM	R45553
Surr: Toluene-d8	91.3	0	70-130	D	%Rec	10	9/11/2017 11:51:00 PM	R45553

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 8:45:00 AM
Lab ID: 1709318-005
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0061	0.0095		µg/L	1	9/13/2017 5:14:18 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.48	0.36	1.0	J	mg/L	1	9/11/2017 5:39:34 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 5:39:34 PM	33767
Surr: DNOP	135	0	72.4-157		%Rec	1	9/11/2017 5:39:34 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.5	0.025	0.050		mg/L	1	9/14/2017 2:39:25 PM	G45634
Surr: BFB	97.9	0	52.3-138		%Rec	1	9/14/2017 2:39:25 PM	G45634
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00085	0.0020		mg/L	1	9/14/2017 7:19:56 PM	C45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 7:19:56 PM	C45632
Chromium	ND	0.0013	0.0060		mg/L	1	9/14/2017 7:19:56 PM	C45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 7:19:56 PM	C45632
Iron	0.067	0.016	0.020		mg/L	1	9/14/2017 7:19:56 PM	C45632
Manganese	0.044	0.00039	0.0020		mg/L	1	9/14/2017 7:19:56 PM	C45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 7:19:56 PM	C45632
Zinc	0.023	0.0021	0.010		mg/L	1	9/14/2017 7:19:56 PM	C45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00093	0.0020		mg/L	1	9/20/2017 9:16:57 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/20/2017 9:16:57 PM	33939
Chromium	ND	0.0018	0.0060		mg/L	1	9/20/2017 9:16:57 PM	33939
Copper	0.0040	0.0017	0.0060	J	mg/L	1	9/20/2017 9:16:57 PM	33939
Iron	0.072	0.010	0.020		mg/L	1	9/20/2017 9:16:57 PM	33939
Manganese	0.045	0.0011	0.0020		mg/L	1	9/20/2017 9:16:57 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/20/2017 9:16:57 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/20/2017 9:16:57 PM	33939
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0030	0.00089	0.0050	J	mg/L	5	9/13/2017 6:56:18 PM	D45610
Lead	0.00035	0.00017	0.00050	J	mg/L	1	9/13/2017 4:48:51 PM	C45610
Selenium	ND	0.0077	0.020		mg/L	20	9/13/2017 6:59:21 PM	D45610
Uranium	0.042	0.00025	0.0025	*	mg/L	5	9/13/2017 6:56:18 PM	D45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0036	0.0015	0.0050	J	mg/L	5	9/20/2017 9:35:36 AM	33939
Lead	0.00036	0.000095	0.00050	J	mg/L	1	9/20/2017 9:01:34 AM	33939
Selenium	0.0089	0.0036	0.0050		mg/L	5	9/20/2017 9:35:36 AM	33939
Uranium	0.043	0.00077	0.0025	*	mg/L	5	9/20/2017 9:35:36 AM	33939

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Qualifiers:

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Lab ID: 1709318-005
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/21/2017 2:58:00 PM	33993
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Toluene	ND	0.064	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Ethylbenzene	ND	0.093	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Methyl tert-butyl ether (MTBE)	3200	24	100	H	µg/L	100	10/6/2017 10:44:00 AM	W46194
1,2,4-Trimethylbenzene	0.34	0.11	1.0	JH	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,3,5-Trimethylbenzene	ND	0.087	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2-Dichloroethane (EDC)	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2-Dibromoethane (EDB)	ND	0.13	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Naphthalene	ND	0.11	2.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1-Methylnaphthalene	ND	0.16	4.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
2-Methylnaphthalene	ND	0.15	4.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Acetone	1.5	0.82	10	JH	µg/L	1	10/5/2017 12:08:00 PM	A46146
Bromobenzene	ND	0.14	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Bromodichloromethane	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Bromoform	ND	0.21	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Bromomethane	ND	0.26	3.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
2-Butanone	ND	1.1	10	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Carbon disulfide	ND	0.40	10	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Carbon Tetrachloride	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Chlorobenzene	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Chloroethane	ND	0.23	2.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Chloroform	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Chloromethane	ND	0.29	3.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
2-Chlorotoluene	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
4-Chlorotoluene	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
cis-1,2-DCE	ND	0.20	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
cis-1,3-Dichloropropene	ND	0.082	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2-Dibromo-3-chloropropane	ND	1.4	2.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Dibromochloromethane	ND	0.072	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Dibromomethane	ND	0.091	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2-Dichlorobenzene	ND	0.090	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,3-Dichlorobenzene	ND	0.15	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,4-Dichlorobenzene	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Dichlorodifluoromethane	ND	1.0	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,1-Dichloroethane	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,1-Dichloroethene	ND	0.081	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2-Dichloropropane	ND	0.10	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 8:45:00 AM
Lab ID: 1709318-005
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichloropropane	ND	0.17	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
2,2-Dichloropropane	ND	0.16	2.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,1-Dichloropropene	ND	0.093	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Hexachlorobutadiene	ND	0.80	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
2-Hexanone	ND	0.66	10	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Isopropylbenzene	0.090	0.051	1.0	JH	µg/L	1	10/5/2017 12:08:00 PM	A46146
4-Isopropyltoluene	ND	0.096	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
4-Methyl-2-pentanone	ND	0.71	10	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Methylene Chloride	ND	0.11	3.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
n-Butylbenzene	ND	0.13	3.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
n-Propylbenzene	ND	0.074	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
sec-Butylbenzene	0.68	0.11	1.0	JH	µg/L	1	10/5/2017 12:08:00 PM	A46146
Styrene	ND	0.16	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
tert-Butylbenzene	0.14	0.10	1.0	JH	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,1,1,2-Tetrachloroethane	ND	0.10	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,1,2,2-Tetrachloroethane	ND	0.14	2.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Tetrachloroethene (PCE)	ND	0.13	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
trans-1,2-DCE	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
trans-1,3-Dichloropropene	ND	0.22	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2,3-Trichlorobenzene	ND	0.12	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2,4-Trichlorobenzene	ND	0.14	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,1,1-Trichloroethane	ND	0.073	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,1,2-Trichloroethane	ND	0.14	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Trichloroethene (TCE)	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Trichlorofluoromethane	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
1,2,3-Trichloropropane	ND	0.39	2.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Vinyl chloride	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Xylenes, Total	ND	0.32	1.5	H	µg/L	1	10/5/2017 12:08:00 PM	A46146
Surr: 1,2-Dichloroethane-d4	100	0	70-130	H	%Rec	1	10/5/2017 12:08:00 PM	A46146
Surr: 4-Bromofluorobenzene	99.1	0	70-130	H	%Rec	1	10/5/2017 12:08:00 PM	A46146
Surr: Dibromofluoromethane	101	0	70-130	H	%Rec	1	10/5/2017 12:08:00 PM	A46146
Surr: Toluene-d8	98.1	0	70-130	H	%Rec	1	10/5/2017 12:08:00 PM	A46146

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 12:20:00 PM
Lab ID: 1709318-006
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/13/2017 5:29:38 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/11/2017 6:02:07 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 6:02:07 PM	33767
Surr: DNOP	135	0	72.4-157		%Rec	1	9/11/2017 6:02:07 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.074	0.025	0.050		mg/L	1	9/14/2017 3:50:14 PM	G45634
Surr: BFB	102	0	52.3-138		%Rec	1	9/14/2017 3:50:14 PM	G45634
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.019	0.00085	0.0020		mg/L	1	9/14/2017 7:29:35 PM	C45632
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 7:29:35 PM	C45632
Chromium	0.0057	0.0013	0.0060	J	mg/L	1	9/14/2017 7:29:35 PM	C45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 7:29:35 PM	C45632
Iron	0.023	0.016	0.020		mg/L	1	9/14/2017 7:29:35 PM	C45632
Manganese	0.020	0.00039	0.0020		mg/L	1	9/14/2017 7:29:35 PM	C45632
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 7:29:35 PM	C45632
Zinc	0.046	0.0021	0.010		mg/L	1	9/14/2017 7:29:35 PM	C45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.019	0.00093	0.0020		mg/L	1	9/20/2017 9:26:29 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/20/2017 9:26:29 PM	33939
Chromium	ND	0.0018	0.0060		mg/L	1	9/20/2017 9:26:29 PM	33939
Copper	ND	0.0017	0.0060		mg/L	1	9/20/2017 9:26:29 PM	33939
Iron	ND	0.010	0.020		mg/L	1	9/20/2017 9:26:29 PM	33939
Manganese	0.019	0.0011	0.0020		mg/L	1	9/20/2017 9:26:29 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/20/2017 9:26:29 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/20/2017 9:26:29 PM	33939
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0012	0.00089	0.0050	J	mg/L	5	9/13/2017 7:02:25 PM	D45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 4:51:55 PM	C45610
Selenium	0.0023	0.0019	0.0050	J	mg/L	5	9/13/2017 7:02:25 PM	D45610
Uranium	0.017	0.000050	0.00050		mg/L	1	9/13/2017 4:51:55 PM	C45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0015	0.0050		mg/L	5	9/21/2017 11:42:32 AM	33939
Lead	ND	0.000095	0.00050		mg/L	1	9/20/2017 9:04:34 AM	33939
Selenium	ND	0.0036	0.0050		mg/L	5	9/21/2017 11:42:32 AM	33939
Uranium	0.018	0.00015	0.00050		mg/L	1	9/20/2017 9:04:34 AM	33939

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 12:20:00 PM
Lab ID: 1709318-006
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/21/2017 3:04:04 PM	33993
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Toluene	ND	0.064	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Ethylbenzene	ND	0.093	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Methyl tert-butyl ether (MTBE)	56	0.24	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2,4-Trimethylbenzene	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,3,5-Trimethylbenzene	ND	0.087	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2-Dichloroethane (EDC)	0.77	0.40	1.0	JH	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2-Dibromoethane (EDB)	ND	0.13	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Naphthalene	ND	0.11	2.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1-Methylnaphthalene	ND	0.16	4.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
2-Methylnaphthalene	ND	0.15	4.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Acetone	ND	0.82	10	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Bromobenzene	ND	0.14	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Bromodichloromethane	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Bromoform	ND	0.21	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Bromomethane	ND	0.26	3.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
2-Butanone	ND	1.1	10	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Carbon disulfide	ND	0.40	10	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Carbon Tetrachloride	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Chlorobenzene	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Chloroethane	ND	0.23	2.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Chloroform	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Chloromethane	ND	0.29	3.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
2-Chlorotoluene	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
4-Chlorotoluene	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
cis-1,2-DCE	ND	0.20	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
cis-1,3-Dichloropropene	ND	0.082	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2-Dibromo-3-chloropropane	ND	1.4	2.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Dibromochloromethane	ND	0.072	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Dibromomethane	ND	0.091	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2-Dichlorobenzene	ND	0.090	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,3-Dichlorobenzene	ND	0.15	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,4-Dichlorobenzene	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Dichlorodifluoromethane	ND	1.0	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,1-Dichloroethane	ND	0.40	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,1-Dichloroethene	ND	0.081	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2-Dichloropropane	ND	0.10	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 12:20:00 PM
Lab ID: 1709318-006
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichloropropane	ND	0.17	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
2,2-Dichloropropane	ND	0.16	2.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,1-Dichloropropene	ND	0.093	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Hexachlorobutadiene	ND	0.80	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
2-Hexanone	ND	0.66	10	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Isopropylbenzene	ND	0.051	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
4-Isopropyltoluene	ND	0.096	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
4-Methyl-2-pentanone	ND	0.71	10	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Methylene Chloride	ND	0.11	3.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
n-Butylbenzene	ND	0.13	3.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
n-Propylbenzene	ND	0.074	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
sec-Butylbenzene	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Styrene	ND	0.16	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
tert-Butylbenzene	ND	0.10	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,1,1,2-Tetrachloroethane	ND	0.10	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,1,2,2-Tetrachloroethane	ND	0.14	2.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Tetrachloroethene (PCE)	ND	0.13	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
trans-1,2-DCE	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
trans-1,3-Dichloropropene	ND	0.22	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2,3-Trichlorobenzene	ND	0.12	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2,4-Trichlorobenzene	ND	0.14	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,1,1-Trichloroethane	ND	0.073	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,1,2-Trichloroethane	ND	0.14	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Trichloroethene (TCE)	ND	0.11	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Trichlorofluoromethane	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
1,2,3-Trichloropropane	ND	0.39	2.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Vinyl chloride	ND	0.18	1.0	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Xylenes, Total	ND	0.32	1.5	H	µg/L	1	10/5/2017 12:31:00 PM	A46146
Surr: 1,2-Dichloroethane-d4	103	0	70-130	H	%Rec	1	10/5/2017 12:31:00 PM	A46146
Surr: 4-Bromofluorobenzene	100	0	70-130	H	%Rec	1	10/5/2017 12:31:00 PM	A46146
Surr: Dibromofluoromethane	103	0	70-130	H	%Rec	1	10/5/2017 12:31:00 PM	A46146
Surr: Toluene-d8	97.6	0	70-130	H	%Rec	1	10/5/2017 12:31:00 PM	A46146

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:55:00 AM
Lab ID: 1709318-007
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/13/2017 5:45:14 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.5	0.36	1.0		mg/L	1	9/11/2017 6:24:24 PM	33767
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/11/2017 6:24:24 PM	33767
Surr: DNOP	133	0	72.4-157		%Rec	1	9/11/2017 6:24:24 PM	33767
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	33	0.12	0.25		mg/L	5	9/14/2017 4:13:49 PM	G45634
Surr: BFB	135	0	52.3-138		%Rec	5	9/14/2017 4:13:49 PM	G45634
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.2	0.0043	0.010	*	mg/L	5	9/15/2017 3:17:26 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/14/2017 7:33:24 PM	C45632
Chromium	ND	0.0013	0.0060		mg/L	1	9/14/2017 7:33:24 PM	C45632
Copper	ND	0.0032	0.0060		mg/L	1	9/14/2017 7:33:24 PM	C45632
Iron	4.6	0.082	0.10	*	mg/L	5	9/15/2017 3:17:26 PM	B45689
Manganese	2.1	0.0020	0.010	*	mg/L	5	9/15/2017 3:17:26 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/14/2017 7:33:24 PM	C45632
Zinc	0.029	0.0021	0.010		mg/L	1	9/14/2017 7:33:24 PM	C45632
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.3	0.0093	0.020	*	mg/L	10	9/20/2017 9:39:38 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/20/2017 9:37:56 PM	33939
Chromium	ND	0.0018	0.0060		mg/L	1	9/20/2017 9:37:56 PM	33939
Copper	0.0022	0.0017	0.0060	J	mg/L	1	9/20/2017 9:37:56 PM	33939
Iron	5.1	0.10	0.20	*	mg/L	10	9/20/2017 9:39:38 PM	33939
Manganese	2.2	0.011	0.020	*	mg/L	10	9/20/2017 9:39:38 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/20/2017 9:37:56 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/20/2017 9:37:56 PM	33939
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0090	0.00089	0.0050		mg/L	5	9/13/2017 7:05:28 PM	D45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 4:54:58 PM	C45610
Selenium	0.013	0.0077	0.020	J	mg/L	20	9/13/2017 7:08:31 PM	D45610
Uranium	0.0042	0.000050	0.00050		mg/L	1	9/13/2017 4:54:58 PM	C45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0097	0.0030	0.010	J	mg/L	10	9/21/2017 11:45:33 AM	33939
Lead	0.00011	0.000095	0.00050	J	mg/L	1	9/20/2017 9:07:35 AM	33939
Selenium	0.013	0.0071	0.010		mg/L	10	9/21/2017 11:45:33 AM	33939
Uranium	0.0043	0.00015	0.00050		mg/L	1	9/20/2017 9:07:35 AM	33939

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:55:00 AM
Lab ID: 1709318-007
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/21/2017 3:06:08 PM	33993
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	12000	6.2	100	EH	µg/L	100	10/6/2017 11:08:00 AM	W46194
Toluene	9.1	0.32	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Ethylbenzene	540	9.3	100	H	µg/L	100	10/6/2017 11:08:00 AM	W46194
Methyl tert-butyl ether (MTBE)	660	1.2	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2,4-Trimethylbenzene	12	0.56	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,3,5-Trimethylbenzene	1.6	0.44	5.0	JH	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2-Dichloroethane (EDC)	ND	2.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2-Dibromoethane (EDB)	ND	0.65	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Naphthalene	38	0.57	10	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1-Methylnaphthalene	38	0.80	20	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
2-Methylnaphthalene	1.7	0.76	20	JH	µg/L	5	10/5/2017 12:55:00 PM	A46146
Acetone	13	4.1	50	JH	µg/L	5	10/5/2017 12:55:00 PM	A46146
Bromobenzene	ND	0.70	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Bromodichloromethane	ND	0.88	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Bromoform	ND	1.1	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Bromomethane	ND	1.3	15	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
2-Butanone	ND	5.7	50	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Carbon disulfide	ND	2.0	50	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Carbon Tetrachloride	ND	0.55	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Chlorobenzene	ND	0.53	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Chloroethane	ND	1.2	10	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Chloroform	ND	2.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Chloromethane	ND	1.5	15	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
2-Chlorotoluene	ND	2.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
4-Chlorotoluene	ND	2.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
cis-1,2-DCE	ND	1.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
cis-1,3-Dichloropropene	ND	0.41	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2-Dibromo-3-chloropropane	ND	6.9	10	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Dibromochloromethane	ND	0.36	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Dibromomethane	ND	0.45	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2-Dichlorobenzene	ND	0.45	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,3-Dichlorobenzene	ND	0.76	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,4-Dichlorobenzene	ND	2.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Dichlorodifluoromethane	ND	5.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,1-Dichloroethane	ND	2.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,1-Dichloroethene	ND	0.40	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2-Dichloropropane	ND	0.51	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 2017 3rd Qtr
Collection Date: 9/6/2017 10:55:00 AM
Lab ID: 1709318-007
Matrix: AQUEOUS
Received Date: 9/6/2017 4:35:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichloropropane	ND	0.84	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
2,2-Dichloropropane	ND	0.79	10	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,1-Dichloropropene	ND	0.46	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Hexachlorobutadiene	ND	4.0	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
2-Hexanone	ND	3.3	50	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Isopropylbenzene	14	0.26	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
4-Isopropyltoluene	1.1	0.48	5.0	JH	µg/L	5	10/5/2017 12:55:00 PM	A46146
4-Methyl-2-pentanone	ND	3.5	50	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Methylene Chloride	ND	0.54	15	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
n-Butylbenzene	2.1	0.65	15	JH	µg/L	5	10/5/2017 12:55:00 PM	A46146
n-Propylbenzene	25	0.37	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
sec-Butylbenzene	2.7	0.55	5.0	JH	µg/L	5	10/5/2017 12:55:00 PM	A46146
Styrene	ND	0.78	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
tert-Butylbenzene	ND	0.52	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,1,1,2-Tetrachloroethane	ND	0.52	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,1,2,2-Tetrachloroethane	ND	0.68	10	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Tetrachloroethene (PCE)	ND	0.65	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
trans-1,2-DCE	ND	0.92	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
trans-1,3-Dichloropropene	ND	1.1	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2,3-Trichlorobenzene	ND	0.59	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2,4-Trichlorobenzene	ND	0.71	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,1,1-Trichloroethane	ND	0.36	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,1,2-Trichloroethane	ND	0.70	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Trichloroethene (TCE)	ND	0.56	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Trichlorofluoromethane	ND	0.91	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
1,2,3-Trichloropropane	ND	1.9	10	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Vinyl chloride	ND	0.89	5.0	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Xylenes, Total	33	1.6	7.5	H	µg/L	5	10/5/2017 12:55:00 PM	A46146
Surr: 1,2-Dichloroethane-d4	106	0	70-130	H	%Rec	5	10/5/2017 12:55:00 PM	A46146
Surr: 4-Bromofluorobenzene	101	0	70-130	H	%Rec	5	10/5/2017 12:55:00 PM	A46146
Surr: Dibromofluoromethane	101	0	70-130	H	%Rec	5	10/5/2017 12:55:00 PM	A46146
Surr: Toluene-d8	97.4	0	70-130	H	%Rec	5	10/5/2017 12:55:00 PM	A46146

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID	**1709318-005DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-30**	Batch ID:	**C45632**		RunNo:	**45632**				
Prep Date:		Analysis Date:	**9/14/2017**		SeqNo:	**1448122**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.57	0.0020	0.5000	0.1068	93.6	70	130			
Cadmium	0.48	0.0020	0.5000	0	96.3	70	130			
Chromium	0.48	0.0060	0.5000	0	95.6	70	130			
Copper	0.51	0.0060	0.5000	0	101	70	130			
Iron	0.54	0.020	0.5000	0.06730	93.8	70	130			
Manganese	0.50	0.0020	0.5000	0.04405	91.2	70	130			
Silver	0.094	0.0050	0.1000	0	94.4	70	130			
Zinc	0.48	0.010	0.5000	0.02284	91.3	70	130			

Sample ID	**1709318-005DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-30**	Batch ID:	**C45632**		RunNo:	**45632**				
Prep Date:		Analysis Date:	**9/14/2017**		SeqNo:	**1448123**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.58	0.0020	0.5000	0.1068	94.2	70	130	0.597	20	
Cadmium	0.49	0.0020	0.5000	0	97.1	70	130	0.846	20	
Chromium	0.48	0.0060	0.5000	0	96.2	70	130	0.661	20	
Copper	0.51	0.0060	0.5000	0	102	70	130	0.822	20	
Iron	0.54	0.020	0.5000	0.06730	94.9	70	130	1.02	20	
Manganese	0.50	0.0020	0.5000	0.04405	91.9	70	130	0.734	20	
Silver	0.096	0.0050	0.1000	0	96.1	70	130	1.75	20	
Zinc	0.48	0.010	0.5000	0.02284	92.0	70	130	0.671	20	

Sample ID	**1709318-006DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-13**	Batch ID:	**C45632**		RunNo:	**45632**				
Prep Date:		Analysis Date:	**9/14/2017**		SeqNo:	**1448124**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0.01883	94.9	70	130			
Cadmium	0.48	0.0020	0.5000	0	96.6	70	130			
Chromium	0.48	0.0060	0.5000	0.005710	95.6	70	130			
Copper	0.50	0.0060	0.5000	0	99.9	70	130			
Iron	0.51	0.020	0.5000	0.02285	96.6	70	130			
Manganese	0.49	0.0020	0.5000	0.01998	93.1	70	130			
Silver	0.096	0.0050	0.1000	0	95.7	70	130			
Zinc	0.51	0.010	0.5000	0.04573	93.4	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID	**1709318-006DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-13**	Batch ID:	**C45632**		RunNo:	**45632**				
Prep Date:		Analysis Date:	**9/14/2017**		SeqNo:	**1448125**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0.01883	95.1	70	130	0.188	20	
Cadmium	0.48	0.0020	0.5000	0	96.7	70	130	0.135	20	
Chromium	0.48	0.0060	0.5000	0.005710	95.8	70	130	0.192	20	
Copper	0.50	0.0060	0.5000	0	100	70	130	0.402	20	
Iron	0.50	0.020	0.5000	0.02285	96.2	70	130	0.390	20	
Manganese	0.49	0.0020	0.5000	0.01998	93.3	70	130	0.228	20	
Silver	0.095	0.0050	0.1000	0	94.9	70	130	0.860	20	
Zinc	0.52	0.010	0.5000	0.04573	94.0	70	130	0.537	20	

Sample ID	**1709318-007DMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-14**	Batch ID:	**C45632**		RunNo:	**45632**				
Prep Date:		Analysis Date:	**9/14/2017**		SeqNo:	**1448126**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	95.8	70	130			
Chromium	0.48	0.0060	0.5000	0	95.7	70	130			
Copper	0.51	0.0060	0.5000	0	101	70	130			
Silver	0.093	0.0050	0.1000	0	93.4	70	130			
Zinc	0.49	0.010	0.5000	0.02866	91.3	70	130			

Sample ID	**1709318-007DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**OW-14**	Batch ID:	**C45632**		RunNo:	**45632**				
Prep Date:		Analysis Date:	**9/14/2017**		SeqNo:	**1448127**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	95.7	70	130	0.117	20	
Chromium	0.48	0.0060	0.5000	0	95.0	70	130	0.688	20	
Copper	0.51	0.0060	0.5000	0	102	70	130	0.674	20	
Silver	0.093	0.0050	0.1000	0	93.1	70	130	0.236	20	
Zinc	0.48	0.010	0.5000	0.02866	91.1	70	130	0.272	20	

Sample ID	**MB-C**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**C45632**		RunNo:	**45632**				
Prep Date:		Analysis Date:	**9/14/2017**		SeqNo:	**1448132**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								

Qualifiers:

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QC SUMMARY REPORT

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WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448132** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448134** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	112	50	150			
Cadmium	0.0026	0.0020	0.002000	0	128	50	150			
Chromium	0.0068	0.0060	0.006000	0	114	50	150			
Copper	0.0064	0.0060	0.006000	0	106	50	150			
Iron	0.021	0.020	0.02000	0	105	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0047	0.0050	0.005000	0	93.2	50	150			J
Zinc	0.0059	0.010	0.005000	0	118	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C45632**	RunNo: **45632**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448136** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.2	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.6	85	115			
Chromium	0.48	0.0060	0.5000	0	97.0	85	115			
Copper	0.48	0.0060	0.5000	0	95.9	85	115			
Iron	0.48	0.020	0.5000	0	95.8	85	115			
Manganese	0.47	0.0020	0.5000	0	93.6	85	115			
Silver	0.10	0.0050	0.1000	0	99.7	85	115			
Zinc	0.47	0.010	0.5000	0	94.6	85	115			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450588** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Iron	ND	0.020								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450588** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450590** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	84.0	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Manganese	0.0021	0.0020	0.002000	0	106	50	150			

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450592** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Iron	0.50	0.020	0.5000	0	99.9	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **1709318-006EMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **OW-13**	Batch ID: **33939**	RunNo: **45771**
Prep Date: **9/19/2017**	Analysis Date: **9/20/2017**	SeqNo: **1454085** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0.01883	94.2	70	130			
Cadmium	0.47	0.0020	0.5000	0	93.7	70	130			
Chromium	0.47	0.0060	0.5000	0	94.0	70	130			
Copper	0.50	0.0060	0.5000	0	100	70	130			
Iron	0.47	0.020	0.5000	0	94.2	70	130			
Manganese	0.48	0.0020	0.5000	0.01906	91.8	70	130			
Silver	0.096	0.0050	0.1000	0	95.8	70	130			
Zinc	0.44	0.010	0.5000	0	88.9	70	130			

Sample ID **1709318-006EMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **OW-13**	Batch ID: **33939**	RunNo: **45771**
Prep Date: **9/19/2017**	Analysis Date: **9/20/2017**	SeqNo: **1454086** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0.01883	94.1	70	130	0.120	20	
Cadmium	0.47	0.0020	0.5000	0	93.9	70	130	0.232	20	
Chromium	0.47	0.0060	0.5000	0	94.1	70	130	0.0744	20	
Copper	0.50	0.0060	0.5000	0	99.9	70	130	0.252	20	
Iron	0.47	0.020	0.5000	0	94.0	70	130	0.211	20	
Manganese	0.48	0.0020	0.5000	0.01906	91.7	70	130	0.146	20	
Silver	0.094	0.0050	0.1000	0	94.1	70	130	1.78	20	
Zinc	0.45	0.010	0.5000	0	89.2	70	130	0.382	20	

Sample ID **MB-33939**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **33939**	RunNo: **45771**
Prep Date: **9/19/2017**	Analysis Date: **9/20/2017**	SeqNo: **1454318** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	0.0024	0.0060								J
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID	**LLLCS-33939**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**BatchQC**	Batch ID:	**33939**	RunNo:	**45771**
Prep Date:	**9/19/2017**	Analysis Date:	**9/20/2017**	SeqNo:	**1454319** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	116	50	150			
Cadmium	0.0023	0.0020	0.002000	0	114	50	150			
Chromium	0.0058	0.0060	0.006000	0	97.0	50	150			J
Copper	0.0088	0.0060	0.006000	0	146	50	150			
Iron	0.019	0.020	0.02000	0	97.2	50	150			J
Manganese	0.0020	0.0020	0.002000	0	97.5	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.0	50	150			J
Zinc	0.0063	0.010	0.005000	0	127	50	150			J

Sample ID	**LCS-33939**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**
Client ID:	**LCSW**	Batch ID:	**33939**	RunNo:	**45771**
Prep Date:	**9/19/2017**	Analysis Date:	**9/20/2017**	SeqNo:	**1454320** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.6	85	115			
Cadmium	0.47	0.0020	0.5000	0	94.7	85	115			
Chromium	0.47	0.0060	0.5000	0	94.5	85	115			
Copper	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.47	0.020	0.5000	0	93.4	85	115			
Manganese	0.46	0.0020	0.5000	0	92.8	85	115			
Silver	0.094	0.0050	0.1000	0	94.0	85	115			
Zinc	0.46	0.010	0.5000	0	91.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446830** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	96.8	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446831** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	96.2	85	115			
Uranium	0.012	0.00050	0.01250	0	93.8	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446832** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.0	85	115			
Selenium	0.024	0.0010	0.02500	0	96.9	85	115			
Uranium	0.012	0.00050	0.01250	0	94.0	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446834** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00051	0.00050	0.0005000	0	101	50	150			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446835** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Uranium	0.00048	0.00050	0.0005000	0	95.1	50	150			J

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446836** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	93.6	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**D45610**	RunNo:	**45610**					
Prep Date:		Analysis Date:	**9/13/2017**	SeqNo:	**1446836**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00089	0.0010	0.001000	0	89.0	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.7	50	150			J

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B45610**	RunNo:	**45610**					
Prep Date:		Analysis Date:	**9/13/2017**	SeqNo:	**1446838**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**C45610**	RunNo:	**45610**					
Prep Date:		Analysis Date:	**9/13/2017**	SeqNo:	**1446839**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**D45610**	RunNo:	**45610**					
Prep Date:		Analysis Date:	**9/13/2017**	SeqNo:	**1446840**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**
09-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Qtr

Sample ID	**MB-33939**	SampType: **MBLK**		TestCode: **200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID: **33939**		RunNo: **45745**					
Prep Date:	**9/19/2017**	Analysis Date: **9/20/2017**		SeqNo: **1452604**		Units: **mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-33939**	SampType: **LCS**		TestCode: **200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID: **33939**		RunNo: **45745**					
Prep Date:	**9/19/2017**	Analysis Date: **9/20/2017**		SeqNo: **1452605**		Units: **mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	98.0	85	115			
Lead	0.012	0.00050	0.01250	0	99.0	85	115			
Selenium	0.023	0.0010	0.02500	0	92.3	85	115			
Uranium	0.012	0.00050	0.01250	0	97.5	85	115			

Sample ID	**MSLLLCS-33939**	SampType: **LCSLL**		TestCode: **200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID: **33939**		RunNo: **45745**					
Prep Date:	**9/19/2017**	Analysis Date: **9/20/2017**		SeqNo: **1452606**		Units: **mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00078	0.0010	0.001000	0	77.6	50	150			J
Lead	0.00047	0.00050	0.0005000	0	95.0	50	150			J
Selenium	0.00089	0.0010	0.001000	0	89.3	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.3	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID	**MB-33993**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**33993**	RunNo:	**45787**					
Prep Date:	**9/21/2017**	Analysis Date:	**9/21/2017**	SeqNo:	**1454994**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-33993**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**33993**	RunNo:	**45787**					
Prep Date:	**9/21/2017**	Analysis Date:	**9/21/2017**	SeqNo:	**1454995**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	101	80	120			

Sample ID	**1709318-003EMS**	SampType:	**MS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**Duplicate**	Batch ID:	**33993**	RunNo:	**45797**					
Prep Date:	**9/21/2017**	Analysis Date:	**9/22/2017**	SeqNo:	**1455218**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.0010	0.005000	0	95.0	75	125			

Sample ID	**1709318-003EMSD**	SampType:	**MSD**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**Duplicate**	Batch ID:	**33993**	RunNo:	**45797**					
Prep Date:	**9/21/2017**	Analysis Date:	**9/22/2017**	SeqNo:	**1455219**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0043	0.0010	0.005000	0	86.9	75	125	8.94	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID	**MB-33812**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446677**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-33812**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446679**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.098	0.010	0.1000	0	97.7	70	130			

Sample ID	**LCSD-33812**	SampType:	**LCSD**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSS02**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446681**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	102	70	130	4.29	20	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **LCS-33767**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **33767**	RunNo: **45538**
Prep Date: **9/8/2017**	Analysis Date: **9/11/2017**	SeqNo: **1443631** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	92.3	135			
Surr: DNOP	0.58		0.5000		116	72.4	157			

Sample ID **MB-33767**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **33767**	RunNo: **45538**
Prep Date: **9/8/2017**	Analysis Date: **9/11/2017**	SeqNo: **1443632** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		123	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448195** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		94.9	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448196** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	90.2	75.8	123			
Surr: BFB	21		20.00		103	52.3	138			

Sample ID **1709318-003AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Duplicate**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448206** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	6.3	0.25	2.500	3.898	95.0	53.2	134			
Surr: BFB	110		100.0		109	52.3	138			

Sample ID **1709318-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **Duplicate**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448207** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	5.9	0.25	2.500	3.898	80.8	53.2	134	5.84	20	
Surr: BFB	100		100.0		101	52.3	138	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444465** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	99.9	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.6	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.2		10.00		92.3	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.25	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**
09-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd Qtr

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.5	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.2		10.00		92.2	70	130			

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **R46146**	RunNo: **46146**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468708** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.4	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R46146**	RunNo: **46146**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468712** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A46146**	RunNo: **46146**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468794** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	19	1.0	20.00	0	97.5	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	99.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A46146**	RunNo: **46146**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468794** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8	9.8		10.00		97.8	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46146**	RunNo: **46146**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468795** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.15	2.0								J
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.31	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A46146**	RunNo: **46146**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468795** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.2	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.6	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709318**

09-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd Qtr

Sample ID **100ng lcs**	SampType: **LCS4**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **BatchQC**	Batch ID: **W46194**	RunNo: **46194**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470583** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Ethylbenzene	19	1.0	20.00	0	97.2	70	130			
Methyl tert-butyl ether (MTBE)	41	1.0	40.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.5	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W46194**	RunNo: **46194**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1470584** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		97.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1709318 RcptNo: 1

Received By: Andy Freeman 9/6/2017 4:35:00 PM

Completed By: Ashley Gallegos 9/7/2017 11:16:45 AM

Reviewed By: ENM 9/8/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	~~Yes ☑~~	~~No ☒~~	
9. Was preservative added to bottles?	~~Yes ☒~~	~~No ☑~~	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 10 (<2 or >12 unless noted)

Adjusted? YES

Checked by: Re

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

17. Additional remarks: For metals analysis, 0.5 mL HNO_3 was added to -003D. Sample was held 24 hours prior to analysis. 0920 Re 9/8/17

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.1	Good	Yes			

Chain-of-Custody Record

Client: Gallup Refinery

Mailing Address: 92 Giant Crossing Rd Gallup, NM

Phone #: 505 722 3833

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 2017 - 3rd QTR

Project #: OW Wells

Project Manager: Cheryl.A.Johnson@Andeavor.com

Sampler: C Johnson

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.6°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709318	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Cations/Anions	8011 by EDB	WDW total-w/MS	Air Bubbles (Y or N)
9/6/17	0700	AQ	Field Blank	40ml VOAs	HCl	-001										X					
	1010		Trip Blank	40ml VOAs	HCl	-002										X					
	1000		Duplicate	Misc	Misc	-003			X				X			X		X	X	X	
	~~0915~~		OW-29			-004			X				X			X			X	X	
	0845		OW-30			-005			X				X						X	X	
	1220		OW-13			-006			X				X						X	X	
	1055		OW-14			-007			X				X						X	X	
														~~X~~ 9/10/17							

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/6/17	1425			9/6/17	14:25
Date:	Time:	Relinquished by:	Received by:	Date	Time
9/6/17	16:35			9/6/17	1635

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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October 03, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 3rd Qtr 2017 OrderNo.: 1709391

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 9/7/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 7:00:00 AM
Lab ID: 1709391-001
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.084	0.062	1.0	J	µg/L	1	9/12/2017 12:14:00 AM	R45553
Toluene	0.23	0.064	1.0	J	µg/L	1	9/12/2017 12:14:00 AM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Acetone	5.7	0.82	10	J	µg/L	1	9/12/2017 12:14:00 AM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/12/2017 12:14:00 AM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/12/2017 12:14:00 AM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/12/2017 12:14:00 AM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 7:00:00 AM
Lab ID: 1709391-001
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/12/2017 12:14:00 AM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/12/2017 12:14:00 AM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/12/2017 12:14:00 AM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/12/2017 12:14:00 AM	R45553
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	9/12/2017 12:14:00 AM	R45553
Surr: 4-Bromofluorobenzene	95.8	0	70-130		%Rec	1	9/12/2017 12:14:00 AM	R45553
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	9/12/2017 12:14:00 AM	R45553
Surr: Toluene-d8	92.6	0	70-130		%Rec	1	9/12/2017 12:14:00 AM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 3rd Qtr 2017
Collection Date:
Lab ID: 1709391-002
Matrix: TRIP BLANK
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Toluene	ND	0.064	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Acetone	3.6	0.82	10	J	µg/L	1	9/12/2017 12:38:00 AM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/12/2017 12:38:00 AM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/12/2017 12:38:00 AM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/12/2017 12:38:00 AM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 3rd Qtr 2017
Collection Date:
Lab ID: 1709391-002
Matrix: TRIP BLANK
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/12/2017 12:38:00 AM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/12/2017 12:38:00 AM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/12/2017 12:38:00 AM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/12/2017 12:38:00 AM	R45553
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	9/12/2017 12:38:00 AM	R45553
Surr: 4-Bromofluorobenzene	95.3	0	70-130		%Rec	1	9/12/2017 12:38:00 AM	R45553
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	9/12/2017 12:38:00 AM	R45553
Surr: Toluene-d8	92.2	0	70-130		%Rec	1	9/12/2017 12:38:00 AM	R45553

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 11:55:00 AM
Lab ID: 1709391-003
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/13/2017 6:00:50 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/12/2017 4:10:00 PM	33801
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/12/2017 4:10:00 PM	33801
Surr: DNOP	134	0	72.4-157		%Rec	1	9/12/2017 4:10:00 PM	33801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.046	0.025	0.050	J	mg/L	1	9/14/2017 4:37:20 PM	G45634
Surr: BFB	102	0	52.3-138		%Rec	1	9/14/2017 4:37:20 PM	G45634
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/21/2017 6:46:58 PM	R45812
Chloride	750	12	25		mg/L	50	9/23/2017 2:01:12 AM	R45820
Bromide	1.1	0.073	0.50		mg/L	5	9/21/2017 6:46:58 PM	R45812
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/21/2017 6:46:58 PM	R45812
Sulfate	220	0.48	2.5		mg/L	5	9/21/2017 6:46:58 PM	R45812
Nitrate+Nitrite as N	0.60	0.13	1.0	J	mg/L	5	9/21/2017 8:01:26 PM	R45812
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.060	0.00085	0.0020		mg/L	1	9/15/2017 3:25:22 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 3:25:22 PM	B45689
Calcium	88	0.078	1.0		mg/L	1	9/15/2017 3:25:22 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 3:25:22 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 3:25:22 PM	B45689
Iron	ND	0.016	0.020		mg/L	1	9/15/2017 3:25:22 PM	B45689
Magnesium	15	0.25	1.0		mg/L	1	9/15/2017 3:25:22 PM	B45689
Manganese	0.065	0.00039	0.0020	*	mg/L	1	9/15/2017 3:25:22 PM	B45689
Potassium	1.4	0.11	1.0		mg/L	1	9/15/2017 3:25:22 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 3:25:22 PM	B45689
Sodium	660	1.6	10		mg/L	10	9/15/2017 3:27:16 PM	B45689
Zinc	0.079	0.0021	0.010		mg/L	1	9/19/2017 4:35:38 PM	B45739
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.059	0.00093	0.0020		mg/L	1	9/21/2017 1:53:29 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 1:53:29 PM	33939
Chromium	ND	0.0018	0.0060		mg/L	1	9/21/2017 1:53:29 PM	33939
Copper	ND	0.0017	0.0060		mg/L	1	9/21/2017 1:53:29 PM	33939
Iron	0.016	0.010	0.020	J	mg/L	1	9/21/2017 1:53:29 PM	33939
Manganese	0.065	0.0011	0.0020	*	mg/L	1	9/21/2017 1:53:29 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 1:53:29 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/21/2017 1:53:29 PM	33939

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 11:55:00 AM
Lab ID: 1709391-003
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0027	0.00089	0.0050	J	mg/L	5	9/13/2017 7:11:35 PM	D45610
Lead	0.00024	0.00017	0.00050	J	mg/L	1	9/13/2017 4:58:03 PM	C45610
Selenium	0.017	0.0019	0.0050		mg/L	5	9/13/2017 7:11:35 PM	D45610
Uranium	0.055	0.00025	0.0025	*	mg/L	5	9/13/2017 7:11:35 PM	D45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	ND	0.0015	0.0050		mg/L	5	9/20/2017 9:38:36 AM	33939
Lead	0.00027	0.000095	0.00050	J	mg/L	1	9/20/2017 9:10:35 AM	33939
Selenium	0.014	0.00071	0.0010		mg/L	1	9/20/2017 9:10:35 AM	33939
Uranium	0.056	0.00077	0.0025	*	mg/L	5	9/20/2017 9:38:36 AM	33939
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 9:02:48 AM	34020
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Toluene	ND	0.064	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Methyl tert-butyl ether (MTBE)	21	0.24	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2-Dichloroethane (EDC)	0.40	0.40	1.0	J	µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Acetone	4.7	0.82	10	J	µg/L	1	9/12/2017 1:02:00 AM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/12/2017 1:02:00 AM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/12/2017 1:02:00 AM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 11:55:00 AM
Lab ID: 1709391-003
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,1-Dichloroethane	1.1	0.40	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,1-Dichloroethene	0.89	0.081	1.0	J	µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/12/2017 1:02:00 AM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/12/2017 1:02:00 AM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/12/2017 1:02:00 AM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/12/2017 1:02:00 AM	R45553

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 9/7/2017 11:55:00 AM
Lab ID: 1709391-003
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	9/12/2017 1:02:00 AM	R45553
Surr: 4-Bromofluorobenzene	96.1	0	70-130		%Rec	1	9/12/2017 1:02:00 AM	R45553
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	9/12/2017 1:02:00 AM	R45553
Surr: Toluene-d8	92.3	0	70-130		%Rec	1	9/12/2017 1:02:00 AM	R45553

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 11:40:00 AM
Lab ID: 1709391-004
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/13/2017 6:32:12 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/12/2017 5:16:39 PM	33801
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/12/2017 5:16:39 PM	33801
Surr: DNOP	134	0	72.4-157		%Rec	1	9/12/2017 5:16:39 PM	33801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.036	0.025	0.050	J	mg/L	1	9/18/2017 10:06:33 AM	G45703
Surr: BFB	106	0	52.3-138		%Rec	1	9/18/2017 10:06:33 AM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/21/2017 7:11:48 PM	R45812
Chloride	740	12	25		mg/L	50	9/23/2017 2:13:37 AM	R45820
Bromide	1.1	0.073	0.50		mg/L	5	9/21/2017 7:11:48 PM	R45812
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/21/2017 7:11:48 PM	R45812
Sulfate	210	0.48	2.5		mg/L	5	9/21/2017 7:11:48 PM	R45812
Nitrate+Nitrite as N	0.59	0.13	1.0	J	mg/L	5	9/21/2017 8:13:51 PM	R45812
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.060	0.00085	0.0020		mg/L	1	9/15/2017 3:37:19 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 3:37:19 PM	B45689
Calcium	88	0.078	1.0		mg/L	1	9/15/2017 3:37:19 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 3:37:19 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 3:37:19 PM	B45689
Iron	ND	0.016	0.020		mg/L	1	9/15/2017 3:37:19 PM	B45689
Magnesium	15	0.25	1.0		mg/L	1	9/15/2017 3:37:19 PM	B45689
Manganese	0.066	0.00039	0.0020	*	mg/L	1	9/15/2017 3:37:19 PM	B45689
Potassium	1.4	0.11	1.0		mg/L	1	9/15/2017 3:37:19 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 3:37:19 PM	B45689
Sodium	650	1.6	10		mg/L	10	9/15/2017 3:39:21 PM	B45689
Zinc	0.069	0.0021	0.010		mg/L	1	9/19/2017 4:43:23 PM	B45739
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.059	0.00093	0.0020		mg/L	1	9/21/2017 1:57:22 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 1:57:22 PM	33939
Chromium	ND	0.0018	0.0060		mg/L	1	9/21/2017 1:57:22 PM	33939
Copper	ND	0.0017	0.0060		mg/L	1	9/21/2017 1:57:22 PM	33939
Iron	0.018	0.010	0.020	J	mg/L	1	9/21/2017 1:57:22 PM	33939
Manganese	0.063	0.0011	0.0020	*	mg/L	1	9/21/2017 1:57:22 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 1:57:22 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/21/2017 1:57:22 PM	33939

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 11:40:00 AM
Lab ID: 1709391-004
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.00089	0.0050	J	mg/L	5	9/13/2017 7:23:51 PM	D45610
Lead	0.00024	0.00017	0.00050	J	mg/L	1	9/13/2017 5:01:06 PM	C45610
Selenium	0.018	0.0019	0.0050		mg/L	5	9/13/2017 7:23:51 PM	D45610
Uranium	0.055	0.00025	0.0025	*	mg/L	5	9/13/2017 7:23:51 PM	D45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0022	0.0015	0.0050	J	mg/L	5	9/20/2017 9:41:37 AM	33939
Lead	0.00026	0.000095	0.00050	J	mg/L	1	9/20/2017 9:13:36 AM	33939
Selenium	0.016	0.00071	0.0010		mg/L	1	9/20/2017 9:13:36 AM	33939
Uranium	0.057	0.00077	0.0025	*	mg/L	5	9/20/2017 9:41:37 AM	33939
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 9:04:35 AM	34020
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Toluene	ND	0.064	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Methyl tert-butyl ether (MTBE)	20	0.24	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2-Dichloroethane (EDC)	0.45	0.40	1.0	J	µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Acetone	3.5	0.82	10	J	µg/L	1	9/12/2017 1:26:00 AM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/12/2017 1:26:00 AM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/12/2017 1:26:00 AM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 11:40:00 AM
Lab ID: 1709391-004
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,1-Dichloroethane	1.2	0.40	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,1-Dichloroethene	0.90	0.081	1.0	J	µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/12/2017 1:26:00 AM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/12/2017 1:26:00 AM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/12/2017 1:26:00 AM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/12/2017 1:26:00 AM	R45553

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 11:40:00 AM
Lab ID: 1709391-004
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	9/12/2017 1:26:00 AM	R45553
Surr: 4-Bromofluorobenzene	94.4	0	70-130		%Rec	1	9/12/2017 1:26:00 AM	R45553
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	9/12/2017 1:26:00 AM	R45553
Surr: Toluene-d8	92.7	0	70-130		%Rec	1	9/12/2017 1:26:00 AM	R45553

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-01
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 9:35:00 AM
Lab ID: 1709391-005
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/13/2017 6:47:57 PM	33812
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/12/2017 5:39:29 PM	33801
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/12/2017 5:39:29 PM	33801
Surr: DNOP	133	0	72.4-157		%Rec	1	9/12/2017 5:39:29 PM	33801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 10:30:08 AM	G45703
Surr: BFB	99.3	0	52.3-138		%Rec	1	9/18/2017 10:30:08 AM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/21/2017 7:36:36 PM	R45812
Chloride	110	5.0	10		mg/L	20	9/21/2017 7:49:01 PM	R45812
Bromide	0.35	0.073	0.50	J	mg/L	5	9/21/2017 7:36:36 PM	R45812
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/21/2017 7:36:36 PM	R45812
Sulfate	170	0.48	2.5		mg/L	5	9/21/2017 7:36:36 PM	R45812
Nitrate+Nitrite as N	0.34	0.13	1.0	J	mg/L	5	9/21/2017 8:26:15 PM	R45812
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.037	0.00085	0.0020		mg/L	1	9/15/2017 3:41:30 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 3:41:30 PM	B45689
Calcium	2.3	0.078	1.0		mg/L	1	9/15/2017 3:41:30 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 3:41:30 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 3:41:30 PM	B45689
Iron	0.035	0.016	0.020		mg/L	1	9/15/2017 3:41:30 PM	B45689
Magnesium	0.27	0.25	1.0	J	mg/L	1	9/15/2017 3:41:30 PM	B45689
Manganese	0.0060	0.00039	0.0020		mg/L	1	9/15/2017 3:41:30 PM	B45689
Potassium	0.64	0.11	1.0	J	mg/L	1	9/15/2017 3:41:30 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 3:41:30 PM	B45689
Sodium	330	1.6	10		mg/L	10	9/15/2017 3:43:35 PM	B45689
Zinc	0.026	0.0021	0.010		mg/L	1	9/19/2017 4:45:20 PM	B45739
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.041	0.00093	0.0020		mg/L	1	9/21/2017 2:01:18 PM	33939
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 2:01:18 PM	33939
Chromium	0.0037	0.0018	0.0060	J	mg/L	1	9/21/2017 2:01:18 PM	33939
Copper	ND	0.0017	0.0060		mg/L	1	9/21/2017 2:01:18 PM	33939
Iron	0.42	0.010	0.020	*	mg/L	1	9/21/2017 2:01:18 PM	33939
Manganese	0.012	0.0011	0.0020		mg/L	1	9/21/2017 2:01:18 PM	33939
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 2:01:18 PM	33939
Zinc	ND	0.0033	0.010		mg/L	1	9/21/2017 2:01:18 PM	33939

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-01
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 9:35:00 AM
Lab ID: 1709391-005
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00099	0.00089	0.0050	J	mg/L	5	9/13/2017 7:26:54 PM	D45610
Lead	ND	0.00017	0.00050		mg/L	1	9/13/2017 5:10:21 PM	C45610
Selenium	0.0040	0.0019	0.0050	J	mg/L	5	9/13/2017 7:26:54 PM	D45610
Uranium	0.035	0.00025	0.0025	*	mg/L	5	9/13/2017 7:26:54 PM	D45610
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00085	0.00030	0.0010	J	mg/L	1	9/20/2017 9:16:36 AM	33939
Lead	0.00041	0.000095	0.00050	J	mg/L	1	9/20/2017 9:16:36 AM	33939
Selenium	0.0031	0.00071	0.0010		mg/L	1	9/20/2017 9:16:36 AM	33939
Uranium	0.037	0.00077	0.0025	*	mg/L	5	9/20/2017 9:44:37 AM	33939
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/23/2017 9:06:22 AM	34020
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Toluene	ND	0.064	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Methyl tert-butyl ether (MTBE)	2.0	0.24	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Naphthalene	ND	0.11	2.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Acetone	ND	0.82	10		µg/L	1	9/12/2017 1:50:00 AM	R45553
Bromobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Bromoform	ND	0.21	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Bromomethane	ND	0.26	3.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
2-Butanone	ND	1.1	10		µg/L	1	9/12/2017 1:50:00 AM	R45553
Carbon disulfide	ND	0.40	10		µg/L	1	9/12/2017 1:50:00 AM	R45553
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Chloroethane	ND	0.23	2.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Chloroform	ND	0.40	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Chloromethane	ND	0.29	3.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-01
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 9:35:00 AM
Lab ID: 1709391-005
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Dibromomethane	ND	0.091	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
2-Hexanone	ND	0.66	10		µg/L	1	9/12/2017 1:50:00 AM	R45553
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/12/2017 1:50:00 AM	R45553
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Styrene	ND	0.16	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/12/2017 1:50:00 AM	R45553
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/12/2017 1:50:00 AM	R45553

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

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Project: 3rd Qtr 2017
Collection Date: 9/7/2017 9:35:00 AM
Lab ID: 1709391-005
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	9/12/2017 1:50:00 AM	R45553
Surr: 4-Bromofluorobenzene	96.4	0	70-130		%Rec	1	9/12/2017 1:50:00 AM	R45553
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	9/12/2017 1:50:00 AM	R45553
Surr: Toluene-d8	92.5	0	70-130		%Rec	1	9/12/2017 1:50:00 AM	R45553

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1 to EP2
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 12:25:00 PM
Lab ID: 1709391-006
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	30	0.36	1.0		mg/L	1	9/12/2017 6:01:52 PM	33801
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/12/2017 6:01:52 PM	33801
Surr: DNOP	146	0	72.4-157		%Rec	1	9/12/2017 6:01:52 PM	33801
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.12	0.25	D	mg/L	5	9/18/2017 10:53:45 AM	G45703
Surr: BFB	100	0	52.3-138	D	%Rec	5	9/18/2017 10:53:45 AM	G45703
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	640	2.0	2.0		mg/L	1	9/13/2017 4:12:00 PM	33772
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	2.6	0.62	10	JD	µg/L	10	9/12/2017 2:14:00 AM	R45553
Toluene	1.4	0.64	10	JD	µg/L	10	9/12/2017 2:14:00 AM	R45553
Ethylbenzene	ND	0.93	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Methyl tert-butyl ether (MTBE)	ND	2.4	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2,4-Trimethylbenzene	ND	1.1	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,3,5-Trimethylbenzene	ND	0.87	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2-Dichloroethane (EDC)	ND	4.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2-Dibromoethane (EDB)	ND	1.3	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Naphthalene	ND	1.1	20	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1-Methylnaphthalene	ND	1.6	40	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
2-Methylnaphthalene	ND	1.5	40	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Acetone	1100	8.2	100	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Bromobenzene	ND	1.4	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Bromodichloromethane	ND	1.8	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Bromoform	ND	2.1	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Bromomethane	ND	2.6	30	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
2-Butanone	ND	11	100	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Carbon disulfide	ND	4.0	100	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Chlorobenzene	ND	1.1	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Chloroethane	ND	2.3	20	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Chloroform	ND	4.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Chloromethane	ND	2.9	30	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
4-Chlorotoluene	ND	4.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
cis-1,2-DCE	ND	2.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
cis-1,3-Dichloropropene	ND	0.82	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2-Dibromo-3-chloropropane	ND	14	20	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Dibromochloromethane	ND	0.72	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1 to EP2
Project: 3rd Qtr 2017
Collection Date: 9/7/2017 12:25:00 PM
Lab ID: 1709391-006
Matrix: AQUEOUS
Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromomethane	ND	0.91	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2-Dichlorobenzene	ND	0.90	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,3-Dichlorobenzene	ND	1.5	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,4-Dichlorobenzene	ND	4.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Dichlorodifluoromethane	ND	10	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,1-Dichloroethane	ND	4.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,1-Dichloroethene	ND	0.81	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2-Dichloropropane	ND	1.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,3-Dichloropropane	ND	1.7	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
2,2-Dichloropropane	ND	1.6	20	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,1-Dichloropropene	ND	0.93	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Hexachlorobutadiene	ND	8.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
2-Hexanone	ND	6.6	100	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Isopropylbenzene	ND	0.51	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
4-Isopropyltoluene	ND	0.96	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Methylene Chloride	ND	1.1	30	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
n-Butylbenzene	ND	1.3	30	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
n-Propylbenzene	ND	0.74	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
sec-Butylbenzene	ND	1.1	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Styrene	ND	1.6	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
tert-Butylbenzene	ND	1.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,1,1,2-Tetrachloroethane	ND	1.0	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,1,2,2-Tetrachloroethane	ND	1.4	20	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Tetrachloroethene (PCE)	ND	1.3	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
trans-1,3-Dichloropropene	ND	2.2	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2,3-Trichlorobenzene	ND	1.2	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2,4-Trichlorobenzene	ND	1.4	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,1,1-Trichloroethane	ND	0.73	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,1,2-Trichloroethane	ND	1.4	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Trichloroethene (TCE)	ND	1.1	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Trichlorofluoromethane	ND	1.8	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
1,2,3-Trichloropropane	ND	3.9	20	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Vinyl chloride	ND	1.8	10	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Xylenes, Total	ND	3.2	15	D	µg/L	10	9/12/2017 2:14:00 AM	R45553
Surr: 1,2-Dichloroethane-d4	104	0	70-130	D	%Rec	10	9/12/2017 2:14:00 AM	R45553
Surr: 4-Bromofluorobenzene	94.9	0	70-130	D	%Rec	10	9/12/2017 2:14:00 AM	R45553
Surr: Dibromofluoromethane	106	0	70-130	D	%Rec	10	9/12/2017 2:14:00 AM	R45553

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Qualifiers:

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Received Date: 9/7/2017 4:45:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Toluene-d8	92.5	0	70-130	D	%Rec	10	9/12/2017 2:14:00 AM	R45553
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **KS**	
Total Dissolved Solids	3520	59.1	100	*D	mg/L	1	9/15/2017 12:08:00 PM	33840

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Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1120		20.0	2	09/13/2017 02:33	WG1019452

WG1019452

Wet Chemistry by Method 410.4

QUALITY CONTROL SUMMARY

L935529-01

ONE LAB. NATIONWIDE.

Method Blank (MB)

(MB) R3248805-1 09/13/17 02:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L935156-02 Original Sample (OS) • Duplicate (DUP)

(OS) L935156-02 09/13/17 02:27 • (DUP) R3248805-4 09/13/17 02:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	1290	1280	2	1		20

L935648-01 Original Sample (OS) • Duplicate (DUP)

(OS) L935648-01 09/13/17 02:34 • (DUP) R3248805-7 09/13/17 02:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	40.6	45.0	1	10		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3248805-2 09/13/17 02:27 • (LCSD) R3248805-3 09/13/17 02:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	239	248	99	103	90-110			4	20

L935412-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L935412-02 09/13/17 02:29 • (MS) R3248805-5 09/13/17 02:29 • (MSD) R3248805-6 09/13/17 02:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	19.7	424	418	101	100	1	80-120			1	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450588** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450590** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	84.0	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	99.0	50	150			J
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Chromium	0.0063	0.0060	0.006000	0	104	50	150			
Copper	0.0048	0.0060	0.006000	0	79.8	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Magnesium	0.54	1.0	0.5000	0	109	50	150			J
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Potassium	0.57	1.0	0.5000	0	114	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.8	50	150			J
Sodium	0.53	1.0	0.5000	0	105	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450592** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.49	0.0060	0.5000	0	98.9	85	115			
Iron	0.50	0.020	0.5000	0	99.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID	**LCS-B**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B45689**			RunNo: **45689**					
Prep Date:		Analysis Date: **9/15/2017**			SeqNo: **1450592**		Units: **mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium		51	1.0	50.00	0	102	85	115			
Manganese		0.49	0.0020	0.5000	0	97.2	85	115			
Potassium		50	1.0	50.00	0	100	85	115			
Silver		0.097	0.0050	0.1000	0	97.0	85	115			
Sodium		51	1.0	50.00	0	101	85	115			

Sample ID	**MB-B**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **B45739**			RunNo: **45739**					
Prep Date:		Analysis Date: **9/19/2017**			SeqNo: **1452551**		Units: **mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc		ND	0.010								

Sample ID	**LLLCS-B**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B45739**			RunNo: **45739**					
Prep Date:		Analysis Date: **9/19/2017**			SeqNo: **1452553**		Units: **mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc		0.0057	0.010	0.005000	0	114	50	150			J

Sample ID	**LCS-B**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B45739**			RunNo: **45739**					
Prep Date:		Analysis Date: **9/19/2017**			SeqNo: **1452555**		Units: **mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc		0.49	0.010	0.5000	0	97.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID **MB-33939**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **33939**	RunNo: **45771**
Prep Date: **9/19/2017**	Analysis Date: **9/20/2017**	SeqNo: **1454318** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	0.0024	0.0060								J
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-33939**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **33939**	RunNo: **45771**
Prep Date: **9/19/2017**	Analysis Date: **9/20/2017**	SeqNo: **1454319** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	116	50	150			
Cadmium	0.0023	0.0020	0.002000	0	114	50	150			
Chromium	0.0058	0.0060	0.006000	0	97.0	50	150			J
Copper	0.0088	0.0060	0.006000	0	146	50	150			
Iron	0.019	0.020	0.02000	0	97.2	50	150			J
Manganese	0.0020	0.0020	0.002000	0	97.5	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.0	50	150			J
Zinc	0.0063	0.010	0.005000	0	127	50	150			J

Sample ID **LCS-33939**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **33939**	RunNo: **45771**
Prep Date: **9/19/2017**	Analysis Date: **9/20/2017**	SeqNo: **1454320** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.6	85	115			
Cadmium	0.47	0.0020	0.5000	0	94.7	85	115			
Chromium	0.47	0.0060	0.5000	0	94.5	85	115			
Copper	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.47	0.020	0.5000	0	93.4	85	115			
Manganese	0.46	0.0020	0.5000	0	92.8	85	115			
Silver	0.094	0.0050	0.1000	0	94.0	85	115			
Zinc	0.46	0.010	0.5000	0	91.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446831** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	96.2	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446832** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.0	85	115			
Selenium	0.024	0.0010	0.02500	0	96.9	85	115			
Uranium	0.012	0.00050	0.01250	0	94.0	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446835** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00050	0.00050	0.0005000	0	101	50	150			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446836** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00094	0.0010	0.001000	0	93.6	50	150			J
Selenium	0.00089	0.0010	0.001000	0	89.0	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.7	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D45610**	RunNo: **45610**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**
03-Oct-17

Client: Western Refining Southwest, Gallup
Project: 3rd Qtr 2017

Sample ID **MB**	SampType: **MBLK**			TestCode: **EPA 200.8: Dissolved Metals**						
Client ID: **PBW**	Batch ID: **D45610**			RunNo: **45610**						
Prep Date:	Analysis Date: **9/13/2017**			SeqNo: **1446840**		Units: **mg/L**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID	**1709391-005FLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**OW-01**	Batch ID:	**33939**		RunNo:	**45745**				
Prep Date:	**9/19/2017**	Analysis Date:	**9/20/2017**		SeqNo:	**1452596**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.050	0.0025	0.01250	0.03693	107	70	130			

Sample ID	**1709391-005FLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**OW-01**	Batch ID:	**33939**		RunNo:	**45745**				
Prep Date:	**9/19/2017**	Analysis Date:	**9/20/2017**		SeqNo:	**1452597**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.0008464	103	70	130			
Lead	0.014	0.00050	0.01250	0.0004090	105	70	130			
Selenium	0.025	0.0010	0.02500	0.003141	89.0	70	130			

Sample ID	**MB-33939**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**33939**		RunNo:	**45745**				
Prep Date:	**9/19/2017**	Analysis Date:	**9/20/2017**		SeqNo:	**1452604**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-33939**	SampType:	**LCS**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**LCSW**	Batch ID:	**33939**		RunNo:	**45745**				
Prep Date:	**9/19/2017**	Analysis Date:	**9/20/2017**		SeqNo:	**1452605**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	98.0	85	115			
Lead	0.012	0.00050	0.01250	0	99.0	85	115			
Selenium	0.023	0.0010	0.02500	0	92.3	85	115			
Uranium	0.012	0.00050	0.01250	0	97.5	85	115			

Sample ID	**MSLLLCS-33939**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**33939**		RunNo:	**45745**				
Prep Date:	**9/19/2017**	Analysis Date:	**9/20/2017**		SeqNo:	**1452606**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00078	0.0010	0.001000	0	77.6	50	150			J
Lead	0.00047	0.00050	0.0005000	0	95.0	50	150			J
Selenium	0.00089	0.0010	0.001000	0	89.3	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.3	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID	**MB-34020**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34020**	RunNo:	**45832**					
Prep Date:	**9/22/2017**	Analysis Date:	**9/23/2017**	SeqNo:	**1456416**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34020**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34020**	RunNo:	**45832**					
Prep Date:	**9/22/2017**	Analysis Date:	**9/23/2017**	SeqNo:	**1456417**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.3	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**
03-Oct-17

Client: Western Refining Southwest, Gallup
Project: 3rd Qtr 2017

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45812**	RunNo: **45812**
Prep Date:	Analysis Date: **9/21/2017**	SeqNo: **1455783** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.19	0.50								J
Nitrate+Nitrite as N	0.073	0.20								J

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45812**	RunNo: **45812**
Prep Date:	Analysis Date: **9/21/2017**	SeqNo: **1455784** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.9	90	110			
Chloride	4.7	0.50	5.000	0	93.1	90	110			
Bromide	2.4	0.10	2.500	0	95.1	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.9	90	110			
Sulfate	9.6	0.50	10.00	0	96.2	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45820**	RunNo: **45820**
Prep Date:	Analysis Date: **9/22/2017**	SeqNo: **1456612** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45820**	RunNo: **45820**
Prep Date:	Analysis Date: **9/22/2017**	SeqNo: **1456613** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID	**MB-33812**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446677**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-33812**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446679**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.098	0.010	0.1000	0	97.7	70	130			

Sample ID	**LCSD-33812**	SampType:	**LCSD**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSS02**	Batch ID:	**33812**	RunNo:	**45604**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1446681**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	102	70	130	4.29	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID **LCS-33801**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **33801**	RunNo: **45554**
Prep Date: **9/11/2017**	Analysis Date: **9/12/2017**	SeqNo: **1444963** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	116	92.3	135			
Surr: DNOP	0.63		0.5000		127	72.4	157			

Sample ID **MB-33801**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **33801**	RunNo: **45554**
Prep Date: **9/11/2017**	Analysis Date: **9/12/2017**	SeqNo: **1444964** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.3		1.000		131	72.4	157			

Sample ID **1709391-003BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **Duplicate**	Batch ID: **33801**	RunNo: **45554**
Prep Date: **9/11/2017**	Analysis Date: **9/12/2017**	SeqNo: **1446120** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.4	1.0	5.000	0	127	83.3	151			
Surr: DNOP	0.65		0.5000		130	72.4	157			

Sample ID **1709391-003BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **Duplicate**	Batch ID: **33801**	RunNo: **45554**
Prep Date: **9/11/2017**	Analysis Date: **9/12/2017**	SeqNo: **1446121** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.4	1.0	5.000	0	128	83.3	151	0.449	20	
Surr: DNOP	0.65		0.5000		130	72.4	157	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448195** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		94.9	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G45634**	RunNo: **45634**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448196** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	90.2	75.8	123			
Surr: BFB	21		20.00		103	52.3	138			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G45703**	RunNo: **45703**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450867** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		99.2	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G45703**	RunNo: **45703**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450868** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	89.6	75.8	123			
Surr: BFB	21		20.00		107	52.3	138			

Sample ID **1709391-006AMS**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **STP1 to EP2**	Batch ID: **G45703**	RunNo: **45703**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450872** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2.3	0.25	2.500	0	92.8	53.2	134			
Surr: BFB	110		100.0		108	52.3	138			

Sample ID **1709391-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **STP1 to EP2**	Batch ID: **G45703**	RunNo: **45703**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450873** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**
03-Oct-17

Client: Western Refining Southwest, Gallup
Project: 3rd Qtr 2017

Sample ID **1709391-006AMSD**	SampType: **MSD**		TestCode: **EPA Method 8015D: Gasoline Range**		
Client ID: **STP1 to EP2**	Batch ID: **G45703**		RunNo: **45703**		
Prep Date:	Analysis Date: **9/18/2017**		SeqNo: **1450873**	Units: **mg/L**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	2.3	0.25	2.500	0	92.6	53.2	134	0.259	20	
Surr: BFB	110		100.0		108	52.3	138	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444465** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	99.9	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.8	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.6	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.2		10.00		92.3	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.25	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**
03-Oct-17

Client: Western Refining Southwest, Gallup
Project: 3rd Qtr 2017

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45553**	RunNo: **45553**
Prep Date:	Analysis Date: **9/11/2017**	SeqNo: **1444468** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**
03-Oct-17

Client: Western Refining Southwest, Gallup
Project: 3rd Qtr 2017

Sample ID **RB**	SampType: **MBLK**		TestCode: **EPA Method 8260B: VOLATILES**		
Client ID: **PBW**	Batch ID: **R45553**		RunNo: **45553**		
Prep Date:	Analysis Date: **9/11/2017**		SeqNo: **1444468**	Units: **µg/L**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.5	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.2		10.00		92.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID	**MB-33772**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**33772**	RunNo:	**45681**					
Prep Date:	**9/8/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1449634**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	**MB--33772**	SampType:	**MBLK**	TestCode:	**SM5210B: BOD**					
Client ID:	**PBW**	Batch ID:	**33772**	RunNo:	**45681**					
Prep Date:	**9/8/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1449635**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID	**LCS-33772**	SampType:	**LCS**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSW**	Batch ID:	**33772**	RunNo:	**45681**					
Prep Date:	**9/8/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1449636**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	150	2.0	198.0	0	77.2	58.5	126			

Sample ID	**LCSD-33772**	SampType:	**LCSD**	TestCode:	**SM5210B: BOD**					
Client ID:	**LCSS02**	Batch ID:	**33772**	RunNo:	**45681**					
Prep Date:	**9/8/2017**	Analysis Date:	**9/13/2017**	SeqNo:	**1449637**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	150	2.0	198.0	0	78.0	58.5	126	0.976	34.6	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709391**

03-Oct-17

Client: Western Refining Southwest, Gallup

Project: 3rd Qtr 2017

Sample ID	**MB-33840**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**33840**	RunNo:	**45654**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/15/2017**	SeqNo:	**1448885**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-33840**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**33840**	RunNo:	**45654**					
Prep Date:	**9/13/2017**	Analysis Date:	**9/15/2017**	SeqNo:	**1448886**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709391** RcptNo: **1**

Received By: **Andy Freeman** **9/7/2017 4:45:00 PM**

Completed By: **Ashley Gallegos** **9/8/2017 9:51:27 AM**

Reviewed By: 9/11/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 10 (<2 or >12 unless noted)

Adjusted? No

Checked by: JC 9/11/17

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Gallup Refinery

Mailing Address: 92 Giant Crossing Rd Gallup NM 87301

Phone #: 505 722 3833

email or Fax#:

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 3rd QTR 2017

Project #: OW-01, 10, STP1 to EP2

Project Manager: Cheryl.A.Johnson@Andeavor.com

Sampler: C Johnson

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709391	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Cations/Anions	8011 for EDB	Boil Cond 1715		Air Bubbles (Y or N)
9/7/17	0700	Aq	Field Blank	40mlVOAs	HCl	-001										X						
			Trip Blank	40ml VOAs	HCl	-002										X						
	1155		Duplicate	Misc	Misc	-003			X				X			X		X	X			
	1140		OW-10	Misc	Misc	-004			X				X			X		X	X			
	0935		OW-01	Misc	Misc	-005			X				X			X		X	X			
	1225		STP1 to EP2	Misc	Misc	-006			X							X				X		

Date	Time	Relinquished by	Received by	Date	Time
9/7/17	1346			9/7/17	1340
9/7/17	1645			9/7/17	1645

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 17, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 Annual GW OrderNo.: 1709672

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 11 sample(s) on 9/12/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Annual GW
Collection Date: 9/11/2017 7:00:00 AM
Lab ID: 1709672-001
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.13	0.062	1.0	J	µg/L	1	9/19/2017 4:56:00 PM	R45748
Toluene	0.27	0.064	1.0	J	µg/L	1	9/19/2017 4:56:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Acetone	6.7	0.82	10	J	µg/L	1	9/19/2017 4:56:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 4:56:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 4:56:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 4:56:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Annual GW
Collection Date: 9/11/2017 7:00:00 AM
Lab ID: 1709672-001
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 4:56:00 PM	R45748
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 4:56:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 4:56:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 4:56:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	94.3	0	70-130		%Rec	1	9/19/2017 4:56:00 PM	R45748
Surr: 4-Bromofluorobenzene	94.9	0	70-130		%Rec	1	9/19/2017 4:56:00 PM	R45748
Surr: Dibromofluoromethane	97.6	0	70-130		%Rec	1	9/19/2017 4:56:00 PM	R45748
Surr: Toluene-d8	88.6	0	70-130		%Rec	1	9/19/2017 4:56:00 PM	R45748

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Annual GW
Collection Date:
Lab ID: 1709672-002
Matrix: TRIP BLANK
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Toluene	ND	0.064	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Acetone	1.9	0.82	10	J	µg/L	1	9/19/2017 5:20:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 5:20:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 5:20:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 5:20:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Annual GW
Collection Date:
Lab ID: 1709672-002
Matrix: TRIP BLANK
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 5:20:00 PM	R45748
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 5:20:00 PM	R45748
Methylene Chloride	0.19	0.11	3.0	J	µg/L	1	9/19/2017 5:20:00 PM	R45748
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 5:20:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 5:20:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	93.3	0	70-130		%Rec	1	9/19/2017 5:20:00 PM	R45748
Surr: 4-Bromofluorobenzene	95.3	0	70-130		%Rec	1	9/19/2017 5:20:00 PM	R45748
Surr: Dibromofluoromethane	96.0	0	70-130		%Rec	1	9/19/2017 5:20:00 PM	R45748
Surr: Toluene-d8	88.7	0	70-130		%Rec	1	9/19/2017 5:20:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:05:00 AM
Lab ID: 1709672-003
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.51	0.36	1.0	J	mg/L	1	9/15/2017 1:24:24 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 1:24:24 PM	33866
Surr: DNOP	122	0	72.4-157		%Rec	1	9/15/2017 1:24:24 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.36	0.025	0.050		mg/L	1	9/18/2017 11:17:19 AM	G45703
Surr: BFB	311	0	52.3-138	S	%Rec	1	9/18/2017 11:17:19 AM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/26/2017 8:41:38 PM	R45932
Chloride	580	12	25		mg/L	50	9/26/2017 8:54:01 PM	R45932
Bromide	1.7	0.073	0.50		mg/L	5	9/26/2017 8:41:38 PM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 8:41:38 PM	R45932
Sulfate	20	0.48	2.5		mg/L	5	9/26/2017 8:41:38 PM	R45932
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 1:14:39 AM	R45932
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.36	0.00085	0.0020		mg/L	1	9/15/2017 3:45:24 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 3:45:24 PM	B45689
Calcium	92	0.078	1.0		mg/L	1	9/15/2017 3:45:24 PM	B45689
Chromium	0.0017	0.0013	0.0060	J	mg/L	1	9/15/2017 3:45:24 PM	B45689
Copper	0.0057	0.0032	0.0060	J	mg/L	1	9/15/2017 3:45:24 PM	B45689
Iron	0.048	0.016	0.020		mg/L	1	9/15/2017 3:45:24 PM	B45689
Magnesium	17	0.25	1.0		mg/L	1	9/15/2017 3:45:24 PM	B45689
Manganese	0.090	0.00039	0.0020	*	mg/L	1	9/15/2017 3:45:24 PM	B45689
Potassium	1.3	0.11	1.0		mg/L	1	9/15/2017 3:45:24 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 3:45:24 PM	B45689
Sodium	490	1.6	10		mg/L	10	9/15/2017 3:47:34 PM	B45689
Zinc	0.040	0.0021	0.010		mg/L	1	9/21/2017 7:50:54 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.62	0.0047	0.010		mg/L	5	9/21/2017 3:45:25 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 3:40:06 PM	33976
Chromium	0.0096	0.0018	0.0060		mg/L	1	9/21/2017 3:40:06 PM	33976
Copper	0.011	0.0017	0.0060		mg/L	1	10/3/2017 1:52:50 PM	34190
Iron	7.4	0.10	0.20	*	mg/L	10	10/3/2017 1:54:27 PM	34190
Manganese	0.35	0.0011	0.0020	*	mg/L	1	9/21/2017 3:40:06 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 3:40:06 PM	33976
Zinc	0.026	0.0033	0.010		mg/L	1	9/21/2017 3:40:06 PM	33976
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0066	0.0035	0.020	J	mg/L	20	9/19/2017 3:52:37 PM	B45740

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: OW-56
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:05:00 AM
Lab ID: 1709672-003
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00023	0.00017	0.00050	J	mg/L	1	9/18/2017 1:30:29 PM	B45694
Selenium	0.013	0.0019	0.0050		mg/L	5	9/19/2017 3:43:26 PM	B45740
Uranium	0.018	0.00025	0.0025		mg/L	5	9/19/2017 3:43:26 PM	B45740
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0074	0.0015	0.0050		mg/L	5	9/22/2017 8:50:55 AM	33976
Lead	0.0055	0.000095	0.00050		mg/L	1	9/21/2017 11:48:33 AM	33976
Selenium	0.010	0.0036	0.0050		mg/L	5	9/22/2017 8:50:55 AM	33976
Uranium	0.024	0.00015	0.00050		mg/L	1	9/21/2017 11:48:33 AM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 8:57:39 AM	34037
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Aniline	ND	3.1	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Benzoic acid	7.9	3.9	20	J	µg/L	1	9/29/2017 4:22:41 PM	33909
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	9/29/2017 4:22:41 PM	33909
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 4:22:41 PM	33909

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Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 4:22:41 PM	33909
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 4:22:41 PM	33909
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 4:22:41 PM	33909
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 4:22:41 PM	33909
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 4:22:41 PM	33909
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 4:22:41 PM	33909
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 4:22:41 PM	33909
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 4:22:41 PM	33909
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 4:22:41 PM	33909
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 4:22:41 PM	33909
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 4:22:41 PM	33909
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 4:22:41 PM	33909
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Phenol	ND	3.1	10		µg/L	1	9/29/2017 4:22:41 PM	33909

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Project: 2017 Annual GW
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Lab ID: 1709672-003
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 4:22:41 PM	33909
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 4:22:41 PM	33909
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 4:22:41 PM	33909
Surr: 2-Fluorophenol	50.2	0	15-88		%Rec	1	9/29/2017 4:22:41 PM	33909
Surr: Phenol-d5	39.3	0	15-72.4		%Rec	1	9/29/2017 4:22:41 PM	33909
Surr: 2,4,6-Tribromophenol	75.4	0	15-117		%Rec	1	9/29/2017 4:22:41 PM	33909
Surr: Nitrobenzene-d5	89.6	0	33.5-120		%Rec	1	9/29/2017 4:22:41 PM	33909
Surr: 2-Fluorobiphenyl	80.9	0	26.5-109		%Rec	1	9/29/2017 4:22:41 PM	33909
Surr: 4-Terphenyl-d14	60.1	0	21.7-98.7		%Rec	1	9/29/2017 4:22:41 PM	33909
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1.1	0.062	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Toluene	ND	0.064	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Methyl tert-butyl ether (MTBE)	110	0.24	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2-Dichloroethane (EDC)	8.9	0.40	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Acetone	7.6	0.82	10	J	µg/L	1	9/19/2017 5:44:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 5:44:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 5:44:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,1-Dichloroethane	0.57	0.40	1.0	J	µg/L	1	9/19/2017 5:44:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 5:44:00 PM	R45748
Isopropylbenzene	0.91	0.051	1.0	J	µg/L	1	9/19/2017 5:44:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 5:44:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
n-Butylbenzene	0.15	0.13	3.0	J	µg/L	1	9/19/2017 5:44:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
sec-Butylbenzene	0.14	0.11	1.0	J	µg/L	1	9/19/2017 5:44:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 5:44:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 5:44:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	93.7	0	70-130		%Rec	1	9/19/2017 5:44:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:05:00 AM
Lab ID: 1709672-003
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	97.5	0	70-130		%Rec	1	9/19/2017 5:44:00 PM	R45748
Surr: Dibromofluoromethane	97.2	0	70-130		%Rec	1	9/19/2017 5:44:00 PM	R45748
Surr: Toluene-d8	89.9	0	70-130		%Rec	1	9/19/2017 5:44:00 PM	R45748

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:55:00 AM
Lab ID: 1709672-004
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.1	0.36	1.0		mg/L	1	9/15/2017 1:46:39 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 1:46:39 PM	33866
Surr: DNOP	125	0	72.4-157		%Rec	1	9/15/2017 1:46:39 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	46	2.5	5.0		mg/L	100	9/18/2017 11:40:54 AM	G45703
Surr: BFB	101	0	52.3-138		%Rec	100	9/18/2017 11:40:54 AM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/26/2017 9:06:26 PM	R45932
Chloride	350	12	25		mg/L	50	9/26/2017 9:18:51 PM	R45932
Bromide	1.1	0.073	0.50		mg/L	5	9/26/2017 9:06:26 PM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 9:06:26 PM	R45932
Sulfate	1.5	0.48	2.5	J	mg/L	5	9/26/2017 9:06:26 PM	R45932
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 1:27:03 AM	R45932
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.67	0.00085	0.0020		mg/L	1	9/15/2017 3:49:37 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 3:49:37 PM	B45689
Calcium	120	0.78	10		mg/L	10	9/15/2017 3:51:21 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 3:49:37 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 3:49:37 PM	B45689
Iron	5.3	0.16	0.20	*	mg/L	10	9/15/2017 3:51:21 PM	B45689
Magnesium	33	0.25	1.0		mg/L	1	9/15/2017 3:49:37 PM	B45689
Manganese	3.9	0.0039	0.020	*	mg/L	10	9/15/2017 3:51:21 PM	B45689
Potassium	ND	0.11	1.0		mg/L	1	9/15/2017 3:49:37 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 3:49:37 PM	B45689
Sodium	380	1.6	10		mg/L	10	9/15/2017 3:51:21 PM	B45689
Zinc	0.022	0.0021	0.010		mg/L	1	9/21/2017 7:52:52 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.1	0.0093	0.020		mg/L	10	9/21/2017 3:58:23 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 3:56:34 PM	33976
Chromium	0.019	0.0018	0.0060		mg/L	1	9/21/2017 3:56:34 PM	33976
Copper	0.017	0.0017	0.0060		mg/L	1	10/3/2017 1:56:20 PM	34190
Iron	23	0.51	1.0	*	mg/L	50	10/3/2017 1:59:51 PM	34190
Manganese	4.8	0.011	0.020	*	mg/L	10	9/21/2017 3:58:23 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 3:56:34 PM	33976
Zinc	0.042	0.0033	0.010		mg/L	1	9/21/2017 3:56:34 PM	33976
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0075	0.00018	0.0010		mg/L	1	9/18/2017 1:39:39 PM	B45694

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:55:00 AM
Lab ID: 1709672-004
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0014	0.00017	0.00050		mg/L	1	9/18/2017 1:39:39 PM	B45694
Selenium	0.0086	0.00039	0.0010		mg/L	1	9/18/2017 1:39:39 PM	B45694
Uranium	0.0042	0.000050	0.00050		mg/L	1	9/18/2017 1:39:39 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0082	0.00030	0.0010		mg/L	1	9/21/2017 11:51:34 AM	33976
Lead	0.024	0.00048	0.0025	*	mg/L	5	9/22/2017 8:56:56 AM	33976
Selenium	0.0070	0.00071	0.0010		mg/L	1	9/21/2017 11:51:34 AM	33976
Uranium	0.0061	0.00015	0.00050		mg/L	1	9/21/2017 11:51:34 AM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 8:59:35 AM	34037
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Aniline	ND	3.1	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Benzoic acid	ND	3.9	20		µg/L	1	9/29/2017 4:50:30 PM	33909
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Bis(2-ethylhexyl)phthalate	6.3	4.8	10	J	µg/L	1	9/29/2017 4:50:30 PM	33909
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 4:50:30 PM	33909

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:55:00 AM
Lab ID: 1709672-004
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 4:50:30 PM	33909
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 4:50:30 PM	33909
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 4:50:30 PM	33909
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 4:50:30 PM	33909
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 4:50:30 PM	33909
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 4:50:30 PM	33909
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 4:50:30 PM	33909
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 4:50:30 PM	33909
1-Methylnaphthalene	20	3.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2-Methylnaphthalene	16	3.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 4:50:30 PM	33909
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Naphthalene	41	2.9	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 4:50:30 PM	33909
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 4:50:30 PM	33909
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 4:50:30 PM	33909
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Phenol	35	3.1	10		µg/L	1	9/29/2017 4:50:30 PM	33909

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:55:00 AM
Lab ID: 1709672-004
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 4:50:30 PM	33909
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 4:50:30 PM	33909
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 4:50:30 PM	33909
Surr: 2-Fluorophenol	32.2	0	15-88		%Rec	1	9/29/2017 4:50:30 PM	33909
Surr: Phenol-d5	37.6	0	15-72.4		%Rec	1	9/29/2017 4:50:30 PM	33909
Surr: 2,4,6-Tribromophenol	61.7	0	15-117		%Rec	1	9/29/2017 4:50:30 PM	33909
Surr: Nitrobenzene-d5	81.1	0	33.5-120		%Rec	1	9/29/2017 4:50:30 PM	33909
Surr: 2-Fluorobiphenyl	70.6	0	26.5-109		%Rec	1	9/29/2017 4:50:30 PM	33909
Surr: 4-Terphenyl-d14	57.3	0	21.7-98.7		%Rec	1	9/29/2017 4:50:30 PM	33909
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	12000	62	1000		µg/L	1000	9/19/2017 6:08:00 PM	R45748
Toluene	900	6.4	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Ethylbenzene	690	9.3	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Methyl tert-butyl ether (MTBE)	2000	24	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2,4-Trimethylbenzene	230	11	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,3,5-Trimethylbenzene	50	8.7	100	J	µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Naphthalene	42	11	200	J	µg/L	100	9/19/2017 6:32:00 PM	R45748
1-Methylnaphthalene	ND	16	400		µg/L	100	9/19/2017 6:32:00 PM	R45748
2-Methylnaphthalene	ND	15	400		µg/L	100	9/19/2017 6:32:00 PM	R45748
Acetone	ND	82	1000		µg/L	100	9/19/2017 6:32:00 PM	R45748
Bromobenzene	ND	14	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Bromodichloromethane	ND	18	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Bromoform	ND	21	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Bromomethane	ND	26	300		µg/L	100	9/19/2017 6:32:00 PM	R45748
2-Butanone	ND	110	1000		µg/L	100	9/19/2017 6:32:00 PM	R45748
Carbon disulfide	ND	40	1000		µg/L	100	9/19/2017 6:32:00 PM	R45748
Carbon Tetrachloride	ND	11	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Chlorobenzene	ND	11	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Chloroethane	ND	23	200		µg/L	100	9/19/2017 6:32:00 PM	R45748
Chloroform	ND	40	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Chloromethane	ND	29	300		µg/L	100	9/19/2017 6:32:00 PM	R45748
2-Chlorotoluene	ND	40	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
4-Chlorotoluene	ND	40	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
cis-1,2-DCE	ND	20	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	9/19/2017 6:32:00 PM	R45748

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 2017 Annual GW
Collection Date: 9/11/2017 8:55:00 AM
Lab ID: 1709672-004
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	9/19/2017 6:32:00 PM	R45748
Dibromochloromethane	ND	7.2	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Dibromomethane	ND	9.1	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,3-Dichlorobenzene	ND	15	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,4-Dichlorobenzene	ND	40	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Dichlorodifluoromethane	ND	100	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,1-Dichloroethane	ND	40	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,1-Dichloroethene	ND	8.1	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2-Dichloropropane	ND	10	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,3-Dichloropropane	ND	17	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
2,2-Dichloropropane	ND	16	200		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,1-Dichloropropene	ND	9.3	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Hexachlorobutadiene	ND	80	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
2-Hexanone	ND	66	1000		µg/L	100	9/19/2017 6:32:00 PM	R45748
Isopropylbenzene	16	5.1	100	J	µg/L	100	9/19/2017 6:32:00 PM	R45748
4-Isopropyltoluene	ND	9.6	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	9/19/2017 6:32:00 PM	R45748
Methylene Chloride	ND	11	300		µg/L	100	9/19/2017 6:32:00 PM	R45748
n-Butylbenzene	ND	13	300		µg/L	100	9/19/2017 6:32:00 PM	R45748
n-Propylbenzene	58	7.4	100	J	µg/L	100	9/19/2017 6:32:00 PM	R45748
sec-Butylbenzene	ND	11	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Styrene	ND	16	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
tert-Butylbenzene	ND	10	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	9/19/2017 6:32:00 PM	R45748
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
trans-1,2-DCE	ND	18	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,1,2-Trichloroethane	ND	14	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Trichloroethene (TCE)	ND	11	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Trichlorofluoromethane	ND	18	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
1,2,3-Trichloropropane	ND	39	200		µg/L	100	9/19/2017 6:32:00 PM	R45748
Vinyl chloride	ND	18	100		µg/L	100	9/19/2017 6:32:00 PM	R45748
Xylenes, Total	660	32	150		µg/L	100	9/19/2017 6:32:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	93.0	0	70-130		%Rec	100	9/19/2017 6:32:00 PM	R45748

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Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	97.1	0	70-130		%Rec	100	9/19/2017 6:32:00 PM	R45748
Surr: Dibromofluoromethane	95.8	0	70-130		%Rec	100	9/19/2017 6:32:00 PM	R45748
Surr: Toluene-d8	89.3	0	70-130		%Rec	100	9/19/2017 6:32:00 PM	R45748

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 Annual GW
Collection Date: 9/11/2017 9:40:00 AM
Lab ID: 1709672-005
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.7	0.36	1.0		mg/L	1	9/15/2017 2:08:43 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 2:08:43 PM	33866
Surr: DNOP	127	0	72.4-157		%Rec	1	9/15/2017 2:08:43 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.1	0.025	0.050		mg/L	1	9/18/2017 12:04:32 PM	G45703
Surr: BFB	105	0	52.3-138		%Rec	1	9/18/2017 12:04:32 PM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.25	0.22	0.50	J	mg/L	5	9/26/2017 9:56:04 PM	R45932
Chloride	290	5.0	10		mg/L	20	9/26/2017 10:08:29 PM	R45932
Bromide	2.0	0.073	0.50		mg/L	5	9/26/2017 9:56:04 PM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 9:56:04 PM	R45932
Sulfate	31	0.48	2.5		mg/L	5	9/26/2017 9:56:04 PM	R45932
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 1:39:28 AM	R45932
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.20	0.00085	0.0020		mg/L	1	9/15/2017 3:53:20 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 3:53:20 PM	B45689
Calcium	69	0.078	1.0		mg/L	1	9/15/2017 3:53:20 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 3:53:20 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 3:53:20 PM	B45689
Iron	0.75	0.016	0.020	*	mg/L	1	9/15/2017 3:53:20 PM	B45689
Magnesium	18	0.25	1.0		mg/L	1	9/15/2017 3:53:20 PM	B45689
Manganese	1.5	0.0039	0.020	*	mg/L	10	9/15/2017 3:54:57 PM	B45689
Potassium	ND	0.11	1.0		mg/L	1	9/15/2017 3:53:20 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 3:53:20 PM	B45689
Sodium	420	1.6	10		mg/L	10	9/15/2017 3:54:57 PM	B45689
Zinc	0.025	0.0021	0.010		mg/L	1	9/21/2017 7:54:35 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.2	0.0093	0.020		mg/L	10	9/21/2017 4:01:58 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 4:00:10 PM	33976
Chromium	0.020	0.0018	0.0060		mg/L	1	9/21/2017 4:00:10 PM	33976
Copper	0.047	0.0017	0.0060		mg/L	1	10/3/2017 2:01:40 PM	34190
Iron	19	0.20	0.40	*	mg/L	20	10/3/2017 2:03:24 PM	34190
Manganese	2.1	0.011	0.020	*	mg/L	10	9/21/2017 4:01:58 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 4:00:10 PM	33976
Zinc	0.040	0.0033	0.010		mg/L	1	9/21/2017 4:00:10 PM	33976
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0074	0.0035	0.020	J	mg/L	20	9/19/2017 3:58:43 PM	B45740

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Project: 2017 Annual GW
Collection Date: 9/11/2017 9:40:00 AM
Lab ID: 1709672-005
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0068	0.00017	0.00050		mg/L	1	9/18/2017 1:42:42 PM	B45694
Selenium	0.015	0.0077	0.020	J	mg/L	20	9/19/2017 3:58:43 PM	B45740
Uranium	0.055	0.00025	0.0025	*	mg/L	5	9/19/2017 3:55:40 PM	B45740
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0080	0.0015	0.0050		mg/L	5	9/22/2017 9:02:57 AM	33976
Lead	0.033	0.00048	0.0025	*	mg/L	5	9/22/2017 9:02:57 AM	33976
Selenium	0.013	0.0036	0.0050		mg/L	5	9/22/2017 9:02:57 AM	33976
Uranium	0.060	0.00077	0.0025	*	mg/L	5	9/22/2017 9:02:57 AM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000037	0.000037	0.00020	J	mg/L	1	9/26/2017 9:01:31 AM	34037
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Aniline	ND	3.1	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Benzoic acid	7.5	3.9	20	J	µg/L	1	9/29/2017 5:18:15 PM	33909
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	9/29/2017 5:18:15 PM	33909
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 5:18:15 PM	33909

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 5:18:15 PM	33909
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 5:18:15 PM	33909
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 5:18:15 PM	33909
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 5:18:15 PM	33909
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 5:18:15 PM	33909
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 5:18:15 PM	33909
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 5:18:15 PM	33909
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 5:18:15 PM	33909
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 5:18:15 PM	33909
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 5:18:15 PM	33909
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 5:18:15 PM	33909
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 5:18:15 PM	33909
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Phenol	ND	3.1	10		µg/L	1	9/29/2017 5:18:15 PM	33909

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 5:18:15 PM	33909
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 5:18:15 PM	33909
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 5:18:15 PM	33909
Surr: 2-Fluorophenol	42.2	0	15-88		%Rec	1	9/29/2017 5:18:15 PM	33909
Surr: Phenol-d5	35.7	0	15-72.4		%Rec	1	9/29/2017 5:18:15 PM	33909
Surr: 2,4,6-Tribromophenol	72.7	0	15-117		%Rec	1	9/29/2017 5:18:15 PM	33909
Surr: Nitrobenzene-d5	72.8	0	33.5-120		%Rec	1	9/29/2017 5:18:15 PM	33909
Surr: 2-Fluorobiphenyl	69.7	0	26.5-109		%Rec	1	9/29/2017 5:18:15 PM	33909
Surr: 4-Terphenyl-d14	58.9	0	21.7-98.7		%Rec	1	9/29/2017 5:18:15 PM	33909
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	140	0.31	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Toluene	3.1	0.32	5.0	J	µg/L	5	9/19/2017 7:20:00 PM	R45748
Ethylbenzene	37	0.47	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Methyl tert-butyl ether (MTBE)	1900	12	50		µg/L	50	9/19/2017 6:56:00 PM	R45748
1,2,4-Trimethylbenzene	18	0.56	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,3,5-Trimethylbenzene	1.1	0.44	5.0	J	µg/L	5	9/19/2017 7:20:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Naphthalene	ND	0.57	10		µg/L	5	9/19/2017 7:20:00 PM	R45748
1-Methylnaphthalene	ND	0.80	20		µg/L	5	9/19/2017 7:20:00 PM	R45748
2-Methylnaphthalene	ND	0.76	20		µg/L	5	9/19/2017 7:20:00 PM	R45748
Acetone	ND	4.1	50		µg/L	5	9/19/2017 7:20:00 PM	R45748
Bromobenzene	ND	0.70	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Bromodichloromethane	ND	0.88	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Bromoform	ND	1.1	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Bromomethane	ND	1.3	15		µg/L	5	9/19/2017 7:20:00 PM	R45748
2-Butanone	ND	5.7	50		µg/L	5	9/19/2017 7:20:00 PM	R45748
Carbon disulfide	ND	2.0	50		µg/L	5	9/19/2017 7:20:00 PM	R45748
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Chlorobenzene	ND	0.53	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Chloroethane	ND	1.2	10		µg/L	5	9/19/2017 7:20:00 PM	R45748
Chloroform	ND	2.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Chloromethane	ND	1.5	15		µg/L	5	9/19/2017 7:20:00 PM	R45748
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 Annual GW
Collection Date: 9/11/2017 9:40:00 AM
Lab ID: 1709672-005
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	9/19/2017 7:20:00 PM	R45748
Dibromochloromethane	ND	0.36	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Dibromomethane	ND	0.45	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
2,2-Dichloropropane	ND	0.79	10		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
2-Hexanone	ND	3.3	50		µg/L	5	9/19/2017 7:20:00 PM	R45748
Isopropylbenzene	0.82	0.26	5.0	J	µg/L	5	9/19/2017 7:20:00 PM	R45748
4-Isopropyltoluene	ND	0.48	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	9/19/2017 7:20:00 PM	R45748
Methylene Chloride	ND	0.54	15		µg/L	5	9/19/2017 7:20:00 PM	R45748
n-Butylbenzene	ND	0.65	15		µg/L	5	9/19/2017 7:20:00 PM	R45748
n-Propylbenzene	4.0	0.37	5.0	J	µg/L	5	9/19/2017 7:20:00 PM	R45748
sec-Butylbenzene	0.68	0.55	5.0	J	µg/L	5	9/19/2017 7:20:00 PM	R45748
Styrene	ND	0.78	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	9/19/2017 7:20:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	9/19/2017 7:20:00 PM	R45748
Vinyl chloride	ND	0.89	5.0		µg/L	5	9/19/2017 7:20:00 PM	R45748
Xylenes, Total	ND	1.6	7.5		µg/L	5	9/19/2017 7:20:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	92.7	0	70-130		%Rec	5	9/19/2017 7:20:00 PM	R45748

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 2017 Annual GW
Collection Date: 9/11/2017 9:40:00 AM
Lab ID: 1709672-005
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	96.7	0	70-130		%Rec	5	9/19/2017 7:20:00 PM	R45748
Surr: Dibromofluoromethane	96.3	0	70-130		%Rec	5	9/19/2017 7:20:00 PM	R45748
Surr: Toluene-d8	88.7	0	70-130		%Rec	5	9/19/2017 7:20:00 PM	R45748

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-50
Project: 2017 Annual GW
Collection Date: 9/11/2017 12:25:00 PM
Lab ID: 1709672-006
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/19/2017 3:20:15 PM	33934
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/15/2017 2:30:49 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 2:30:49 PM	33866
Surr: DNOP	127	0	72.4-157		%Rec	1	9/15/2017 2:30:49 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 12:28:05 PM	G45703
Surr: BFB	102	0	52.3-138		%Rec	1	9/18/2017 12:28:05 PM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.37	0.22	0.50	J	mg/L	5	9/26/2017 10:20:54 PM	R45932
Chloride	35	1.2	2.5		mg/L	5	9/26/2017 10:20:54 PM	R45932
Bromide	0.61	0.073	0.50		mg/L	5	9/26/2017 10:20:54 PM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 10:20:54 PM	R45932
Sulfate	160	0.48	2.5		mg/L	5	9/26/2017 10:20:54 PM	R45932
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 1:51:53 AM	R45932
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.053	0.00085	0.0020		mg/L	1	9/15/2017 4:04:46 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 4:04:46 PM	B45689
Calcium	27	0.078	1.0		mg/L	1	9/15/2017 4:04:46 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 4:04:46 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 4:04:46 PM	B45689
Iron	0.031	0.016	0.020		mg/L	1	9/15/2017 4:04:46 PM	B45689
Magnesium	4.6	0.25	1.0		mg/L	1	9/15/2017 4:04:46 PM	B45689
Manganese	0.11	0.00039	0.0020	*	mg/L	1	9/15/2017 4:04:46 PM	B45689
Potassium	0.40	0.11	1.0	J	mg/L	1	9/15/2017 4:04:46 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 4:04:46 PM	B45689
Sodium	240	1.6	10		mg/L	10	9/15/2017 4:06:55 PM	B45689
Zinc	0.079	0.0021	0.010		mg/L	1	9/21/2017 7:56:17 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00093	0.0020		mg/L	1	9/21/2017 4:03:47 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 4:03:47 PM	33976
Chromium	0.0029	0.0018	0.0060	J	mg/L	1	9/21/2017 4:03:47 PM	33976
Copper	ND	0.0017	0.0060		mg/L	1	10/3/2017 2:05:01 PM	34190
Iron	1.7	0.10	0.20	*	mg/L	10	9/21/2017 4:05:38 PM	33976
Manganese	0.13	0.0011	0.0020	*	mg/L	1	9/21/2017 4:03:47 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 4:03:47 PM	33976
Zinc	0.0068	0.0033	0.010	J	mg/L	1	9/21/2017 4:03:47 PM	33976

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-50
Project: 2017 Annual GW
Collection Date: 9/11/2017 12:25:00 PM
Lab ID: 1709672-006
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0024	0.00018	0.0010		mg/L	1	9/18/2017 1:45:46 PM	B45694
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 1:45:46 PM	B45694
Selenium	0.0026	0.0019	0.0050	J	mg/L	5	9/19/2017 4:01:47 PM	B45740
Uranium	0.012	0.000050	0.00050		mg/L	1	9/18/2017 1:45:46 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0021	0.00030	0.0010		mg/L	1	9/21/2017 11:57:35 AM	33976
Lead	0.0015	0.000095	0.00050		mg/L	1	9/21/2017 11:57:35 AM	33976
Selenium	0.0014	0.00071	0.0010		mg/L	1	9/21/2017 11:57:35 AM	33976
Uranium	0.012	0.00015	0.00050		mg/L	1	9/21/2017 11:57:35 AM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 9:03:27 AM	34037
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Toluene	ND	0.064	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Methyl tert-butyl ether (MTBE)	5.9	0.24	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Acetone	2.6	0.82	10	J	µg/L	1	9/19/2017 7:44:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 7:44:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 7:44:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-50
Project: 2017 Annual GW
Collection Date: 9/11/2017 12:25:00 PM
Lab ID: 1709672-006
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 7:44:00 PM	R45748
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 7:44:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 7:44:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 7:44:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-50
Project: 2017 Annual GW
Collection Date: 9/11/2017 12:25:00 PM
Lab ID: 1709672-006
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	92.7	0	70-130		%Rec	1	9/19/2017 7:44:00 PM	R45748
Surr: 4-Bromofluorobenzene	95.9	0	70-130		%Rec	1	9/19/2017 7:44:00 PM	R45748
Surr: Dibromofluoromethane	96.9	0	70-130		%Rec	1	9/19/2017 7:44:00 PM	R45748
Surr: Toluene-d8	89.2	0	70-130		%Rec	1	9/19/2017 7:44:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-52
Project: 2017 Annual GW
Collection Date: 9/11/2017 11:30:00 AM
Lab ID: 1709672-007
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	9/19/2017 3:35:36 PM	33934
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/15/2017 2:52:59 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 2:52:59 PM	33866
Surr: DNOP	124	0	72.4-157		%Rec	1	9/15/2017 2:52:59 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 12:51:45 PM	G45703
Surr: BFB	104	0	52.3-138		%Rec	1	9/18/2017 12:51:45 PM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.43	0.22	0.50	J	mg/L	5	9/26/2017 10:45:43 PM	R45932
Chloride	25	1.2	2.5		mg/L	5	9/26/2017 10:45:43 PM	R45932
Bromide	0.16	0.073	0.50	J	mg/L	5	9/26/2017 10:45:43 PM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 10:45:43 PM	R45932
Sulfate	130	0.48	2.5		mg/L	5	9/26/2017 10:45:43 PM	R45932
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 2:04:17 AM	R45932
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.029	0.00085	0.0020		mg/L	1	9/15/2017 4:08:49 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 4:08:49 PM	B45689
Calcium	4.9	0.078	1.0		mg/L	1	9/15/2017 4:08:49 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 4:08:49 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 4:08:49 PM	B45689
Iron	0.050	0.016	0.020		mg/L	1	9/15/2017 4:08:49 PM	B45689
Magnesium	0.63	0.25	1.0	J	mg/L	1	9/15/2017 4:08:49 PM	B45689
Manganese	0.025	0.00039	0.0020		mg/L	1	9/15/2017 4:08:49 PM	B45689
Potassium	1.2	0.11	1.0		mg/L	1	9/15/2017 4:08:49 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 4:08:49 PM	B45689
Sodium	230	1.6	10		mg/L	10	9/15/2017 4:10:51 PM	B45689
Zinc	0.063	0.0021	0.010		mg/L	1	9/21/2017 7:58:22 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.029	0.00093	0.0020		mg/L	1	9/21/2017 4:07:30 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 4:07:30 PM	33976
Chromium	ND	0.0018	0.0060		mg/L	1	9/21/2017 4:07:30 PM	33976
Copper	ND	0.0017	0.0060		mg/L	1	10/3/2017 2:12:49 PM	34190
Iron	0.091	0.010	0.020		mg/L	1	9/21/2017 4:07:30 PM	33976
Manganese	0.026	0.0011	0.0020		mg/L	1	9/21/2017 4:07:30 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 4:07:30 PM	33976
Zinc	ND	0.0033	0.010		mg/L	1	9/21/2017 4:07:30 PM	33976

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-52
Project: 2017 Annual GW
Collection Date: 9/11/2017 11:30:00 AM
Lab ID: 1709672-007
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.00089	0.0050		mg/L	5	9/19/2017 4:04:50 PM	B45740
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 1:48:49 PM	B45694
Selenium	ND	0.0019	0.0050		mg/L	5	9/19/2017 4:04:50 PM	B45740
Uranium	0.011	0.000050	0.00050		mg/L	1	9/18/2017 1:48:49 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00051	0.00030	0.0010	J	mg/L	1	9/21/2017 12:06:39 PM	33976
Lead	ND	0.000095	0.00050		mg/L	1	9/21/2017 12:06:39 PM	33976
Selenium	ND	0.00071	0.0010		mg/L	1	9/21/2017 12:06:39 PM	33976
Uranium	0.011	0.00015	0.00050		mg/L	1	9/21/2017 12:06:39 PM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 9:05:24 AM	34037
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Toluene	ND	0.064	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Methyl tert-butyl ether (MTBE)	1.0	0.24	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Acetone	2.1	0.82	10	J	µg/L	1	9/19/2017 8:08:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 8:08:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 8:08:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-52
Project: 2017 Annual GW
Collection Date: 9/11/2017 11:30:00 AM
Lab ID: 1709672-007
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 8:08:00 PM	R45748
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 8:08:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 8:08:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 8:08:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-52
Project: 2017 Annual GW
Collection Date: 9/11/2017 11:30:00 AM
Lab ID: 1709672-007
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	94.0	0	70-130		%Rec	1	9/19/2017 8:08:00 PM	R45748
Surr: 4-Bromofluorobenzene	96.0	0	70-130		%Rec	1	9/19/2017 8:08:00 PM	R45748
Surr: Dibromofluoromethane	97.4	0	70-130		%Rec	1	9/19/2017 8:08:00 PM	R45748
Surr: Toluene-d8	88.3	0	70-130		%Rec	1	9/19/2017 8:08:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-2
Project: 2017 Annual GW
Collection Date: 9/11/2017 2:41:00 PM
Lab ID: 1709672-008
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.41	0.36	1.0	J	mg/L	1	9/15/2017 3:15:14 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 3:15:14 PM	33866
Surr: DNOP	126	0	72.4-157		%Rec	1	9/15/2017 3:15:14 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	0.23	0.025	0.050		mg/L	1	9/18/2017 1:15:15 PM	G45703
Surr: BFB	1260	0	52.3-138	S	%Rec	1	9/18/2017 1:15:15 PM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/26/2017 11:10:33 PM	R45932
Chloride	2900	50	100		mg/L	200	9/27/2017 4:13:33 PM	R45948
Bromide	2.5	0.073	0.50		mg/L	5	9/26/2017 11:10:33 PM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 11:10:33 PM	R45932
Sulfate	1400	19	100		mg/L	200	9/27/2017 4:13:33 PM	R45948
Nitrate+Nitrite as N	ND	0.26	2.0		mg/L	10	9/27/2017 4:50:47 PM	R45948
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.016	0.00085	0.0020		mg/L	1	9/15/2017 4:12:39 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 4:12:39 PM	B45689
Calcium	340	0.78	10		mg/L	10	9/15/2017 4:14:49 PM	B45689
Chromium	0.0014	0.0013	0.0060	J	mg/L	1	9/15/2017 4:12:39 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 4:12:39 PM	B45689
Iron	0.054	0.016	0.020		mg/L	1	9/15/2017 4:12:39 PM	B45689
Magnesium	96	0.25	1.0		mg/L	1	9/15/2017 4:12:39 PM	B45689
Manganese	0.31	0.00039	0.0020	*	mg/L	1	9/15/2017 4:12:39 PM	B45689
Potassium	0.98	0.11	1.0	J	mg/L	1	9/15/2017 4:12:39 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 4:12:39 PM	B45689
Sodium	2200	8.2	50		mg/L	50	10/12/2017 7:36:30 PM	A46309
Zinc	0.033	0.0021	0.010		mg/L	1	9/21/2017 8:00:28 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.082	0.00093	0.0020		mg/L	1	9/21/2017 4:20:56 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 4:20:56 PM	33976
Chromium	0.39	0.0018	0.0060	*	mg/L	1	9/21/2017 4:20:56 PM	33976
Copper	0.0042	0.0017	0.0060	J	mg/L	1	10/3/2017 2:14:50 PM	34190
Iron	4.0	0.10	0.20	*	mg/L	10	9/21/2017 4:22:45 PM	33976
Manganese	0.49	0.0011	0.0020	*	mg/L	1	9/21/2017 4:20:56 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 4:20:56 PM	33976
Zinc	0.0080	0.0033	0.010	J	mg/L	1	9/21/2017 4:20:56 PM	33976
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0098	0.0018	0.010	J	mg/L	10	9/19/2017 4:17:07 PM	B45740

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: SMW-2
Project: 2017 Annual GW
Collection Date: 9/11/2017 2:41:00 PM
Lab ID: 1709672-008
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00084	0.0025		mg/L	5	9/19/2017 4:14:03 PM	B45740
Selenium	0.024	0.0019	0.0050		mg/L	5	9/19/2017 4:14:03 PM	B45740
Uranium	0.12	0.00025	0.0025	*	mg/L	5	9/19/2017 4:14:03 PM	B45740
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0092	0.0030	0.010	J	mg/L	10	9/22/2017 9:11:59 AM	33976
Lead	0.0027	0.00048	0.0025		mg/L	5	9/22/2017 9:08:59 AM	33976
Selenium	0.024	0.0036	0.0050		mg/L	5	9/22/2017 9:08:59 AM	33976
Uranium	0.12	0.00077	0.0025	*	mg/L	5	9/22/2017 9:08:59 AM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 9:07:21 AM	34037
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Aniline	ND	3.1	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Benzoic acid	6.5	3.9	20	J	µg/L	1	9/29/2017 5:46:13 PM	33909
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	9/29/2017 5:46:13 PM	33909
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 5:46:13 PM	33909

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 5:46:13 PM	33909
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 5:46:13 PM	33909
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 5:46:13 PM	33909
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 5:46:13 PM	33909
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 5:46:13 PM	33909
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 5:46:13 PM	33909
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 5:46:13 PM	33909
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 5:46:13 PM	33909
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 5:46:13 PM	33909
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 5:46:13 PM	33909
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 5:46:13 PM	33909
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 5:46:13 PM	33909
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Phenol	ND	3.1	10		µg/L	1	9/29/2017 5:46:13 PM	33909

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Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 5:46:13 PM	33909
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 5:46:13 PM	33909
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 5:46:13 PM	33909
Surr: 2-Fluorophenol	5.71	0	15-88	S	%Rec	1	9/29/2017 5:46:13 PM	33909
Surr: Phenol-d5	15.8	0	15-72.4		%Rec	1	9/29/2017 5:46:13 PM	33909
Surr: 2,4,6-Tribromophenol	7.18	0	15-117	S	%Rec	1	9/29/2017 5:46:13 PM	33909
Surr: Nitrobenzene-d5	97.7	0	33.5-120		%Rec	1	9/29/2017 5:46:13 PM	33909
Surr: 2-Fluorobiphenyl	84.3	0	26.5-109		%Rec	1	9/29/2017 5:46:13 PM	33909
Surr: 4-Terphenyl-d14	66.9	0	21.7-98.7		%Rec	1	9/29/2017 5:46:13 PM	33909
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Toluene	ND	0.064	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Methyl tert-butyl ether (MTBE)	11	0.24	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Acetone	6.2	0.82	10	J	µg/L	1	9/19/2017 8:32:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 8:32:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 8:32:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 8:32:00 PM	R45748
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 8:32:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 8:32:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 8:32:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	92.9	0	70-130		%Rec	1	9/19/2017 8:32:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-2
Project: 2017 Annual GW
Collection Date: 9/11/2017 2:41:00 PM
Lab ID: 1709672-008
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	98.4	0	70-130		%Rec	1	9/19/2017 8:32:00 PM	R45748
Surr: Dibromofluoromethane	96.6	0	70-130		%Rec	1	9/19/2017 8:32:00 PM	R45748
Surr: Toluene-d8	88.2	0	70-130		%Rec	1	9/19/2017 8:32:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-4
Project: 2017 Annual GW
Collection Date: 9/11/2017 3:30:00 PM
Lab ID: 1709672-009
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/15/2017 3:37:16 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 3:37:16 PM	33866
Surr: DNOP	123	0	72.4-157		%Rec	1	9/15/2017 3:37:16 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 1:38:49 PM	G45703
Surr: BFB	103	0	52.3-138		%Rec	1	9/18/2017 1:38:49 PM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.96	0.22	0.50		mg/L	5	9/26/2017 11:35:21 PM	R45932
Chloride	56	1.2	2.5		mg/L	5	9/26/2017 11:35:21 PM	R45932
Bromide	0.15	0.073	0.50	J	mg/L	5	9/26/2017 11:35:21 PM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/26/2017 11:35:21 PM	R45932
Sulfate	160	0.48	2.5		mg/L	5	9/26/2017 11:35:21 PM	R45932
Nitrate+Nitrite as N	0.35	0.13	1.0	J	mg/L	5	9/27/2017 5:03:12 PM	R45948
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.023	0.00085	0.0020		mg/L	1	9/15/2017 4:16:56 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 4:16:56 PM	B45689
Calcium	4.4	0.078	1.0		mg/L	1	9/15/2017 4:16:56 PM	B45689
Chromium	0.0043	0.0013	0.0060	J	mg/L	1	9/15/2017 4:16:56 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 4:16:56 PM	B45689
Iron	0.12	0.016	0.020		mg/L	1	9/15/2017 4:16:56 PM	B45689
Magnesium	1.1	0.25	1.0		mg/L	1	9/15/2017 4:16:56 PM	B45689
Manganese	0.010	0.00039	0.0020		mg/L	1	9/15/2017 4:16:56 PM	B45689
Potassium	0.50	0.11	1.0	J	mg/L	1	9/15/2017 4:16:56 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 4:16:56 PM	B45689
Sodium	300	1.6	10		mg/L	10	9/15/2017 4:19:04 PM	B45689
Zinc	0.046	0.0021	0.010		mg/L	1	9/21/2017 8:08:33 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.065	0.00093	0.0020		mg/L	1	9/21/2017 4:24:48 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 4:24:48 PM	33976
Chromium	0.060	0.0018	0.0060		mg/L	1	9/21/2017 4:24:48 PM	33976
Copper	0.0035	0.0017	0.0060	J	mg/L	1	10/3/2017 2:16:38 PM	34190
Iron	3.1	0.051	0.10	*	mg/L	5	10/3/2017 2:18:22 PM	34190
Manganese	0.068	0.0011	0.0020	*	mg/L	1	9/21/2017 4:24:48 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 4:24:48 PM	33976
Zinc	0.016	0.0033	0.010		mg/L	1	9/21/2017 4:24:48 PM	33976
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0032	0.00018	0.0010		mg/L	1	9/18/2017 2:01:06 PM	B45694

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-4
Project: 2017 Annual GW
Collection Date: 9/11/2017 3:30:00 PM
Lab ID: 1709672-009
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00059	0.00017	0.00050		mg/L	1	9/18/2017 2:01:06 PM	B45694
Selenium	ND	0.0019	0.0050		mg/L	5	9/19/2017 4:23:13 PM	B45740
Uranium	0.031	0.00025	0.0025	*	mg/L	5	9/19/2017 4:23:13 PM	B45740
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0032	0.00030	0.0010		mg/L	1	9/21/2017 12:12:40 PM	33976
Lead	0.0032	0.000095	0.00050		mg/L	1	9/21/2017 12:12:40 PM	33976
Selenium	0.00097	0.00071	0.0010	J	mg/L	1	9/21/2017 12:12:40 PM	33976
Uranium	0.033	0.00077	0.0025	*	mg/L	5	9/22/2017 9:15:00 AM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 9:09:19 AM	34037
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Acenaphthylene	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Aniline	ND	15	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Anthracene	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Azobenzene	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Benz(a)anthracene	ND	19	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Benzo(a)pyrene	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Benzoic acid	33	20	100	JD	µg/L	1	9/29/2017 6:14:12 PM	33909
Benzyl alcohol	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Bis(2-ethylhexyl)phthalate	34	24	50	JD	µg/L	1	9/29/2017 6:14:12 PM	33909
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Carbazole	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
4-Chloroaniline	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2-Chloronaphthalene	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2-Chlorophenol	ND	38	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Chrysene	ND	19	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-4
Project: 2017 Annual GW
Collection Date: 9/11/2017 3:30:00 PM
Lab ID: 1709672-009
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Dibenzofuran	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Diethyl phthalate	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Dimethyl phthalate	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Fluoranthene	ND	21	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Fluorene	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Hexachlorobenzene	ND	19	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Hexachloroethane	ND	6.0	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Isophorone	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
1-Methylnaphthalene	ND	17	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2-Methylnaphthalene	ND	16	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2-Methylphenol	ND	17	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
3+4-Methylphenol	ND	16	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Naphthalene	ND	14	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2-Nitroaniline	ND	25	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
3-Nitroaniline	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
4-Nitroaniline	ND	20	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Nitrobenzene	ND	18	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2-Nitrophenol	ND	26	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
4-Nitrophenol	ND	27	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Pentachlorophenol	ND	25	100	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Phenanthrene	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Phenol	ND	16	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-4
Project: 2017 Annual GW
Collection Date: 9/11/2017 3:30:00 PM
Lab ID: 1709672-009
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	22	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Pyridine	ND	11	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	9/29/2017 6:14:12 PM	33909
Surr: 2-Fluorophenol	43.0	0	15-88	D	%Rec	1	9/29/2017 6:14:12 PM	33909
Surr: Phenol-d5	32.0	0	15-72.4	D	%Rec	1	9/29/2017 6:14:12 PM	33909
Surr: 2,4,6-Tribromophenol	64.2	0	15-117	D	%Rec	1	9/29/2017 6:14:12 PM	33909
Surr: Nitrobenzene-d5	77.9	0	33.5-120	D	%Rec	1	9/29/2017 6:14:12 PM	33909
Surr: 2-Fluorobiphenyl	69.3	0	26.5-109	D	%Rec	1	9/29/2017 6:14:12 PM	33909
Surr: 4-Terphenyl-d14	60.5	0	21.7-98.7	D	%Rec	1	9/29/2017 6:14:12 PM	33909
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Toluene	ND	0.064	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Acetone	3.9	0.82	10	J	µg/L	1	9/19/2017 8:56:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 8:56:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 8:56:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-4
Project: 2017 Annual GW
Collection Date: 9/11/2017 3:30:00 PM
Lab ID: 1709672-009
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 8:56:00 PM	R45748
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 8:56:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 8:56:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 8:56:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	93.6	0	70-130		%Rec	1	9/19/2017 8:56:00 PM	R45748

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: SMW-4
Project: 2017 Annual GW
Collection Date: 9/11/2017 3:30:00 PM
Lab ID: 1709672-009
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	95.7	0	70-130		%Rec	1	9/19/2017 8:56:00 PM	R45748
Surr: Dibromofluoromethane	97.7	0	70-130		%Rec	1	9/19/2017 8:56:00 PM	R45748
Surr: Toluene-d8	89.0	0	70-130		%Rec	1	9/19/2017 8:56:00 PM	R45748

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-5
Project: 2017 Annual GW
Collection Date: 9/11/2017 5:45:00 PM
Lab ID: 1709672-010
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/15/2017 3:59:29 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 3:59:29 PM	33866
Surr: DNOP	118	0	72.4-157		%Rec	1	9/15/2017 3:59:29 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 2:02:27 PM	G45703
Surr: BFB	102	0	52.3-138		%Rec	1	9/18/2017 2:02:27 PM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.68	0.22	0.50		mg/L	5	9/27/2017 12:25:00 AM	R45932
Chloride	60	1.2	2.5		mg/L	5	9/27/2017 12:25:00 AM	R45932
Bromide	0.21	0.073	0.50	J	mg/L	5	9/27/2017 12:25:00 AM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/27/2017 12:25:00 AM	R45932
Sulfate	170	0.48	2.5		mg/L	5	9/27/2017 12:25:00 AM	R45932
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 5:15:37 PM	R45948
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.017	0.00085	0.0020		mg/L	1	9/15/2017 4:21:03 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 4:21:03 PM	B45689
Calcium	1.5	0.078	1.0		mg/L	1	9/15/2017 4:21:03 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 4:21:03 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 4:21:03 PM	B45689
Iron	ND	0.016	0.020		mg/L	1	9/15/2017 4:21:03 PM	B45689
Magnesium	ND	0.25	1.0		mg/L	1	9/15/2017 4:21:03 PM	B45689
Manganese	0.0042	0.00039	0.0020		mg/L	1	9/15/2017 4:21:03 PM	B45689
Potassium	0.54	0.11	1.0	J	mg/L	1	9/15/2017 4:21:03 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 4:21:03 PM	B45689
Sodium	260	1.6	10		mg/L	10	9/15/2017 4:23:07 PM	B45689
Zinc	0.029	0.0021	0.010		mg/L	1	9/21/2017 8:10:38 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.020	0.00093	0.0020		mg/L	1	9/21/2017 5:10:26 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 5:10:26 PM	33976
Chromium	ND	0.0018	0.0060		mg/L	1	9/21/2017 5:10:26 PM	33976
Copper	ND	0.0017	0.0060		mg/L	1	10/3/2017 2:20:09 PM	34190
Iron	ND	0.010	0.020		mg/L	1	9/21/2017 5:10:26 PM	33976
Manganese	0.0043	0.0011	0.0020		mg/L	1	9/21/2017 5:10:26 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 5:10:26 PM	33976
Zinc	ND	0.0033	0.010		mg/L	1	9/21/2017 5:10:26 PM	33976
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0012	0.00018	0.0010		mg/L	1	9/18/2017 2:04:10 PM	B45694

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-5
Project: 2017 Annual GW
Collection Date: 9/11/2017 5:45:00 PM
Lab ID: 1709672-010
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:04:10 PM	B45694
Selenium	0.0012	0.00039	0.0010		mg/L	1	9/18/2017 2:04:10 PM	B45694
Uranium	0.0095	0.000050	0.00050		mg/L	1	9/18/2017 2:04:10 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0010	0.00030	0.0010		mg/L	1	9/21/2017 12:15:41 PM	33976
Lead	ND	0.000095	0.00050		mg/L	1	9/21/2017 12:15:41 PM	33976
Selenium	ND	0.00071	0.0010		mg/L	1	9/21/2017 12:15:41 PM	33976
Uranium	0.0099	0.00015	0.00050		mg/L	1	9/21/2017 12:15:41 PM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 9:11:17 AM	34037
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Acenaphthylene	ND	3.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Aniline	ND	3.1	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Anthracene	ND	3.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Azobenzene	ND	4.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Benz(a)anthracene	ND	3.9	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Benzo(a)pyrene	ND	4.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Benzoic acid	ND	3.9	20		µg/L	1	9/29/2017 6:42:08 PM	33909
Benzyl alcohol	ND	4.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Bis(2-ethylhexyl)phthalate	5.7	4.8	10	J	µg/L	1	9/29/2017 6:42:08 PM	33909
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Carbazole	ND	4.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
4-Chloroaniline	ND	3.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2-Chloronaphthalene	ND	3.7	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2-Chlorophenol	ND	7.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Chrysene	ND	3.8	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	9/29/2017 6:42:08 PM	33909

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-5
Project: 2017 Annual GW
Collection Date: 9/11/2017 5:45:00 PM
Lab ID: 1709672-010
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Dibenzofuran	ND	4.1	10		µg/L	1	9/29/2017 6:42:08 PM	33909
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	9/29/2017 6:42:08 PM	33909
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 6:42:08 PM	33909
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Diethyl phthalate	ND	4.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Dimethyl phthalate	ND	3.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	9/29/2017 6:42:08 PM	33909
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	9/29/2017 6:42:08 PM	33909
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	9/29/2017 6:42:08 PM	33909
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/29/2017 6:42:08 PM	33909
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Fluoranthene	ND	4.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Fluorene	ND	4.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Hexachlorobenzene	ND	3.8	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Hexachlorobutadiene	ND	1.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Hexachloroethane	ND	1.2	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Isophorone	ND	4.4	10		µg/L	1	9/29/2017 6:42:08 PM	33909
1-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2-Methylnaphthalene	ND	3.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2-Methylphenol	ND	3.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
3+4-Methylphenol	ND	3.2	10		µg/L	1	9/29/2017 6:42:08 PM	33909
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Naphthalene	ND	2.9	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2-Nitroaniline	ND	4.9	10		µg/L	1	9/29/2017 6:42:08 PM	33909
3-Nitroaniline	ND	4.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
4-Nitroaniline	ND	4.0	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Nitrobenzene	ND	3.6	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2-Nitrophenol	ND	5.2	10		µg/L	1	9/29/2017 6:42:08 PM	33909
4-Nitrophenol	ND	5.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Pentachlorophenol	ND	4.9	20		µg/L	1	9/29/2017 6:42:08 PM	33909
Phenanthrene	ND	4.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Phenol	ND	3.1	10		µg/L	1	9/29/2017 6:42:08 PM	33909

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-5
Project: 2017 Annual GW
Collection Date: 9/11/2017 5:45:00 PM
Lab ID: 1709672-010
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	4.4	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Pyridine	ND	2.3	10		µg/L	1	9/29/2017 6:42:08 PM	33909
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	9/29/2017 6:42:08 PM	33909
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	9/29/2017 6:42:08 PM	33909
Surr: 2-Fluorophenol	48.8	0	15-88		%Rec	1	9/29/2017 6:42:08 PM	33909
Surr: Phenol-d5	35.6	0	15-72.4		%Rec	1	9/29/2017 6:42:08 PM	33909
Surr: 2,4,6-Tribromophenol	70.6	0	15-117		%Rec	1	9/29/2017 6:42:08 PM	33909
Surr: Nitrobenzene-d5	89.3	0	33.5-120		%Rec	1	9/29/2017 6:42:08 PM	33909
Surr: 2-Fluorobiphenyl	78.4	0	26.5-109		%Rec	1	9/29/2017 6:42:08 PM	33909
Surr: 4-Terphenyl-d14	64.5	0	21.7-98.7		%Rec	1	9/29/2017 6:42:08 PM	33909
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Toluene	ND	0.064	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Naphthalene	ND	0.11	2.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Acetone	5.0	0.82	10	J	µg/L	1	9/19/2017 9:20:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 9:20:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 9:20:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-5
Project: 2017 Annual GW
Collection Date: 9/11/2017 5:45:00 PM
Lab ID: 1709672-010
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 9:20:00 PM	R45748
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 9:20:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 9:20:00 PM	R45748
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/19/2017 9:20:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	93.4	0	70-130		%Rec	1	9/19/2017 9:20:00 PM	R45748

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MW-5
Project: 2017 Annual GW
Collection Date: 9/11/2017 5:45:00 PM
Lab ID: 1709672-010
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	96.1	0	70-130		%Rec	1	9/19/2017 9:20:00 PM	R45748
Surr: Dibromofluoromethane	98.6	0	70-130		%Rec	1	9/19/2017 9:20:00 PM	R45748
Surr: Toluene-d8	88.4	0	70-130		%Rec	1	9/19/2017 9:20:00 PM	R45748

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual GW
Collection Date: 9/11/2017 9:50:00 AM
Lab ID: 1709672-011
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.7	0.36	1.0		mg/L	1	9/15/2017 4:21:29 PM	33866
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/15/2017 4:21:29 PM	33866
Surr: DNOP	127	0	72.4-157		%Rec	1	9/15/2017 4:21:29 PM	33866
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	3.1	0.025	0.050		mg/L	1	9/18/2017 2:26:02 PM	G45703
Surr: BFB	104	0	52.3-138		%Rec	1	9/18/2017 2:26:02 PM	G45703
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	9/27/2017 12:49:49 AM	R45932
Chloride	290	5.0	10		mg/L	20	9/27/2017 1:02:14 AM	R45932
Bromide	2.0	0.073	0.50		mg/L	5	9/27/2017 12:49:49 AM	R45932
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/27/2017 12:49:49 AM	R45932
Sulfate	31	0.48	2.5		mg/L	5	9/27/2017 12:49:49 AM	R45932
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 5:28:01 PM	R45948
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.17	0.00085	0.0020		mg/L	1	9/15/2017 4:32:48 PM	B45689
Cadmium	ND	0.0010	0.0020		mg/L	1	9/15/2017 4:32:48 PM	B45689
Calcium	67	0.078	1.0		mg/L	1	9/15/2017 4:32:48 PM	B45689
Chromium	ND	0.0013	0.0060		mg/L	1	9/15/2017 4:32:48 PM	B45689
Copper	ND	0.0032	0.0060		mg/L	1	9/15/2017 4:32:48 PM	B45689
Iron	0.71	0.016	0.020	*	mg/L	1	9/15/2017 4:32:48 PM	B45689
Magnesium	18	0.25	1.0		mg/L	1	9/15/2017 4:32:48 PM	B45689
Manganese	1.4	0.0039	0.020	*	mg/L	10	9/15/2017 4:34:30 PM	B45689
Potassium	ND	0.11	1.0		mg/L	1	9/15/2017 4:32:48 PM	B45689
Silver	ND	0.0018	0.0050		mg/L	1	9/15/2017 4:32:48 PM	B45689
Sodium	400	1.6	10		mg/L	10	9/15/2017 4:34:30 PM	B45689
Zinc	0.014	0.0021	0.010		mg/L	1	9/21/2017 8:12:42 PM	C45785
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.91	0.00093	0.0020		mg/L	1	9/21/2017 5:14:20 PM	33976
Cadmium	ND	0.00058	0.0020		mg/L	1	9/21/2017 5:14:20 PM	33976
Chromium	0.015	0.0018	0.0060		mg/L	1	9/21/2017 5:14:20 PM	33976
Copper	0.044	0.0017	0.0060		mg/L	1	10/3/2017 2:22:07 PM	34190
Iron	16	0.20	0.40	*	mg/L	20	10/3/2017 2:23:49 PM	34190
Manganese	2.0	0.011	0.020	*	mg/L	10	9/21/2017 5:16:09 PM	33976
Silver	ND	0.0012	0.0050		mg/L	1	9/21/2017 5:14:20 PM	33976
Zinc	0.032	0.0033	0.010		mg/L	1	9/21/2017 5:14:20 PM	33976
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0060	0.0035	0.020	J	mg/L	20	9/19/2017 4:29:20 PM	B45740

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual GW
Collection Date: 9/11/2017 9:50:00 AM
Lab ID: 1709672-011
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.0061	0.00017	0.00050		mg/L	1	9/18/2017 2:07:13 PM	B45694
Selenium	0.015	0.0077	0.020	J	mg/L	20	9/19/2017 4:29:20 PM	B45740
Uranium	0.055	0.00025	0.0025	*	mg/L	5	9/19/2017 4:26:17 PM	B45740
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0095	0.0015	0.0050		mg/L	5	9/22/2017 9:27:05 AM	33976
Lead	0.029	0.00048	0.0025	*	mg/L	5	9/22/2017 9:27:05 AM	33976
Selenium	0.016	0.0036	0.0050		mg/L	5	9/22/2017 9:27:05 AM	33976
Uranium	0.061	0.00077	0.0025	*	mg/L	5	9/22/2017 9:27:05 AM	33976
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/26/2017 9:17:19 AM	34037
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Acenaphthylene	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Aniline	ND	15	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Anthracene	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Azobenzene	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Benz(a)anthracene	ND	19	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Benzo(a)pyrene	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Benzoic acid	43	20	100	JD	µg/L	1	9/29/2017 7:10:06 PM	33909
Benzyl alcohol	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Bis(2-ethylhexyl)phthalate	ND	24	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Carbazole	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
4-Chloroaniline	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2-Chloronaphthalene	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2-Chlorophenol	ND	38	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Chrysene	ND	19	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual GW
Collection Date: 9/11/2017 9:50:00 AM
Lab ID: 1709672-011
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Dibenzofuran	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Diethyl phthalate	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Dimethyl phthalate	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2,4-Dimethylphenol	ND	14	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Fluoranthene	ND	21	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Fluorene	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Hexachlorobenzene	ND	19	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Hexachloroethane	ND	6.0	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Isophorone	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
1-Methylnaphthalene	ND	17	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2-Methylnaphthalene	ND	16	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2-Methylphenol	ND	17	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
3+4-Methylphenol	ND	16	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Naphthalene	ND	14	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2-Nitroaniline	ND	25	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
3-Nitroaniline	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
4-Nitroaniline	ND	20	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Nitrobenzene	ND	18	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2-Nitrophenol	ND	26	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
4-Nitrophenol	ND	27	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Pentachlorophenol	ND	25	100	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Phenanthrene	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Phenol	ND	16	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual GW
Collection Date: 9/11/2017 9:50:00 AM
Lab ID: 1709672-011
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyrene	ND	22	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Pyridine	ND	11	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	9/29/2017 7:10:06 PM	33909
Surr: 2-Fluorophenol	53.7	0	15-88	D	%Rec	1	9/29/2017 7:10:06 PM	33909
Surr: Phenol-d5	42.0	0	15-72.4	D	%Rec	1	9/29/2017 7:10:06 PM	33909
Surr: 2,4,6-Tribromophenol	81.1	0	15-117	D	%Rec	1	9/29/2017 7:10:06 PM	33909
Surr: Nitrobenzene-d5	92.4	0	33.5-120	D	%Rec	1	9/29/2017 7:10:06 PM	33909
Surr: 2-Fluorobiphenyl	80.6	0	26.5-109	D	%Rec	1	9/29/2017 7:10:06 PM	33909
Surr: 4-Terphenyl-d14	66.5	0	21.7-98.7	D	%Rec	1	9/29/2017 7:10:06 PM	33909
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	160	1.2	20		µg/L	20	9/20/2017 4:00:00 PM	R45765
Toluene	3.6	0.064	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Ethylbenzene	40	0.093	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Methyl tert-butyl ether (MTBE)	2300	4.8	20		µg/L	20	9/20/2017 4:00:00 PM	R45765
1,2,4-Trimethylbenzene	21	0.11	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,3,5-Trimethylbenzene	1.4	0.087	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Naphthalene	1.3	0.11	2.0	J	µg/L	1	9/19/2017 9:44:00 PM	R45748
1-Methylnaphthalene	0.82	0.16	4.0	J	µg/L	1	9/19/2017 9:44:00 PM	R45748
2-Methylnaphthalene	0.53	0.15	4.0	J	µg/L	1	9/19/2017 9:44:00 PM	R45748
Acetone	ND	0.82	10		µg/L	1	9/19/2017 9:44:00 PM	R45748
Bromobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Bromoform	ND	0.21	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Bromomethane	ND	0.26	3.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
2-Butanone	ND	1.1	10		µg/L	1	9/19/2017 9:44:00 PM	R45748
Carbon disulfide	ND	0.40	10		µg/L	1	9/19/2017 9:44:00 PM	R45748
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Chloroethane	ND	0.23	2.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Chloroform	ND	0.40	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Chloromethane	ND	0.29	3.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748

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Hall Environmental Analysis Laboratory, Inc.

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Lab ID: 1709672-011
Matrix: AQUEOUS
Received Date: 9/12/2017 3:47:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Dibromomethane	ND	0.091	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
2-Hexanone	ND	0.66	10		µg/L	1	9/19/2017 9:44:00 PM	R45748
Isopropylbenzene	1.2	0.051	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
4-Isopropyltoluene	0.098	0.096	1.0	J	µg/L	1	9/19/2017 9:44:00 PM	R45748
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/19/2017 9:44:00 PM	R45748
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
n-Butylbenzene	0.48	0.13	3.0	J	µg/L	1	9/19/2017 9:44:00 PM	R45748
n-Propylbenzene	4.8	0.074	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
sec-Butylbenzene	0.86	0.11	1.0	J	µg/L	1	9/19/2017 9:44:00 PM	R45748
Styrene	ND	0.16	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/19/2017 9:44:00 PM	R45748
Xylenes, Total	2.0	0.32	1.5		µg/L	1	9/19/2017 9:44:00 PM	R45748
Surr: 1,2-Dichloroethane-d4	92.3	0	70-130		%Rec	1	9/19/2017 9:44:00 PM	R45748

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	96.7	0	70-130		%Rec	1	9/19/2017 9:44:00 PM	R45748
Surr: Dibromofluoromethane	96.3	0	70-130		%Rec	1	9/19/2017 9:44:00 PM	R45748
Surr: Toluene-d8	89.0	0	70-130		%Rec	1	9/19/2017 9:44:00 PM	R45748

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Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	0.0360		0.00500	1	09/21/2017 18:08	WG1022220

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/21/2017 18:09	WG1022220

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/21/2017 18:11	WG1022220

Method Blank (MB)

(MB) R3251292-1 09/21/17 17:54

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L936658-02 Original Sample (OS) • Duplicate (DUP)

(OS) L936658-02 09/21/17 18:09 • (DUP) R3251292-4 09/21/17 18:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L936729-02 Original Sample (OS) • Duplicate (DUP)

(OS) L936729-02 09/21/17 18:15 • (DUP) R3251292-5 09/21/17 18:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3251292-2 09/21/17 17:55 • (LCSD) R3251292-3 09/21/17 17:56

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.104	0.104	104	104	85-115			0	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450588** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450590** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	84.0	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	99.0	50	150			J
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Chromium	0.0063	0.0060	0.006000	0	104	50	150			
Copper	0.0048	0.0060	0.006000	0	79.8	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Magnesium	0.54	1.0	0.5000	0	109	50	150			J
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Potassium	0.57	1.0	0.5000	0	114	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.8	50	150			J
Sodium	0.53	1.0	0.5000	0	105	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45689**	RunNo: **45689**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450592** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.49	0.0060	0.5000	0	98.9	85	115			
Iron	0.50	0.020	0.5000	0	99.9	85	115			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**LCS-B**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B45689**			RunNo: **45689**					
Prep Date:		Analysis Date: **9/15/2017**			SeqNo: **1450592**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.097	0.0050	0.1000	0	97.0	85	115			
Sodium	51	1.0	50.00	0	101	85	115			

Sample ID	**MB-C**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **C45785**			RunNo: **45785**					
Prep Date:		Analysis Date: **9/21/2017**			SeqNo: **1455477**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID	**LLLCS-C**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **C45785**			RunNo: **45785**					
Prep Date:		Analysis Date: **9/21/2017**			SeqNo: **1455479**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0036	0.010	0.005000	0	72.0	50	150			J

Sample ID	**LCS-C**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **C45785**			RunNo: **45785**					
Prep Date:		Analysis Date: **9/21/2017**			SeqNo: **1455481**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.47	0.010	0.5000	0	94.8	85	115			

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A46309**			RunNo: **46309**					
Prep Date:		Analysis Date: **10/12/2017**			SeqNo: **1475103**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	**LLLCS-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A46309**			RunNo: **46309**					
Prep Date:		Analysis Date: **10/12/2017**			SeqNo: **1475106**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.51	1.0	0.5000	0	103	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475109** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**MB-33976**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**33976**	RunNo:	**45785**					
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**	SeqNo:	**1454656**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LLLCS-33976**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**33976**	RunNo:	**45785**					
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**	SeqNo:	**1454657**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	116	50	150			
Cadmium	0.0017	0.0020	0.002000	0	85.5	50	150			J
Chromium	0.0049	0.0060	0.006000	0	81.8	50	150			J
Iron	0.024	0.020	0.02000	0	122	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Silver	0.0050	0.0050	0.005000	0	101	50	150			
Zinc	0.0062	0.010	0.005000	0	124	50	150			J

Sample ID	**LCS-33976**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**33976**	RunNo:	**45785**					
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**	SeqNo:	**1454658**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	99.0	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.6	85	115			
Chromium	0.49	0.0060	0.5000	0	98.8	85	115			
Iron	0.50	0.020	0.5000	0	99.3	85	115			
Manganese	0.48	0.0020	0.5000	0	96.1	85	115			
Silver	0.099	0.0050	0.1000	0	98.7	85	115			
Zinc	0.48	0.010	0.5000	0	96.9	85	115			

Sample ID	**1709672-003FMS**	SampType:	**MS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**OW-56**	Batch ID:	**33976**	RunNo:	**45785**					
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**	SeqNo:	**1455409**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	98.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**1709672-003FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-56**	Batch ID: **33976**		RunNo: **45785**					
Prep Date:	**9/20/2017**	Analysis Date: **9/21/2017**		SeqNo: **1455409**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.50	0.0060	0.5000	0.009620	98.2	70	130			
Manganese	0.81	0.0020	0.5000	0.3462	92.5	70	130			
Silver	0.10	0.0050	0.1000	0	104	70	130			
Zinc	0.51	0.010	0.5000	0.02588	97.4	70	130			

Sample ID	**1709672-003FMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-56**	Batch ID: **33976**		RunNo: **45785**					
Prep Date:	**9/20/2017**	Analysis Date: **9/21/2017**		SeqNo: **1455411**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	99.3	70	130	0.422	20	
Chromium	0.50	0.0060	0.5000	0.009620	98.7	70	130	0.446	20	
Manganese	0.79	0.0020	0.5000	0.3462	89.6	70	130	1.82	20	
Silver	0.10	0.0050	0.1000	0	103	70	130	1.65	20	
Zinc	0.51	0.010	0.5000	0.02588	97.0	70	130	0.359	20	

Sample ID	**1709672-003FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-56**	Batch ID: **33976**		RunNo: **45785**					
Prep Date:	**9/20/2017**	Analysis Date: **9/21/2017**		SeqNo: **1455420**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	1.1	0.010	0.5000	0.6158	99.1	70	130			

Sample ID	**1709672-003FMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**OW-56**	Batch ID: **33976**		RunNo: **45785**					
Prep Date:	**9/20/2017**	Analysis Date: **9/21/2017**		SeqNo: **1455421**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	1.1	0.010	0.5000	0.6158	95.2	70	130	0	20	

Sample ID	**1709672-009FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**SMW-4**	Batch ID: **33976**		RunNo: **45785**					
Prep Date:	**9/20/2017**	Analysis Date: **9/21/2017**		SeqNo: **1455438**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.06516	98.8	70	130			
Cadmium	0.50	0.0020	0.5000	0	100	70	130			
Chromium	0.55	0.0060	0.5000	0.05981	98.4	70	130			
Manganese	0.54	0.0020	0.5000	0.06806	94.8	70	130			
Silver	0.10	0.0050	0.1000	0	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**1709672-009FMS**	SampType: **MS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**SMW-4**	Batch ID: **33976**		RunNo: **45785**					
Prep Date:	**9/20/2017**	Analysis Date: **9/21/2017**		SeqNo: **1455438**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.52	0.010	0.5000	0.01617	102	70	130			

Sample ID	**1709672-009FMSD**	SampType: **MSD**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**SMW-4**	Batch ID: **33976**		RunNo: **45785**					
Prep Date:	**9/20/2017**	Analysis Date: **9/21/2017**		SeqNo: **1455439**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.57	0.0020	0.5000	0.06516	100	70	130	1.24	20	
Cadmium	0.50	0.0020	0.5000	0	101	70	130	0.360	20	
Chromium	0.56	0.0060	0.5000	0.05981	99.9	70	130	1.39	20	
Manganese	0.55	0.0020	0.5000	0.06806	96.2	70	130	1.22	20	
Silver	0.10	0.0050	0.1000	0	103	70	130	1.16	20	
Zinc	0.53	0.010	0.5000	0.01617	103	70	130	1.10	20	

Sample ID	**MB-34190**	SampType: **MBLK**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID: **34190**		RunNo: **46064**					
Prep Date:	**10/2/2017**	Analysis Date: **10/3/2017**		SeqNo: **1465016**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								
Iron	ND	0.020								

Sample ID	**LLLCS-34190**	SampType: **LCSLL**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID: **34190**		RunNo: **46064**					
Prep Date:	**10/2/2017**	Analysis Date: **10/3/2017**		SeqNo: **1465017**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0066	0.0060	0.006000	0	109	50	150			
Iron	0.024	0.020	0.02000	0	118	50	150			

Sample ID	**LCS-34190**	SampType: **LCS**		TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID: **34190**		RunNo: **46064**					
Prep Date:	**10/2/2017**	Analysis Date: **10/3/2017**		SeqNo: **1465018**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450645** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.4	85	115			
Lead	0.012	0.00050	0.01250	0	95.3	85	115			
Selenium	0.023	0.0010	0.02500	0	90.8	85	115			
Uranium	0.012	0.00050	0.01250	0	93.1	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450646** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00095	0.0010	0.001000	0	95.4	50	150			J
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Selenium	0.00097	0.0010	0.001000	0	97.5	50	150			J
Uranium	0.00045	0.00050	0.0005000	0	90.9	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450647** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **1709672-003ELLMS**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-56**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450763** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0.0002296	105	70	130			

Sample ID **1709672-003ELLMS**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-56**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450764** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0.0002296	105	70	130	0.128	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**1709672-003ELLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**OW-56**	Batch ID:	**B45740**		RunNo:	**45740**				
Prep Date:		Analysis Date:	**9/19/2017**		SeqNo:	**1452408**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.13	0.0050	0.1250	0.01298	90.2	70	130			
Uranium	0.082	0.0025	0.06250	0.01793	103	70	130			

Sample ID	**1709672-003ELLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**OW-56**	Batch ID:	**B45740**		RunNo:	**45740**				
Prep Date:		Analysis Date:	**9/19/2017**		SeqNo:	**1452409**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.13	0.0050	0.1250	0.01298	89.6	70	130	0.526	20	
Uranium	0.083	0.0025	0.06250	0.01793	104	70	130	0.593	20	

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**B45740**		RunNo:	**45740**				
Prep Date:		Analysis Date:	**9/19/2017**		SeqNo:	**1452476**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.4	85	115			
Lead	0.012	0.00050	0.01250	0	95.0	85	115			
Selenium	0.023	0.0010	0.02500	0	90.7	85	115			
Uranium	0.012	0.00050	0.01250	0	94.1	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**B45740**		RunNo:	**45740**				
Prep Date:		Analysis Date:	**9/19/2017**		SeqNo:	**1452479**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	96.2	50	150			J
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Selenium	0.00095	0.0010	0.001000	0	94.7	50	150			J
Uranium	0.00050	0.00050	0.0005000	0	99.6	50	150			J

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B45740**		RunNo:	**45740**				
Prep Date:		Analysis Date:	**9/19/2017**		SeqNo:	**1452482**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**1709672-010FLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MW-5**	Batch ID:	**33976**		RunNo:	**45778**				
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**		SeqNo:	**1454436**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.001003	101	70	130			
Lead	0.013	0.00050	0.01250	0	105	70	130			
Selenium	0.023	0.0010	0.02500	0	90.6	70	130			
Uranium	0.023	0.00050	0.01250	0.009856	109	70	130			

Sample ID	**MB-33976**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**33976**		RunNo:	**45778**				
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**		SeqNo:	**1454450**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-33976**	SampType:	**LCS**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**LCSW**	Batch ID:	**33976**		RunNo:	**45778**				
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**		SeqNo:	**1454451**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.3	85	115			
Lead	0.012	0.00050	0.01250	0	98.3	85	115			
Selenium	0.023	0.0010	0.02500	0	90.9	85	115			
Uranium	0.012	0.00050	0.01250	0	97.7	85	115			

Sample ID	**MSLLLCS-33976**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**33976**		RunNo:	**45778**				
Prep Date:	**9/20/2017**	Analysis Date:	**9/21/2017**		SeqNo:	**1454452**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00085	0.0010	0.001000	0	84.7	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.1	50	150			J
Selenium	0.00090	0.0010	0.001000	0	90.1	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	97.9	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**MB-34037**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34037**	RunNo:	**45870**					
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**	SeqNo:	**1457713**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34037**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34037**	RunNo:	**45870**					
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**	SeqNo:	**1457714**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.3	80	120			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45932**	RunNo: **45932**
Prep Date:	Analysis Date: **9/26/2017**	SeqNo: **1459757** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45932**	RunNo: **45932**
Prep Date:	Analysis Date: **9/26/2017**	SeqNo: **1459758** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.3	90	110			
Chloride	4.7	0.50	5.000	0	94.1	90	110			
Bromide	2.4	0.10	2.500	0	95.8	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.9	90	110			
Sulfate	9.6	0.50	10.00	0	96.1	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.7	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45948**	RunNo: **45948**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460425** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	0.11	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45948**	RunNo: **45948**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460426** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.5	90	110			
Sulfate	9.7	0.50	10.00	0	96.6	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**MB-33934**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**33934**	RunNo:	**45743**					
Prep Date:	**9/19/2017**	Analysis Date:	**9/19/2017**	SeqNo:	**1452531**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-33934**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**33934**	RunNo:	**45743**					
Prep Date:	**9/19/2017**	Analysis Date:	**9/19/2017**	SeqNo:	**1452533**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.092	0.010	0.1000	0	91.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **LCS-33866**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **33866**	RunNo: **45641**
Prep Date: **9/14/2017**	Analysis Date: **9/15/2017**	SeqNo: **1448764** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	117	92.3	135			
Surr: DNOP	0.54		0.5000		108	72.4	157			

Sample ID **MB-33866**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **33866**	RunNo: **45641**
Prep Date: **9/14/2017**	Analysis Date: **9/15/2017**	SeqNo: **1448765** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		111	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G45703**	RunNo: **45703**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450867** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		99.2	52.3	138			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G45703**	RunNo: **45703**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450868** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	89.6	75.8	123			
Surr: BFB	21		20.00		107	52.3	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R45748**	RunNo: **45748**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1452794** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	70	130			
Toluene	20	1.0	20.00	0	98.9	70	130			
Chlorobenzene	20	1.0	20.00	0	97.9	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.3	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.0	70	130			
Surr: Toluene-d8	8.9		10.00		88.5	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45748**	RunNo: **45748**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1452797** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	0.25	4.0								J
2-Methylnaphthalene	0.28	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45748**	RunNo: **45748**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1452797** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45748**	RunNo: **45748**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1452797** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.4	70	130			
Surr: Toluene-d8	8.9		10.00		88.7	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R45765**	RunNo: **45765**
Prep Date:	Analysis Date: **9/20/2017**	SeqNo: **1453589** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.6	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.4	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.5	70	130			
Surr: Toluene-d8	8.9		10.00		89.0	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R45765**	RunNo: **45765**
Prep Date:	Analysis Date: **9/20/2017**	SeqNo: **1453590** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.094	1.0								J
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.4	70	130			
Surr: Toluene-d8	8.9		10.00		89.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **lcs-33909**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **33909**	RunNo: **45998**
Prep Date: **9/18/2017**	Analysis Date: **9/29/2017**	SeqNo: **1462653** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	76.1	41.2	98.9			
4-Chloro-3-methylphenol	170	10	200.0	0	84.0	29.1	111			
2-Chlorophenol	150	10	200.0	0	75.0	23.3	108			
1,4-Dichlorobenzene	59	10	100.0	0	58.9	29.4	84.5			
2,4-Dinitrotoluene	70	10	100.0	0	70.0	36.6	88.7			
N-Nitrosodi-n-propylamine	93	10	100.0	0	92.8	46.9	106			
4-Nitrophenol	130	10	200.0	0	62.5	15	74.7			
Pentachlorophenol	130	20	200.0	0	66.0	28.1	85.4			
Phenol	120	10	200.0	0	58.9	15	78.2			
Pyrene	75	10	100.0	0	74.8	44.4	96.8			
1,2,4-Trichlorobenzene	71	10	100.0	0	71.2	34.3	89			
Surr: 2-Fluorophenol	120		200.0		61.9	15	88			
Surr: Phenol-d5	110		200.0		57.1	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		77.3	15	117			
Surr: Nitrobenzene-d5	83		100.0		83.0	33.5	120			
Surr: 2-Fluorobiphenyl	80		100.0		79.5	26.5	109			
Surr: 4-Terphenyl-d14	63		100.0		63.5	21.7	98.7			

Sample ID **lcsd-33909**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **33909**	RunNo: **45998**
Prep Date: **9/18/2017**	Analysis Date: **9/29/2017**	SeqNo: **1462654** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	78	10	100.0	0	78.2	41.2	98.9	2.72	37.4	
4-Chloro-3-methylphenol	180	10	200.0	0	88.0	29.1	111	4.63	26.8	
2-Chlorophenol	160	10	200.0	0	78.7	23.3	108	4.83	30.3	
1,4-Dichlorobenzene	66	10	100.0	0	65.9	29.4	84.5	11.3	32	
2,4-Dinitrotoluene	70	10	100.0	0	70.2	36.6	88.7	0.257	36.7	
N-Nitrosodi-n-propylamine	89	10	100.0	0	88.5	46.9	106	4.74	29.9	
4-Nitrophenol	130	10	200.0	0	67.3	15	74.7	7.38	28.8	
Pentachlorophenol	150	20	200.0	0	72.5	28.1	85.4	9.38	38.2	
Phenol	120	10	200.0	0	60.7	15	78.2	3.01	39.8	
Pyrene	79	10	100.0	0	78.9	44.4	96.8	5.36	28.3	
1,2,4-Trichlorobenzene	78	10	100.0	0	77.6	34.3	89	8.68	39.8	
Surr: 2-Fluorophenol	130		200.0		64.4	15	88	0	0	
Surr: Phenol-d5	120		200.0		58.2	15	72.4	0	0	
Surr: 2,4,6-Tribromophenol	160		200.0		79.9	15	117	0	0	
Surr: Nitrobenzene-d5	86		100.0		86.5	33.5	120	0	0	
Surr: 2-Fluorobiphenyl	79		100.0		78.7	26.5	109	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID	**lcsd-33909**	SampType:	**LCSD**		TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**LCSS02**	Batch ID:	**33909**		RunNo:	**45998**					
Prep Date:	**9/18/2017**	Analysis Date:	**9/29/2017**		SeqNo:	**1462654**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 4-Terphenyl-d14	64		100.0		64.1	21.7	98.7	0	0		

Sample ID	**mb-33909**	SampType:	**MBLK**		TestCode:	**EPA Method 8270C: Semivolatiles**					
Client ID:	**PBW**	Batch ID:	**33909**		RunNo:	**45998**					
Prep Date:	**9/18/2017**	Analysis Date:	**9/29/2017**		SeqNo:	**1462655**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Acenaphthene	ND	10									
Acenaphthylene	ND	10									
Aniline	ND	10									
Anthracene	ND	10									
Azobenzene	ND	10									
Benz(a)anthracene	ND	10									
Benzo(a)pyrene	ND	10									
Benzo(b)fluoranthene	ND	10									
Benzo(g,h,i)perylene	ND	10									
Benzo(k)fluoranthene	ND	10									
Benzoic acid	6.7	20								J	
Benzyl alcohol	ND	10									
Bis(2-chloroethoxy)methane	ND	10									
Bis(2-chloroethyl)ether	ND	10									
Bis(2-chloroisopropyl)ether	ND	10									
Bis(2-ethylhexyl)phthalate	ND	10									
4-Bromophenyl phenyl ether	ND	10									
Butyl benzyl phthalate	ND	10									
Carbazole	ND	10									
4-Chloro-3-methylphenol	ND	10									
4-Chloroaniline	ND	10									
2-Chloronaphthalene	ND	10									
2-Chlorophenol	ND	10									
4-Chlorophenyl phenyl ether	ND	10									
Chrysene	ND	10									
Di-n-butyl phthalate	ND	10									
Di-n-octyl phthalate	ND	10									
Dibenz(a,h)anthracene	ND	10									
Dibenzofuran	ND	10									
1,2-Dichlorobenzene	ND	10									
1,3-Dichlorobenzene	ND	10									
1,4-Dichlorobenzene	ND	10									

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**
17-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual GW

Sample ID **mb-33909**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **33909**	RunNo: **45998**
Prep Date: **9/18/2017**	Analysis Date: **9/29/2017**	SeqNo: **1462655** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709672**

17-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual GW

Sample ID **mb-33909**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **33909**	RunNo: **45998**
Prep Date: **9/18/2017**	Analysis Date: **9/29/2017**	SeqNo: **1462655** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	140		200.0		70.9	15	88			
Surr: Phenol-d5	110		200.0		55.5	15	72.4			
Surr: 2,4,6-Tribromophenol	190		200.0		94.6	15	117			
Surr: Nitrobenzene-d5	110		100.0		111	33.5	120			
Surr: 2-Fluorobiphenyl	98		100.0		98.3	26.5	109			
Surr: 4-Terphenyl-d14	81		100.0		80.6	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709672** RcptNo: **1**

Received By: **Ashley Gallegos** **9/12/2017 3:47:00 PM**

Completed By: **Ashley Gallegos** **9/13/2017 12:17:15 PM**

Reviewed By: 9/14/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 27 ; 3
(<2 or >12 unless noted)
Adjusted? no

Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.3	Good	Yes			

Chain-of-Custody Record

Client: Gallup Refinery

Mailing Address: 92 Giant Crossing Rd.
Gallup, NM 87310

Phone #: 505-722-3833

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 2017 Annual GW

Project #: SMW-2,4 & MW-5
OW-50,52,~~53~~,54,55,56

Project Manager: Cheryl.A.Johnson@Andeavor.com

Sampler: C Johnson

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709672	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	WQCC Metals (T+D)	Cyanide	Anions/Cations		Air Bubbles (Y or N)
9/11/17	0700	AQ	Field Blank	40 mL VOAs	HCl	-001										+						
			Trip Blank	40 mL VOA	HCl	-002										+						
	0805		OW-56	Misc	Misc	-003			X							+	+	X		X		
	0855		OW-55			-004			X							X	X	X		X		
	0940		OW-54			-005			X							X	X	X		X		
	1225		OW-50			-006			X		X	~~X~~				X		X		X		
	1130		OW-52			-007			X		X	~~X~~				X		X		X		
	1441		SMW-2			-008			X							X	X	X	X	X		
	1530		SMW-4			-009			X							X	X	X	X	X		
	1745		MW-5			-010			X							X	X	X	X	X		
	0950		Duplicate			-011			X							X	X	X		X		

Date: 9/11/17 Time: 1840 Relinquished by:

Received by: Eugene Vigil Date: 9/12 Time: 1330

Date: 9/12/17 Time: 13:47 Relinquished by:

Received by: 09/12/17 1547

Remarks: WQCC metals includes RCRA 8 metals + Mercury, Method 8011 for EDB

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 25, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 Annual Ground Water OrderNo.: 1709795

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 9 sample(s) on 9/14/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 7:00:00 AM
Lab ID: 1709795-001 **Matrix:** AQUEOUS **Received Date:** 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.11	0.062	1.0	J	µg/L	1	9/15/2017 9:33:00 PM	A45649
Toluene	0.29	0.064	1.0	J	µg/L	1	9/15/2017 9:33:00 PM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Acetone	5.3	0.82	10	J	µg/L	1	9/15/2017 9:33:00 PM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/15/2017 9:33:00 PM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/15/2017 9:33:00 PM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/15/2017 9:33:00 PM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 7:00:00 AM
Lab ID: 1709795-001 **Matrix:** AQUEOUS **Received Date:** 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/15/2017 9:33:00 PM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/15/2017 9:33:00 PM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/15/2017 9:33:00 PM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/15/2017 9:33:00 PM	A45649
Surr: 1,2-Dichloroethane-d4	97.3	0	70-130		%Rec	1	9/15/2017 9:33:00 PM	A45649
Surr: 4-Bromofluorobenzene	96.2	0	70-130		%Rec	1	9/15/2017 9:33:00 PM	A45649
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	9/15/2017 9:33:00 PM	A45649
Surr: Toluene-d8	91.7	0	70-130		%Rec	1	9/15/2017 9:33:00 PM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Annual Ground Water
Collection Date:
Lab ID: 1709795-002
Matrix: TRIP BLANK
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Acetone	3.3	0.82	10	J	µg/L	1	9/15/2017 9:57:00 PM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/15/2017 9:57:00 PM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/15/2017 9:57:00 PM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/15/2017 9:57:00 PM	A45649

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 Annual Ground Water
Collection Date:
Lab ID: 1709795-002
Matrix: TRIP BLANK
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/15/2017 9:57:00 PM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/15/2017 9:57:00 PM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/15/2017 9:57:00 PM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/15/2017 9:57:00 PM	A45649
Surr: 1,2-Dichloroethane-d4	97.3	0	70-130		%Rec	1	9/15/2017 9:57:00 PM	A45649
Surr: 4-Bromofluorobenzene	97.2	0	70-130		%Rec	1	9/15/2017 9:57:00 PM	A45649
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/15/2017 9:57:00 PM	A45649
Surr: Toluene-d8	91.0	0	70-130		%Rec	1	9/15/2017 9:57:00 PM	A45649

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 3:10:00 PM
Lab ID: 1709795-003
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/21/2017 1:41:59 AM	33897
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/21/2017 1:41:59 AM	33897
Surr: DNOP	95.0	0	72.4-157		%Rec	1	9/21/2017 1:41:59 AM	33897
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 8:19:38 PM	2G4570
Surr: BFB	104	0	52.3-138		%Rec	1	9/18/2017 8:19:38 PM	2G4570
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.4	0.22	0.50		mg/L	5	9/15/2017 2:34:32 AM	A45645
Chloride	29	1.2	2.5		mg/L	5	9/15/2017 2:34:32 AM	A45645
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/15/2017 2:34:32 AM	A45645
Bromide	0.74	0.073	0.50		mg/L	5	9/15/2017 2:34:32 AM	A45645
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/15/2017 2:34:32 AM	A45645
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/15/2017 2:34:32 AM	A45645
Sulfate	180	0.48	2.5		mg/L	5	9/15/2017 2:34:32 AM	A45645
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.046	0.00085	0.0020		mg/L	1	9/28/2017 6:58:31 PM	A45989
Cadmium	ND	0.0010	0.0020		mg/L	1	9/28/2017 6:58:31 PM	A45989
Calcium	14	0.078	1.0		mg/L	1	9/28/2017 6:58:31 PM	A45989
Chromium	ND	0.0013	0.0060		mg/L	1	9/28/2017 6:58:31 PM	A45989
Copper	ND	0.0032	0.0060		mg/L	1	9/28/2017 6:58:31 PM	A45989
Iron	0.22	0.016	0.020		mg/L	1	9/28/2017 6:58:31 PM	A45989
Magnesium	3.1	0.25	1.0		mg/L	1	9/28/2017 6:58:31 PM	A45989
Manganese	0.17	0.00039	0.0020	*	mg/L	1	9/28/2017 6:58:31 PM	A45989
Potassium	1.3	0.11	1.0		mg/L	1	9/28/2017 6:58:31 PM	A45989
Silver	ND	0.0018	0.0050		mg/L	1	9/28/2017 6:58:31 PM	A45989
Sodium	570	1.6	10		mg/L	10	9/28/2017 7:04:58 PM	A45989
Zinc	0.0054	0.0021	0.010	J	mg/L	1	10/20/2017 3:15:33 PM	A46537
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.082	0.00093	0.0020		mg/L	1	9/26/2017 8:28:05 PM	34049
Cadmium	ND	0.00058	0.0020		mg/L	1	9/26/2017 8:28:05 PM	34049
Chromium	0.0061	0.0018	0.0060		mg/L	1	9/26/2017 8:28:05 PM	34049
Copper	0.0034	0.0017	0.0060	J	mg/L	1	9/26/2017 8:28:05 PM	34049
Iron	2.7	0.10	0.20	*	mg/L	10	9/26/2017 8:29:52 PM	34049
Manganese	0.22	0.0011	0.0020	*	mg/L	1	9/26/2017 8:28:05 PM	34049
Silver	ND	0.0012	0.0050		mg/L	1	9/26/2017 8:28:05 PM	34049
Zinc	0.0073	0.0033	0.010	J	mg/L	1	9/26/2017 8:28:05 PM	34049
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 3:10:00 PM
Lab ID: 1709795-003
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0021	0.0018	0.010	J	mg/L	10	9/19/2017 4:32:24 PM	B45740
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:10:16 PM	B45694
Selenium	0.0051	0.0039	0.010	J	mg/L	10	9/19/2017 4:32:24 PM	B45740
Uranium	0.014	0.000050	0.00050		mg/L	1	9/18/2017 2:10:16 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0018	0.00030	0.0010		mg/L	1	9/26/2017 10:19:22 AM	34049
Lead	0.0018	0.000095	0.00050		mg/L	1	9/26/2017 10:19:22 AM	34049
Selenium	0.0029	0.00071	0.0010		mg/L	1	9/26/2017 10:19:22 AM	34049
Uranium	0.014	0.00015	0.00050		mg/L	1	9/26/2017 10:19:22 AM	34049
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/27/2017 9:41:47 AM	34072
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Acetone	2.7	0.82	10	J	µg/L	1	9/15/2017 10:21:00 PM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/15/2017 10:21:00 PM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/15/2017 10:21:00 PM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 3:10:00 PM
Lab ID: 1709795-003 **Matrix:** AQUEOUS **Received Date:** 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/15/2017 10:21:00 PM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/15/2017 10:21:00 PM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/15/2017 10:21:00 PM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/15/2017 10:21:00 PM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Duplicate
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 3:10:00 PM
Lab ID: 1709795-003
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	1	9/15/2017 10:21:00 PM	A45649
Surr: 4-Bromofluorobenzene	96.3	0	70-130		%Rec	1	9/15/2017 10:21:00 PM	A45649
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	9/15/2017 10:21:00 PM	A45649
Surr: Toluene-d8	90.6	0	70-130		%Rec	1	9/15/2017 10:21:00 PM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-1C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 9:00:00 AM
Lab ID: 1709795-004
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/21/2017 2:10:24 AM	33897
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/21/2017 2:10:24 AM	33897
Surr: DNOP	96.0	0	72.4-157		%Rec	1	9/21/2017 2:10:24 AM	33897
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 8:43:06 PM	2G4570
Surr: BFB	103	0	52.3-138		%Rec	1	9/18/2017 8:43:06 PM	2G4570
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	2.1	0.22	0.50		mg/L	5	9/15/2017 3:24:11 AM	A45645
Chloride	32	1.2	2.5		mg/L	5	9/15/2017 3:24:11 AM	A45645
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/15/2017 3:24:11 AM	A45645
Bromide	0.15	0.073	0.50	J	mg/L	5	9/15/2017 3:24:11 AM	A45645
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/15/2017 3:24:11 AM	A45645
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/15/2017 3:24:11 AM	A45645
Sulfate	230	1.9	10		mg/L	20	9/15/2017 3:36:36 AM	A45645
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.017	0.00085	0.0020		mg/L	1	9/25/2017 9:00:44 PM	B45896
Cadmium	ND	0.0010	0.0020		mg/L	1	9/25/2017 9:00:44 PM	B45896
Calcium	2.8	0.078	1.0		mg/L	1	9/25/2017 9:00:44 PM	B45896
Chromium	0.0014	0.0013	0.0060	J	mg/L	1	9/25/2017 9:00:44 PM	B45896
Copper	ND	0.0032	0.0060		mg/L	1	9/25/2017 9:00:44 PM	B45896
Iron	0.031	0.016	0.020		mg/L	1	9/25/2017 9:00:44 PM	B45896
Magnesium	0.42	0.25	1.0	J	mg/L	1	9/25/2017 9:00:44 PM	B45896
Manganese	0.0088	0.00039	0.0020		mg/L	1	9/25/2017 9:00:44 PM	B45896
Potassium	0.87	0.11	1.0	J	mg/L	1	9/25/2017 9:00:44 PM	B45896
Silver	ND	0.0018	0.0050		mg/L	1	9/25/2017 9:00:44 PM	B45896
Sodium	300	1.6	10		mg/L	10	9/25/2017 9:03:31 PM	B45896
Zinc	0.010	0.0021	0.010		mg/L	1	10/17/2017 5:12:29 PM	A46457
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.020	0.00093	0.0020		mg/L	1	9/26/2017 8:31:36 PM	34049
Cadmium	ND	0.00058	0.0020		mg/L	1	9/26/2017 8:31:36 PM	34049
Chromium	0.0045	0.0018	0.0060	J	mg/L	1	9/26/2017 8:31:36 PM	34049
Copper	0.0027	0.0017	0.0060	J	mg/L	1	9/26/2017 8:31:36 PM	34049
Iron	0.13	0.010	0.020		mg/L	1	9/26/2017 8:31:36 PM	34049
Manganese	0.015	0.0011	0.0020		mg/L	1	9/26/2017 8:31:36 PM	34049
Silver	ND	0.0012	0.0050		mg/L	1	9/26/2017 8:31:36 PM	34049
Zinc	ND	0.0033	0.010		mg/L	1	9/26/2017 8:31:36 PM	34049
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-1C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 9:00:00 AM
Lab ID: 1709795-004
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00053	0.00018	0.0010	J	mg/L	1	9/18/2017 2:13:20 PM	B45694
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:13:20 PM	B45694
Selenium	ND	0.0019	0.0050		mg/L	5	9/19/2017 4:35:27 PM	B45740
Uranium	0.0092	0.000050	0.00050		mg/L	1	9/18/2017 2:13:20 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00038	0.00030	0.0010	J	mg/L	1	9/26/2017 10:22:23 AM	34049
Lead	ND	0.000095	0.00050		mg/L	1	9/26/2017 10:22:23 AM	34049
Selenium	ND	0.00071	0.0010		mg/L	1	9/26/2017 10:22:23 AM	34049
Uranium	0.0099	0.00015	0.00050		mg/L	1	9/26/2017 10:22:23 AM	34049
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/27/2017 9:43:45 AM	34072
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Acetone	3.6	0.82	10	J	µg/L	1	9/16/2017 1:06:00 AM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/16/2017 1:06:00 AM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/16/2017 1:06:00 AM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-1C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 9:00:00 AM
Lab ID: 1709795-004
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/16/2017 1:06:00 AM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/16/2017 1:06:00 AM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/16/2017 1:06:00 AM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/16/2017 1:06:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-1C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 9:00:00 AM
Lab ID: 1709795-004
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	96.4	0	70-130		%Rec	1	9/16/2017 1:06:00 AM	A45649
Surr: 4-Bromofluorobenzene	97.5	0	70-130		%Rec	1	9/16/2017 1:06:00 AM	A45649
Surr: Dibromofluoromethane	99.6	0	70-130		%Rec	1	9/16/2017 1:06:00 AM	A45649
Surr: Toluene-d8	90.5	0	70-130		%Rec	1	9/16/2017 1:06:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2A
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:20:00 PM
Lab ID: 1709795-005
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/21/2017 2:38:46 AM	33897
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/21/2017 2:38:46 AM	33897
Surr: DNOP	96.3	0	72.4-157		%Rec	1	9/21/2017 2:38:46 AM	33897
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 9:06:39 PM	2G4570
Surr: BFB	99.0	0	52.3-138		%Rec	1	9/18/2017 9:06:39 PM	2G4570
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.99	0.22	0.50		mg/L	5	9/15/2017 3:49:00 AM	A45645
Chloride	36	1.2	2.5		mg/L	5	9/15/2017 3:49:00 AM	A45645
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/15/2017 3:49:00 AM	A45645
Bromide	0.44	0.073	0.50	J	mg/L	5	9/15/2017 3:49:00 AM	A45645
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/15/2017 3:49:00 AM	A45645
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/15/2017 3:49:00 AM	A45645
Sulfate	6.4	0.48	2.5		mg/L	5	9/15/2017 3:49:00 AM	A45645
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.13	0.00085	0.0020		mg/L	1	10/12/2017 7:44:03 PM	A46309
Cadmium	ND	0.0010	0.0020		mg/L	1	10/12/2017 7:44:03 PM	A46309
Calcium	8.8	0.078	1.0		mg/L	1	10/12/2017 7:44:03 PM	A46309
Chromium	ND	0.0013	0.0060		mg/L	1	10/12/2017 7:44:03 PM	A46309
Copper	ND	0.0032	0.0060		mg/L	1	10/12/2017 7:44:03 PM	A46309
Iron	0.11	0.016	0.020		mg/L	1	10/12/2017 7:44:03 PM	A46309
Magnesium	3.4	0.25	1.0		mg/L	1	10/12/2017 7:44:03 PM	A46309
Manganese	0.13	0.00039	0.0020	*	mg/L	1	10/12/2017 7:44:03 PM	A46309
Potassium	0.37	0.11	1.0	J	mg/L	1	10/12/2017 7:44:03 PM	A46309
Silver	ND	0.0018	0.0050		mg/L	1	10/12/2017 7:44:03 PM	A46309
Sodium	340	1.6	10		mg/L	10	9/25/2017 9:08:48 PM	B45896
Zinc	0.0088	0.0021	0.010	J	mg/L	1	10/12/2017 7:44:03 PM	A46309
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.16	0.00093	0.0020		mg/L	1	9/26/2017 8:35:20 PM	34049
Cadmium	ND	0.00058	0.0020		mg/L	1	9/26/2017 8:35:20 PM	34049
Chromium	0.0036	0.0018	0.0060	J	mg/L	1	9/26/2017 8:35:20 PM	34049
Copper	0.0033	0.0017	0.0060	J	mg/L	1	9/26/2017 8:35:20 PM	34049
Iron	1.2	0.10	0.20	*	mg/L	10	9/26/2017 8:37:04 PM	34049
Manganese	0.17	0.0011	0.0020	*	mg/L	1	9/26/2017 8:35:20 PM	34049
Silver	ND	0.0012	0.0050		mg/L	1	9/26/2017 8:35:20 PM	34049
Zinc	ND	0.0033	0.010		mg/L	1	9/26/2017 8:35:20 PM	34049
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2A
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:20:00 PM
Lab ID: 1709795-005
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0079	0.00018	0.0010		mg/L	1	9/18/2017 2:16:23 PM	B45694
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:16:23 PM	B45694
Selenium	0.0031	0.0019	0.0050	J	mg/L	5	9/19/2017 4:38:30 PM	B45740
Uranium	ND	0.000050	0.00050		mg/L	1	9/18/2017 2:16:23 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0075	0.00030	0.0010		mg/L	1	9/26/2017 10:25:23 AM	34049
Lead	0.00068	0.000095	0.00050		mg/L	1	9/26/2017 10:25:23 AM	34049
Selenium	0.0019	0.00071	0.0010		mg/L	1	9/26/2017 10:25:23 AM	34049
Uranium	ND	0.00015	0.00050		mg/L	1	9/26/2017 10:25:23 AM	34049
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/27/2017 9:45:45 AM	34072
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Acetone	9.1	0.82	10	J	µg/L	1	9/16/2017 1:30:00 AM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/16/2017 1:30:00 AM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/16/2017 1:30:00 AM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2A
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:20:00 PM
Lab ID: 1709795-005
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/16/2017 1:30:00 AM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/16/2017 1:30:00 AM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/16/2017 1:30:00 AM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/16/2017 1:30:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2A
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:20:00 PM
Lab ID: 1709795-005
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	99.6	0	70-130		%Rec	1	9/16/2017 1:30:00 AM	A45649
Surr: 4-Bromofluorobenzene	94.6	0	70-130		%Rec	1	9/16/2017 1:30:00 AM	A45649
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/16/2017 1:30:00 AM	A45649
Surr: Toluene-d8	89.8	0	70-130		%Rec	1	9/16/2017 1:30:00 AM	A45649

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:55:00 PM
Lab ID: 1709795-006
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/21/2017 3:07:08 AM	33897
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/21/2017 3:07:08 AM	33897
Surr: DNOP	97.9	0	72.4-157		%Rec	1	9/21/2017 3:07:08 AM	33897
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 9:30:14 PM	2G4570
Surr: BFB	101	0	52.3-138		%Rec	1	9/18/2017 9:30:14 PM	2G4570
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.5	0.22	0.50		mg/L	5	9/15/2017 4:13:50 AM	A45645
Chloride	29	1.2	2.5		mg/L	5	9/15/2017 4:13:50 AM	A45645
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/15/2017 4:13:50 AM	A45645
Bromide	0.73	0.073	0.50		mg/L	5	9/15/2017 4:13:50 AM	A45645
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/15/2017 4:13:50 AM	A45645
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/15/2017 4:13:50 AM	A45645
Sulfate	180	0.48	2.5		mg/L	5	9/15/2017 4:13:50 AM	A45645
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.042	0.00085	0.0020		mg/L	1	9/25/2017 9:19:14 PM	B45896
Cadmium	ND	0.0010	0.0020		mg/L	1	9/25/2017 9:19:14 PM	B45896
Calcium	12	0.078	1.0		mg/L	1	9/25/2017 9:19:14 PM	B45896
Chromium	ND	0.0013	0.0060		mg/L	1	9/25/2017 9:19:14 PM	B45896
Copper	ND	0.0032	0.0060		mg/L	1	9/25/2017 9:19:14 PM	B45896
Iron	0.21	0.016	0.020		mg/L	1	9/25/2017 9:19:14 PM	B45896
Magnesium	3.0	0.25	1.0		mg/L	1	9/25/2017 9:19:14 PM	B45896
Manganese	0.16	0.00039	0.0020	*	mg/L	1	9/25/2017 9:19:14 PM	B45896
Potassium	1.4	0.11	1.0		mg/L	1	9/25/2017 9:19:14 PM	B45896
Silver	ND	0.0018	0.0050		mg/L	1	9/25/2017 9:19:14 PM	B45896
Sodium	580	1.6	10		mg/L	10	9/25/2017 9:21:56 PM	B45896
Zinc	ND	0.0021	0.010		mg/L	1	10/17/2017 5:13:57 PM	A46457
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.087	0.00093	0.0020		mg/L	1	9/26/2017 8:38:49 PM	34049
Cadmium	ND	0.00058	0.0020		mg/L	1	9/26/2017 8:38:49 PM	34049
Chromium	0.0078	0.0018	0.0060		mg/L	1	9/26/2017 8:38:49 PM	34049
Copper	0.0042	0.0017	0.0060	J	mg/L	1	9/26/2017 8:38:49 PM	34049
Iron	3.2	0.10	0.20	*	mg/L	10	9/26/2017 8:46:35 PM	34049
Manganese	0.22	0.0011	0.0020	*	mg/L	1	9/26/2017 8:38:49 PM	34049
Silver	ND	0.0012	0.0050		mg/L	1	9/26/2017 8:38:49 PM	34049
Zinc	0.0070	0.0033	0.010	J	mg/L	1	9/26/2017 8:38:49 PM	34049
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:55:00 PM
Lab ID: 1709795-006
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0022	0.0018	0.010	J	mg/L	10	9/19/2017 4:47:43 PM	B45740
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:19:26 PM	B45694
Selenium	0.0055	0.0039	0.010	J	mg/L	10	9/19/2017 4:47:43 PM	B45740
Uranium	0.014	0.000050	0.00050		mg/L	1	9/18/2017 2:19:26 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0021	0.00030	0.0010		mg/L	1	9/26/2017 10:28:24 AM	34049
Lead	0.0020	0.000095	0.00050		mg/L	1	9/26/2017 10:28:24 AM	34049
Selenium	0.0029	0.00071	0.0010		mg/L	1	9/26/2017 10:28:24 AM	34049
Uranium	0.014	0.00015	0.00050		mg/L	1	9/26/2017 10:28:24 AM	34049
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/27/2017 9:47:46 AM	34072
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Acetone	6.1	0.82	10	J	µg/L	1	9/16/2017 1:54:00 AM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/16/2017 1:54:00 AM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/16/2017 1:54:00 AM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:55:00 PM
Lab ID: 1709795-006
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/16/2017 1:54:00 AM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/16/2017 1:54:00 AM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/16/2017 1:54:00 AM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/16/2017 1:54:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 2:55:00 PM
Lab ID: 1709795-006
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	99.8	0	70-130		%Rec	1	9/16/2017 1:54:00 AM	A45649
Surr: 4-Bromofluorobenzene	94.8	0	70-130		%Rec	1	9/16/2017 1:54:00 AM	A45649
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/16/2017 1:54:00 AM	A45649
Surr: Toluene-d8	90.8	0	70-130		%Rec	1	9/16/2017 1:54:00 AM	A45649

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 1:05:00 PM
Lab ID: 1709795-007
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/21/2017 3:35:32 AM	33897
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/21/2017 3:35:32 AM	33897
Surr: DNOP	97.8	0	72.4-157		%Rec	1	9/21/2017 3:35:32 AM	33897
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 9:53:42 PM	2G4570
Surr: BFB	99.0	0	52.3-138		%Rec	1	9/18/2017 9:53:42 PM	2G4570
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.8	0.22	0.50		mg/L	5	9/15/2017 4:38:39 AM	A45645
Chloride	44	1.2	2.5		mg/L	5	9/15/2017 4:38:39 AM	A45645
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/15/2017 4:38:39 AM	A45645
Bromide	0.13	0.073	0.50	J	mg/L	5	9/15/2017 4:38:39 AM	A45645
Nitrogen, Nitrate (As N)	0.11	0.11	0.50	J	mg/L	5	9/15/2017 4:38:39 AM	A45645
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/15/2017 4:38:39 AM	A45645
Sulfate	260	1.9	10		mg/L	20	9/15/2017 4:51:04 AM	A45645
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.014	0.00085	0.0020		mg/L	1	9/25/2017 9:24:25 PM	B45896
Cadmium	ND	0.0010	0.0020		mg/L	1	9/25/2017 9:24:25 PM	B45896
Calcium	2.0	0.078	1.0		mg/L	1	9/25/2017 9:24:25 PM	B45896
Chromium	0.0014	0.0013	0.0060	J	mg/L	1	9/25/2017 9:24:25 PM	B45896
Copper	ND	0.0032	0.0060		mg/L	1	9/25/2017 9:24:25 PM	B45896
Iron	ND	0.016	0.020		mg/L	1	9/25/2017 9:24:25 PM	B45896
Magnesium	0.35	0.25	1.0	J	mg/L	1	9/25/2017 9:24:25 PM	B45896
Manganese	0.0015	0.00039	0.0020	J	mg/L	1	9/25/2017 9:24:25 PM	B45896
Potassium	0.64	0.11	1.0	J	mg/L	1	9/25/2017 9:24:25 PM	B45896
Silver	ND	0.0018	0.0050		mg/L	1	9/25/2017 9:24:25 PM	B45896
Sodium	320	1.6	10		mg/L	10	9/25/2017 9:27:13 PM	B45896
Zinc	0.087	0.0021	0.010		mg/L	1	10/17/2017 5:15:25 PM	A46457
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.025	0.00093	0.0020		mg/L	1	9/26/2017 8:48:23 PM	34049
Cadmium	ND	0.00058	0.0020		mg/L	1	9/26/2017 8:48:23 PM	34049
Chromium	0.0090	0.0018	0.0060		mg/L	1	9/26/2017 8:48:23 PM	34049
Copper	0.0035	0.0017	0.0060	J	mg/L	1	9/26/2017 8:48:23 PM	34049
Iron	0.41	0.010	0.020	*	mg/L	1	9/26/2017 8:48:23 PM	34049
Manganese	0.039	0.0011	0.0020		mg/L	1	9/26/2017 8:48:23 PM	34049
Silver	ND	0.0012	0.0050		mg/L	1	9/26/2017 8:48:23 PM	34049
Zinc	0.0051	0.0033	0.010	J	mg/L	1	9/26/2017 8:48:23 PM	34049
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 1:05:00 PM
Lab ID: 1709795-007
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00079	0.00018	0.0010	J	mg/L	1	9/18/2017 2:22:30 PM	B45694
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:22:30 PM	B45694
Selenium	ND	0.0019	0.0050		mg/L	5	9/19/2017 4:50:46 PM	B45740
Uranium	0.0046	0.000050	0.00050		mg/L	1	9/18/2017 2:22:30 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.00076	0.00030	0.0010	J	mg/L	1	9/26/2017 10:37:28 AM	34049
Lead	0.00050	0.000095	0.00050	J	mg/L	1	9/26/2017 10:37:28 AM	34049
Selenium	0.00092	0.00071	0.0010	J	mg/L	1	9/26/2017 10:37:28 AM	34049
Uranium	0.0047	0.00015	0.00050		mg/L	1	9/26/2017 10:37:28 AM	34049
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/27/2017 9:49:47 AM	34072
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Acetone	6.9	0.82	10	J	µg/L	1	9/16/2017 2:18:00 AM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/16/2017 2:18:00 AM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/16/2017 2:18:00 AM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 1:05:00 PM
Lab ID: 1709795-007 **Matrix:** AQUEOUS **Received Date:** 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/16/2017 2:18:00 AM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/16/2017 2:18:00 AM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/16/2017 2:18:00 AM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/16/2017 2:18:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-2C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 1:05:00 PM
Lab ID: 1709795-007
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	97.2	0	70-130		%Rec	1	9/16/2017 2:18:00 AM	A45649
Surr: 4-Bromofluorobenzene	95.7	0	70-130		%Rec	1	9/16/2017 2:18:00 AM	A45649
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/16/2017 2:18:00 AM	A45649
Surr: Toluene-d8	89.7	0	70-130		%Rec	1	9/16/2017 2:18:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:50:00 AM
Lab ID: 1709795-008
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/21/2017 4:04:05 AM	33897
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/21/2017 4:04:05 AM	33897
Surr: DNOP	98.9	0	72.4-157		%Rec	1	9/21/2017 4:04:05 AM	33897
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 10:17:15 PM	2G4570
Surr: BFB	105	0	52.3-138		%Rec	1	9/18/2017 10:17:15 PM	2G4570
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.4	0.22	0.50		mg/L	5	9/15/2017 5:03:28 AM	A45645
Chloride	29	1.2	2.5		mg/L	5	9/15/2017 5:03:28 AM	A45645
Nitrogen, Nitrite (As N)	ND	0.034	0.50		mg/L	5	9/15/2017 5:03:28 AM	A45645
Bromide	0.44	0.073	0.50	J	mg/L	5	9/15/2017 5:03:28 AM	A45645
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	9/15/2017 5:03:28 AM	A45645
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	9/15/2017 5:03:28 AM	A45645
Sulfate	38	0.48	2.5		mg/L	5	9/15/2017 5:03:28 AM	A45645
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.083	0.00085	0.0020		mg/L	1	10/2/2017 7:38:50 PM	A46032
Cadmium	ND	0.0010	0.0020		mg/L	1	9/28/2017 7:13:56 PM	B45989
Calcium	7.7	0.078	1.0		mg/L	1	9/25/2017 9:29:47 PM	B45896
Chromium	0.0016	0.0013	0.0060	J	mg/L	1	9/28/2017 7:13:56 PM	B45989
Copper	ND	0.0032	0.0060		mg/L	1	9/28/2017 7:13:56 PM	B45989
Iron	0.098	0.016	0.020		mg/L	1	9/28/2017 7:13:56 PM	B45989
Magnesium	2.7	0.25	1.0		mg/L	1	9/25/2017 9:29:47 PM	B45896
Manganese	0.075	0.00039	0.0020	*	mg/L	1	9/28/2017 7:13:56 PM	B45989
Potassium	0.80	0.11	1.0	J	mg/L	1	9/25/2017 9:29:47 PM	B45896
Silver	ND	0.0018	0.0050		mg/L	1	9/28/2017 7:13:56 PM	B45989
Sodium	380	1.6	10		mg/L	10	10/4/2017 12:41:54 PM	A46098
Zinc	ND	0.0021	0.010		mg/L	1	10/2/2017 7:38:50 PM	A46032
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.12	0.00093	0.0020		mg/L	1	9/26/2017 8:52:00 PM	34049
Cadmium	ND	0.00058	0.0020		mg/L	1	9/26/2017 8:52:00 PM	34049
Chromium	0.0018	0.0018	0.0060	J	mg/L	1	9/26/2017 8:52:00 PM	34049
Copper	0.0027	0.0017	0.0060	J	mg/L	1	9/26/2017 8:52:00 PM	34049
Iron	1.1	0.10	0.20	*	mg/L	10	9/26/2017 8:53:43 PM	34049
Manganese	0.12	0.0011	0.0020	*	mg/L	1	9/26/2017 8:52:00 PM	34049
Silver	ND	0.0012	0.0050		mg/L	1	9/26/2017 8:52:00 PM	34049
Zinc	0.0040	0.0033	0.010	J	mg/L	1	9/26/2017 8:52:00 PM	34049
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:50:00 AM
Lab ID: 1709795-008
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0052	0.00018	0.0010		mg/L	1	9/18/2017 2:31:43 PM	B45694
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:31:43 PM	B45694
Selenium	0.0027	0.0019	0.0050	J	mg/L	5	9/19/2017 4:53:49 PM	B45740
Uranium	0.00016	0.000050	0.00050	J	mg/L	1	9/18/2017 2:31:43 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0052	0.00030	0.0010		mg/L	1	9/26/2017 10:40:29 AM	34049
Lead	0.00075	0.000095	0.00050		mg/L	1	9/26/2017 10:40:29 AM	34049
Selenium	0.0016	0.00071	0.0010		mg/L	1	9/26/2017 10:40:29 AM	34049
Uranium	0.00020	0.00015	0.00050	J	mg/L	1	9/26/2017 10:40:29 AM	34049
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/27/2017 9:51:48 AM	34072
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Acetone	8.6	0.82	10	J	µg/L	1	9/16/2017 2:41:00 AM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/16/2017 2:41:00 AM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/16/2017 2:41:00 AM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:50:00 AM
Lab ID: 1709795-008
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/16/2017 2:41:00 AM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/16/2017 2:41:00 AM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/16/2017 2:41:00 AM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/16/2017 2:41:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3B
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:50:00 AM
Lab ID: 1709795-008
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 1,2-Dichloroethane-d4	96.7	0	70-130		%Rec	1	9/16/2017 2:41:00 AM	A45649
Surr: 4-Bromofluorobenzene	96.4	0	70-130		%Rec	1	9/16/2017 2:41:00 AM	A45649
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	9/16/2017 2:41:00 AM	A45649
Surr: Toluene-d8	89.6	0	70-130		%Rec	1	9/16/2017 2:41:00 AM	A45649

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:20:00 AM
Lab ID: 1709795-009
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **JME**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	9/21/2017 4:32:28 AM	33897
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/21/2017 4:32:28 AM	33897
Surr: DNOP	98.6	0	72.4-157		%Rec	1	9/21/2017 4:32:28 AM	33897
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	0.025	0.050		mg/L	1	9/18/2017 10:40:45 PM	2G4570
Surr: BFB	101	0	52.3-138		%Rec	1	9/18/2017 10:40:45 PM	2G4570
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.2	0.22	0.50		mg/L	5	9/18/2017 2:08:54 PM	R45706
Chloride	36	5.0	10		mg/L	20	9/15/2017 6:17:55 AM	A45645
Bromide	0.42	0.073	0.50	J	mg/L	5	9/18/2017 2:08:54 PM	R45706
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	9/18/2017 2:08:54 PM	R45706
Sulfate	320	1.9	10		mg/L	20	9/15/2017 6:17:55 AM	A45645
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	9/27/2017 7:16:13 PM	R45954
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.023	0.00085	0.0020		mg/L	1	10/12/2017 7:46:00 PM	A46309
Cadmium	ND	0.0010	0.0020		mg/L	1	10/12/2017 7:46:00 PM	A46309
Calcium	3.4	0.078	1.0		mg/L	1	10/12/2017 7:46:00 PM	A46309
Chromium	0.0027	0.0013	0.0060	J	mg/L	1	10/12/2017 7:46:00 PM	A46309
Copper	ND	0.0032	0.0060		mg/L	1	10/12/2017 7:46:00 PM	A46309
Iron	0.044	0.016	0.020		mg/L	1	10/12/2017 7:46:00 PM	A46309
Magnesium	0.56	0.25	1.0	J	mg/L	1	10/12/2017 7:46:00 PM	A46309
Manganese	0.013	0.00039	0.0020		mg/L	1	10/12/2017 7:46:00 PM	A46309
Potassium	0.93	0.11	1.0	J	mg/L	1	10/12/2017 7:46:00 PM	A46309
Silver	ND	0.0018	0.0050		mg/L	1	10/12/2017 7:46:00 PM	A46309
Sodium	360	1.6	10		mg/L	10	9/25/2017 9:35:40 PM	B45896
Zinc	0.014	0.0021	0.010		mg/L	1	10/12/2017 7:46:00 PM	A46309
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.032	0.00093	0.0020		mg/L	1	9/26/2017 8:55:28 PM	34049
Cadmium	ND	0.00058	0.0020		mg/L	1	9/26/2017 8:55:28 PM	34049
Chromium	0.015	0.0018	0.0060		mg/L	1	9/26/2017 8:55:28 PM	34049
Copper	0.0045	0.0017	0.0060	J	mg/L	1	9/26/2017 8:55:28 PM	34049
Iron	0.62	0.010	0.020	*	mg/L	1	9/26/2017 8:55:28 PM	34049
Manganese	0.025	0.0011	0.0020		mg/L	1	9/26/2017 8:55:28 PM	34049
Silver	ND	0.0012	0.0050		mg/L	1	9/26/2017 8:55:28 PM	34049
Zinc	0.012	0.0033	0.010		mg/L	1	9/26/2017 8:55:28 PM	34049
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0013	0.00018	0.0010		mg/L	1	9/18/2017 2:34:46 PM	B45694

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:20:00 AM
Lab ID: 1709795-009
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	ND	0.00017	0.00050		mg/L	1	9/18/2017 2:34:46 PM	B45694
Selenium	ND	0.0019	0.0050		mg/L	5	9/19/2017 4:56:53 PM	B45740
Uranium	0.0016	0.000050	0.00050		mg/L	1	9/18/2017 2:34:46 PM	B45694
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0016	0.00030	0.0010		mg/L	1	9/26/2017 10:49:31 AM	34049
Lead	0.00040	0.000095	0.00050	J	mg/L	1	9/26/2017 10:49:31 AM	34049
Selenium	ND	0.0036	0.0050		mg/L	5	9/26/2017 11:39:04 AM	34049
Uranium	0.0016	0.00015	0.00050		mg/L	1	9/26/2017 10:49:31 AM	34049
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	9/27/2017 9:53:41 AM	34072
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Toluene	ND	0.064	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Ethylbenzene	ND	0.093	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Naphthalene	ND	0.11	2.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Acetone	3.8	0.82	10	J	µg/L	1	9/16/2017 3:05:00 AM	A45649
Bromobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Bromodichloromethane	ND	0.18	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Bromoform	ND	0.21	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Bromomethane	ND	0.26	3.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
2-Butanone	ND	1.1	10		µg/L	1	9/16/2017 3:05:00 AM	A45649
Carbon disulfide	ND	0.40	10		µg/L	1	9/16/2017 3:05:00 AM	A45649
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Chlorobenzene	ND	0.11	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Chloroethane	ND	0.23	2.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Chloroform	ND	0.40	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Chloromethane	ND	0.29	3.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:20:00 AM
Lab ID: 1709795-009
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Dibromochloromethane	ND	0.072	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Dibromomethane	ND	0.091	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
2-Hexanone	ND	0.66	10		µg/L	1	9/16/2017 3:05:00 AM	A45649
Isopropylbenzene	ND	0.051	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	9/16/2017 3:05:00 AM	A45649
Methylene Chloride	ND	0.11	3.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
n-Butylbenzene	ND	0.13	3.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
n-Propylbenzene	ND	0.074	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Styrene	ND	0.16	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Vinyl chloride	ND	0.18	1.0		µg/L	1	9/16/2017 3:05:00 AM	A45649
Xylenes, Total	ND	0.32	1.5		µg/L	1	9/16/2017 3:05:00 AM	A45649
Surr: 1,2-Dichloroethane-d4	97.7	0	70-130		%Rec	1	9/16/2017 3:05:00 AM	A45649

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-3C
Project: 2017 Annual Ground Water
Collection Date: 9/13/2017 11:20:00 AM
Lab ID: 1709795-009
Matrix: AQUEOUS
Received Date: 9/14/2017 2:21:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	96.0	0	70-130		%Rec	1	9/16/2017 3:05:00 AM	A45649
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	9/16/2017 3:05:00 AM	A45649
Surr: Toluene-d8	91.4	0	70-130		%Rec	1	9/16/2017 3:05:00 AM	A45649

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45896**	RunNo: **45896**
Prep Date:	Analysis Date: **9/25/2017**	SeqNo: **1458487** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A45989**	RunNo: **45989**
Prep Date:	Analysis Date: **9/28/2017**	SeqNo: **1461968** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	0.12	1.0								J
Chromium	ND	0.0060								
Copper	0.0042	0.0060								J
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A45989**	RunNo: **45989**
Prep Date:	Analysis Date: **9/28/2017**	SeqNo: **1461970** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Cadmium	0.0022	0.0020	0.002000	0	112	50	150			
Calcium	0.56	1.0	0.5000	0	111	50	150			J
Chromium	0.0064	0.0060	0.006000	0	106	50	150			
Copper	0.0049	0.0060	0.006000	0	82.0	50	150			J
Iron	0.027	0.020	0.02000	0	136	50	150			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A45989**	RunNo: **45989**
Prep Date:	Analysis Date: **9/28/2017**	SeqNo: **1461970** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Potassium	0.55	1.0	0.5000	0	111	50	150			J
Silver	0.0054	0.0050	0.005000	0	109	50	150			
Sodium	0.51	1.0	0.5000	0	102	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A45989**	RunNo: **45989**
Prep Date:	Analysis Date: **9/28/2017**	SeqNo: **1461979** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	104	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	54	1.0	50.00	0	107	85	115			
Chromium	0.52	0.0060	0.5000	0	105	85	115			
Copper	0.50	0.0060	0.5000	0	99.3	85	115			
Iron	0.53	0.020	0.5000	0	107	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Manganese	0.51	0.0020	0.5000	0	102	85	115			
Potassium	49	1.0	50.00	0	98.9	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	49	1.0	50.00	0	98.0	85	115			

Sample ID **1709795-003DMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **Duplicate**	Batch ID: **A45989**	RunNo: **45989**
Prep Date:	Analysis Date: **9/28/2017**	SeqNo: **1461986** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.57	0.0020	0.5000	0.04605	105	70	130			
Cadmium	0.53	0.0020	0.5000	0	105	70	130			
Calcium	67	1.0	50.00	13.52	107	70	130			
Chromium	0.53	0.0060	0.5000	0	106	70	130			
Copper	0.53	0.0060	0.5000	0	105	70	130			
Iron	0.75	0.020	0.5000	0.2248	106	70	130			
Magnesium	54	1.0	50.00	3.088	101	70	130			
Manganese	0.67	0.0020	0.5000	0.1681	101	70	130			
Potassium	51	1.0	50.00	1.275	99.4	70	130			
Silver	0.057	0.0050	0.1000	0	56.9	70	130			S

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID	**1709795-003DMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**Duplicate**	Batch ID:	**A45989**		RunNo:	**45989**				
Prep Date:		Analysis Date:	**9/28/2017**		SeqNo:	**1461987**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.04605	104	70	130	1.15	20	
Cadmium	0.52	0.0020	0.5000	0	103	70	130	1.68	20	
Calcium	67	1.0	50.00	13.52	106	70	130	0.348	20	
Chromium	0.52	0.0060	0.5000	0	104	70	130	1.77	20	
Copper	0.52	0.0060	0.5000	0	104	70	130	1.22	20	
Iron	0.74	0.020	0.5000	0.2248	102	70	130	2.19	20	
Magnesium	53	1.0	50.00	3.088	101	70	130	0.657	20	
Manganese	0.67	0.0020	0.5000	0.1681	99.8	70	130	1.12	20	
Potassium	51	1.0	50.00	1.275	98.6	70	130	0.780	20	
Silver	0.054	0.0050	0.1000	0	54.4	70	130	4.62	20	S

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46032**		RunNo:	**46032**				
Prep Date:		Analysis Date:	**10/2/2017**		SeqNo:	**1463912**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Zinc	ND	0.010								

Sample ID	**LLLCS-A**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**A46032**		RunNo:	**46032**				
Prep Date:		Analysis Date:	**10/2/2017**		SeqNo:	**1463916**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	84.0	50	150			J
Zinc	0.0048	0.010	0.005000	0	95.6	50	150			J

Sample ID	**LCS-A**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A46032**		RunNo:	**46032**				
Prep Date:		Analysis Date:	**10/2/2017**		SeqNo:	**1463919**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.2	85	115			
Zinc	0.48	0.010	0.5000	0	95.5	85	115			

Sample ID	**MB-A**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46098**		RunNo:	**46098**				
Prep Date:		Analysis Date:	**10/4/2017**		SeqNo:	**1466543**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46098**	RunNo: **46098**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466543** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46098**	RunNo: **46098**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466545** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.51	1.0	0.5000	0	101	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46098**	RunNo: **46098**
Prep Date:	Analysis Date: **10/4/2017**	SeqNo: **1466547** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	97.7	85	115			

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45896**	RunNo: **45896**
Prep Date:	Analysis Date: **9/25/2017**	SeqNo: **1470107** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0010	0.0020	0.002000	0	52.5	50	150			J
Cadmium	0.0019	0.0020	0.002000	0	93.5	50	150			J
Calcium	0.50	1.0	0.5000	0	99.8	50	150			J
Chromium	0.0055	0.0060	0.006000	0	92.2	50	150			J
Copper	0.0037	0.0060	0.006000	0	61.8	50	150			J
Iron	0.024	0.020	0.02000	0	120	50	150			
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Manganese	0.0017	0.0020	0.002000	0	86.0	50	150			J
Potassium	0.64	1.0	0.5000	0	128	50	150			J
Silver	0.0047	0.0050	0.005000	0	93.0	50	150			J
Sodium	0.53	1.0	0.5000	0	107	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45896**	RunNo: **45896**
Prep Date:	Analysis Date: **9/25/2017**	SeqNo: **1470108** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45896**	RunNo: **45896**
Prep Date:	Analysis Date: **9/25/2017**	SeqNo: **1470108** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	46	1.0	50.00	0	92.1	85	115			
Chromium	0.49	0.0060	0.5000	0	97.7	85	115			
Copper	0.50	0.0060	0.5000	0	99.3	85	115			
Iron	0.47	0.020	0.5000	0	94.2	85	115			
Magnesium	49	1.0	50.00	0	98.0	85	115			
Manganese	0.48	0.0020	0.5000	0	95.3	85	115			
Potassium	48	1.0	50.00	0	96.9	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	49	1.0	50.00	0	98.6	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475103** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475106** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	91.5	50	150			J
Cadmium	0.0023	0.0020	0.002000	0	114	50	150			
Calcium	0.57	1.0	0.5000	0	114	50	150			J
Chromium	0.0061	0.0060	0.006000	0	102	50	150			
Copper	0.0066	0.0060	0.006000	0	110	50	150			
Iron	0.024	0.020	0.02000	0	118	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0021	0.0020	0.002000	0	107	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475106** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	0.45	1.0	0.5000	0	90.5	50	150			J
Silver	0.0051	0.0050	0.005000	0	101	50	150			
Zinc	0.0082	0.010	0.005000	0	164	50	150			JS

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46309**	RunNo: **46309**
Prep Date:	Analysis Date: **10/12/2017**	SeqNo: **1475109** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.5	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.2	85	115			
Calcium	50	1.0	50.00	0	99.2	85	115			
Chromium	0.48	0.0060	0.5000	0	97.0	85	115			
Copper	0.50	0.0060	0.5000	0	99.6	85	115			
Iron	0.49	0.020	0.5000	0	97.4	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.48	0.0020	0.5000	0	96.4	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Zinc	0.47	0.010	0.5000	0	94.0	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46457**	RunNo: **46457**
Prep Date:	Analysis Date: **10/17/2017**	SeqNo: **1479767** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46457**	RunNo: **46457**
Prep Date:	Analysis Date: **10/17/2017**	SeqNo: **1479768** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0032	0.010	0.005000	0	64.6	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46457**	RunNo: **46457**
Prep Date:	Analysis Date: **10/17/2017**	SeqNo: **1479772** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A46457**			RunNo: **46457**					
Prep Date:		Analysis Date: **10/17/2017**			SeqNo: **1479772**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.49	0.010	0.5000	0	98.5	85	115			

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A46537**			RunNo: **46537**					
Prep Date:		Analysis Date: **10/20/2017**			SeqNo: **1482215**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A46537**			RunNo: **46537**					
Prep Date:		Analysis Date: **10/20/2017**			SeqNo: **1482217**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.47	0.010	0.5000	0	93.8	85	115			

Sample ID	**LLLCS-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A46537**			RunNo: **46537**					
Prep Date:		Analysis Date: **10/20/2017**			SeqNo: **1482220**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0060	0.010	0.005000	0	119	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **MB-34049**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34049**	RunNo: **45911**
Prep Date: **9/25/2017**	Analysis Date: **9/26/2017**	SeqNo: **1459091** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-34049**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34049**	RunNo: **45911**
Prep Date: **9/25/2017**	Analysis Date: **9/26/2017**	SeqNo: **1459092** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Chromium	0.0076	0.0060	0.006000	0	127	50	150			
Copper	0.0066	0.0060	0.006000	0	111	50	150			
Iron	0.023	0.020	0.02000	0	113	50	150			
Manganese	0.0021	0.0020	0.002000	0	107	50	150			
Silver	0.0053	0.0050	0.005000	0	107	50	150			
Zinc	0.0058	0.010	0.005000	0	117	50	150			J

Sample ID **LCS-34049**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34049**	RunNo: **45911**
Prep Date: **9/25/2017**	Analysis Date: **9/26/2017**	SeqNo: **1459093** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.0	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Chromium	0.50	0.0060	0.5000	0	99.2	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Silver	0.095	0.0050	0.1000	0	94.6	85	115			
Zinc	0.48	0.010	0.5000	0	96.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450645** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.4	85	115			
Lead	0.012	0.00050	0.01250	0	95.3	85	115			
Uranium	0.012	0.00050	0.01250	0	93.1	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450646** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00095	0.0010	0.001000	0	95.4	50	150			J
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Uranium	0.00045	0.00050	0.0005000	0	90.9	50	150			J

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45694**	RunNo: **45694**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1450647** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B45740**	RunNo: **45740**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1452476** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.4	85	115			
Selenium	0.023	0.0010	0.02500	0	90.7	85	115			

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B45740**	RunNo: **45740**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1452479** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	96.2	50	150			J
Selenium	0.00095	0.0010	0.001000	0	94.7	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B45740**	RunNo: **45740**
Prep Date:	Analysis Date: **9/19/2017**	SeqNo: **1452482** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID	**1709795-008ELLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BW-3B**	Batch ID:	**34049**		RunNo:	**45878**				
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**		SeqNo:	**1457965**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.030	0.0010	0.02500	0.005168	98.2	70	130			
Lead	0.014	0.00050	0.01250	0.0007468	109	70	130			
Selenium	0.024	0.0010	0.02500	0.001601	88.7	70	130			
Uranium	0.015	0.00050	0.01250	0.0002016	117	70	130			

Sample ID	**1709795-008ELLMS**	SampType:	**MSDLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BW-3B**	Batch ID:	**34049**		RunNo:	**45878**				
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**		SeqNo:	**1457967**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.031	0.0010	0.02500	0.005168	104	70	130	4.69	20	
Lead	0.015	0.00050	0.01250	0.0007468	113	70	130	3.98	20	
Selenium	0.025	0.0010	0.02500	0.001601	93.5	70	130	4.99	20	
Uranium	0.015	0.00050	0.01250	0.0002016	122	70	130	3.69	20	

Sample ID	**MB-34049**	SampType:	**MBLK**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**PBW**	Batch ID:	**34049**		RunNo:	**45878**				
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**		SeqNo:	**1457973**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLCS-34049**	SampType:	**LCS**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**LCSW**	Batch ID:	**34049**		RunNo:	**45878**				
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**		SeqNo:	**1457974**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.4	85	115			
Lead	0.012	0.00050	0.01250	0	99.7	85	115			
Selenium	0.024	0.0010	0.02500	0	94.9	85	115			
Uranium	0.012	0.00050	0.01250	0	99.0	85	115			

Sample ID	**MSLLLCS-34049**	SampType:	**LCSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**BatchQC**	Batch ID:	**34049**		RunNo:	**45878**				
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**		SeqNo:	**1457975**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**
25-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual Ground Water

Sample ID	**MSLLLCS-34049**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**34049**	RunNo:	**45878**					
Prep Date:	**9/25/2017**	Analysis Date:	**9/26/2017**	SeqNo:	**1457975**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00093	0.0010	0.001000	0	93.0	50	150			J
Lead	0.00047	0.00050	0.0005000	0	94.0	50	150			J
Selenium	0.00096	0.0010	0.001000	0	96.3	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	96.1	50	150			J

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

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WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID	**MB-34072**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34072**	RunNo:	**45912**					
Prep Date:	**9/26/2017**	Analysis Date:	**9/27/2017**	SeqNo:	**1459056**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34072**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34072**	RunNo:	**45912**					
Prep Date:	**9/26/2017**	Analysis Date:	**9/27/2017**	SeqNo:	**1459057**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	80	120			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A45645**	RunNo: **45645**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448678** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A45645**	RunNo: **45645**
Prep Date:	Analysis Date: **9/14/2017**	SeqNo: **1448679** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.3	90	110			
Chloride	4.7	0.50	5.000	0	93.9	90	110			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	93.5	90	110			
Bromide	2.4	0.10	2.500	0	94.5	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	96.0	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	93.9	90	110			
Sulfate	9.3	0.50	10.00	0	93.2	90	110			

Sample ID **1709795-009CMSD**	SampType: **msd**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BW-3C**	Batch ID: **A45645**	RunNo: **45645**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1448733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.68	0.10	0.5000	1.257	-115	68.4	112	4.02	20	S
Chloride	12	0.50	5.000	35.80	-469	80.8	121	2.94	20	S
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	89.5	78.6	103	3.63	20	
Bromide	2.3	0.10	2.500	0.4835	72.7	77	108	3.84	20	S
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	92.5	85.6	113	3.91	20	
Phosphorus, Orthophosphate (As P	4.4	0.50	5.000	0	88.5	68.2	116	3.72	20	

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45706**	RunNo: **45706**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1451061** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**
25-Oct-17

Client: Western Refining Southwest, Gallup
Project: 2017 Annual Ground Water

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45706**	RunNo: **45706**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1451061** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45706**	RunNo: **45706**
Prep Date:	Analysis Date: **9/18/2017**	SeqNo: **1451062** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	93.0	90	110			
Bromide	2.4	0.10	2.500	0	94.6	90	110			
Phosphorus, Orthophosphate (As P	4.5	0.50	5.000	0	90.2	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R45954**	RunNo: **45954**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460687** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R45954**	RunNo: **45954**
Prep Date:	Analysis Date: **9/27/2017**	SeqNo: **1460688** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **LCS-33897**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **33897**	RunNo: **45710**
Prep Date: **9/15/2017**	Analysis Date: **9/19/2017**	SeqNo: **1451844** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2	1.0	5.000	0	104	92.3	135			
Surr: DNOP	0.51		0.5000		103	72.4	157			

Sample ID **MB-33897**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **33897**	RunNo: **45710**
Prep Date: **9/15/2017**	Analysis Date: **9/19/2017**	SeqNo: **1451845** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		117	72.4	157			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID	**RB-II**	SampType:	**MBLK**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**PBW**	Batch ID:	**2G45703**	RunNo:	**45703**					
Prep Date:		Analysis Date:	**9/18/2017**	SeqNo:	**1450890**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		100	52.3	138			

Sample ID	**2.5UG GRO LCS-II**	SampType:	**LCS**	TestCode:	**EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSW**	Batch ID:	**2G45703**	RunNo:	**45703**					
Prep Date:		Analysis Date:	**9/18/2017**	SeqNo:	**1450891**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	95.5	75.8	123			
Surr: BFB	22		20.00		109	52.3	138			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

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Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A45649**	RunNo: **45649**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450075** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	20	1.0	20.00	0	98.4	70	130			
Chlorobenzene	20	1.0	20.00	0	98.4	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.0	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.1		10.00		91.4	70	130			

Sample ID **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A45649**	RunNo: **45649**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450076** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A45649**	RunNo: **45649**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450076** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709795**

25-Oct-17

Client: Western Refining Southwest, Gallup

Project: 2017 Annual Ground Water

Sample ID **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A45649**	RunNo: **45649**
Prep Date:	Analysis Date: **9/15/2017**	SeqNo: **1450076** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.7	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	70	130			
Surr: Toluene-d8	9.2		10.00		91.9	70	130			

Sample ID **1709795-003ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Duplicate**	Batch ID: **A45649**	RunNo: **45649**
Prep Date:	Analysis Date: **9/16/2017**	SeqNo: **1450077** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	19	1.0	20.00	0	96.4	70	130			
Chlorobenzene	19	1.0	20.00	0	96.9	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.3	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	9.0		10.00		89.8	70	130			

Sample ID **1709795-003amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **Duplicate**	Batch ID: **A45649**	RunNo: **45649**
Prep Date:	Analysis Date: **9/16/2017**	SeqNo: **1450078** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130	3.53	20	
Toluene	18	1.0	20.00	0	92.0	70	130	4.60	20	
Chlorobenzene	18	1.0	20.00	0	91.8	70	130	5.41	20	
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130	3.34	20	
Trichloroethene (TCE)	20	1.0	20.00	0	99.2	70	130	4.07	20	
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130	0	0	
Surr: Dibromofluoromethane	9.9		10.00		98.6	70	130	0	0	
Surr: Toluene-d8	9.0		10.00		89.8	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1709795** RcptNo: **1**

Received By: **Ashley Gallegos** **9/14/2017 2:21:00 PM**

Completed By: **Ashley Gallegos** **9/14/2017 2:30:16 PM**

Reviewed By: ENM 9/14/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 2 1
(<2 or >12 unless noted)
Adjusted? yes
Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks: Added 2 mL HNO_3 to 1709795-003E, 006E and 1 mL HNO_3 to 1709795-006D. -DDS 9/14/17 1540.

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

email or Fax# 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2017 ANNUAL GROUND WATER

Project #:

BW WELLS

Project Manager:

C. JOHNSON (cheryl.johnson@wnr.com)

Sampler: C. JOHNSON

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1709795	Analysis Request: 8260+MTBE	8015 (DRO/GRO/MRO)		WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions										Air Bubbles (Y or N)
9/13/2017	700	AQUEOUS	FIELD BLANK			-001	X															
9/13/2017	700	AQUEOUS	TRIP BLANK			-002	X															
9/13/2017	1510	AQUEOUS	DUPLICATE			-003	X	X		X	X	X										
9/13/2017	900	AQUEOUS	BW-1C			-004	X	X		X	X	X										
9/13/2017	1420	AQUEOUS	BW-2A			-005	X	X		X	X	X										
9/13/2017	1455	AQUEOUS	BW-2B			-006	X	X		X	X	X										
9/13/2017	1305	AQUEOUS	BW-2C			-007	X	X		X	X	X										
9/13/2017	1150	AQUEOUS	BW-3B			-008	X	X		X	X	X										
9/13/2017	1120	AQUEOUS	BW-3C			-009	X	X		X	X	X										

Date	Time	Relinquished by	Received by	Date	Time
9/14/17	1240			9/14/17	1240
9/14/17	1421			09/14/17	1421

Remarks: WQCC METALS TO ALSO INCLUDE THE RCRA 8 METALS

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any subcontracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 01, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 2017 3rd QTR MKTF OrderNo.: 1710267

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 10 sample(s) on 10/4/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 7:00:00 AM
Lab ID: 1710267-001 **Matrix:** AQUEOUS **Received Date:** 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.20	0.062	1.0	J	µg/L	1	10/5/2017 6:46:48 PM	W46148
Toluene	0.49	0.064	1.0	J	µg/L	1	10/5/2017 6:46:48 PM	W46148
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Naphthalene	ND	0.11	2.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Acetone	5.9	0.82	10	J	µg/L	1	10/5/2017 6:46:48 PM	W46148
Bromobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Bromoform	ND	0.21	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Bromomethane	ND	0.26	3.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
2-Butanone	ND	1.1	10		µg/L	1	10/5/2017 6:46:48 PM	W46148
Carbon disulfide	ND	0.40	10		µg/L	1	10/5/2017 6:46:48 PM	W46148
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Chloroethane	ND	0.23	2.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Chloroform	ND	0.40	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Chloromethane	ND	0.29	3.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Dibromomethane	ND	0.091	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/5/2017 6:46:48 PM	W46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Field Blank
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 7:00:00 AM
Lab ID: 1710267-001
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
2-Hexanone	ND	0.66	10		µg/L	1	10/5/2017 6:46:48 PM	W46148
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/5/2017 6:46:48 PM	W46148
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Styrene	ND	0.16	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/5/2017 6:46:48 PM	W46148
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/5/2017 6:46:48 PM	W46148
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	10/5/2017 6:46:48 PM	W46148
Surr: 4-Bromofluorobenzene	96.3	0	70-130		%Rec	1	10/5/2017 6:46:48 PM	W46148
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	10/5/2017 6:46:48 PM	W46148
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/5/2017 6:46:48 PM	W46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date:
Lab ID: 1710267-002
Matrix: TRIP BLANK
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Toluene	0.068	0.064	1.0	J	µg/L	1	10/5/2017 7:15:35 PM	W46148
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Naphthalene	ND	0.11	2.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Acetone	ND	0.82	10		µg/L	1	10/5/2017 7:15:35 PM	W46148
Bromobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Bromoform	ND	0.21	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Bromomethane	ND	0.26	3.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
2-Butanone	ND	1.1	10		µg/L	1	10/5/2017 7:15:35 PM	W46148
Carbon disulfide	ND	0.40	10		µg/L	1	10/5/2017 7:15:35 PM	W46148
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Chloroethane	ND	0.23	2.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Chloroform	ND	0.40	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Chloromethane	ND	0.29	3.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Dibromomethane	ND	0.091	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/5/2017 7:15:35 PM	W46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 2017 3rd QTR MKTF
Collection Date:
Lab ID: 1710267-002
Matrix: TRIP BLANK
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
2-Hexanone	ND	0.66	10		µg/L	1	10/5/2017 7:15:35 PM	W46148
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/5/2017 7:15:35 PM	W46148
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Styrene	ND	0.16	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/5/2017 7:15:35 PM	W46148
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/5/2017 7:15:35 PM	W46148
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	10/5/2017 7:15:35 PM	W46148
Surr: 4-Bromofluorobenzene	96.7	0	70-130		%Rec	1	10/5/2017 7:15:35 PM	W46148
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	10/5/2017 7:15:35 PM	W46148
Surr: Toluene-d8	104	0	70-130		%Rec	1	10/5/2017 7:15:35 PM	W46148

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 8:55:00 AM
Lab ID: 1710267-003
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	0.022	0.0060	0.0094		µg/L	1	10/10/2017 12:59:44 PM	34318
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.56	0.36	1.0	J	mg/L	1	10/10/2017 6:37:05 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 6:37:05 PM	34278
Surr: DNOP	130	0	77.5-161		%Rec	1	10/10/2017 6:37:05 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/5/2017 1:03:55 PM	R46186
Chloride	800	25	50		mg/L	100	10/17/2017 10:25:58 PM	R46427
Bromide	1.5	0.073	0.50		mg/L	5	10/5/2017 1:03:55 PM	R46186
Phosphorus, Orthophosphate (As P)	ND	5.0	10	H	mg/L	20	10/5/2017 1:16:20 PM	R46186
Sulfate	64	0.48	2.5		mg/L	5	10/5/2017 1:03:55 PM	R46186
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	10/5/2017 5:49:21 PM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.23	0.00085	0.0020		mg/L	1	10/19/2017 6:04:50 PM	A46509
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:04:50 PM	A46509
Calcium	180	0.78	10		mg/L	10	10/20/2017 4:37:44 PM	A46537
Chromium	ND	0.0013	0.0060		mg/L	1	10/19/2017 6:04:50 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:04:50 PM	A46509
Iron	0.85	0.016	0.020	*	mg/L	1	10/19/2017 6:04:50 PM	A46509
Magnesium	28	0.25	1.0		mg/L	1	10/19/2017 6:04:50 PM	A46509
Manganese	1.6	0.0039	0.020	*	mg/L	10	10/20/2017 4:37:44 PM	A46537
Potassium	3.0	0.11	1.0		mg/L	1	10/19/2017 6:04:50 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:04:50 PM	A46509
Sodium	600	1.6	10		mg/L	10	10/20/2017 4:37:44 PM	A46537
Zinc	0.058	0.0021	0.010		mg/L	1	10/19/2017 6:04:50 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.42	0.00093	0.0020		mg/L	1	10/17/2017 8:59:35 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 8:59:35 PM	34427
Chromium	0.0090	0.0018	0.0060		mg/L	1	10/17/2017 8:59:35 PM	34427
Copper	0.0084	0.0017	0.0060		mg/L	1	10/17/2017 8:59:35 PM	34427
Iron	8.3	0.10	0.20	*	mg/L	10	10/17/2017 9:01:21 PM	34427
Manganese	1.8	0.011	0.020	*	mg/L	10	10/17/2017 9:01:21 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 8:59:35 PM	34427
Zinc	0.019	0.0033	0.010		mg/L	1	10/19/2017 6:58:05 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0047	0.00089	0.0050	J	mg/L	5	10/9/2017 4:36:21 PM	A46217
Lead	0.00060	0.00017	0.00050		mg/L	1	10/6/2017 8:48:22 PM	D46196

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-24
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 8:55:00 AM
Lab ID: 1710267-003
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.0094	0.0019	0.0050		mg/L	5	10/9/2017 4:36:21 PM	A46217
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0039	0.00030	0.0010		mg/L	1	10/17/2017 12:17:27 PM	34427
Lead	0.011	0.000095	0.00050		mg/L	1	10/17/2017 12:17:27 PM	34427
Selenium	0.0052	0.00071	0.0010		mg/L	1	10/17/2017 12:17:27 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 9:11:08 AM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Benzoic acid	ND	3.9	20		µg/L	1	10/10/2017 1:28:56 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 1:28:56 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 1:28:56 PM	34281
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281

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Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 8:55:00 AM
Lab ID: 1710267-003
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 1:28:56 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 1:28:56 PM	34281
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 1:28:56 PM	34281
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/10/2017 1:28:56 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 1:28:56 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 1:28:56 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 1:28:56 PM	34281
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 1:28:56 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Naphthalene	ND	2.9	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 1:28:56 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 1:28:56 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 1:28:56 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Phenol	10	3.1	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 1:28:56 PM	34281
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 1:28:56 PM	34281

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 8:55:00 AM
Lab ID: 1710267-003
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 1:28:56 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 1:28:56 PM	34281
Surr: 2-Fluorophenol	62.9	0	15-88		%Rec	1	10/10/2017 1:28:56 PM	34281
Surr: Phenol-d5	53.4	0	15-72.4		%Rec	1	10/10/2017 1:28:56 PM	34281
Surr: 2,4,6-Tribromophenol	96.9	0	15-117		%Rec	1	10/10/2017 1:28:56 PM	34281
Surr: Nitrobenzene-d5	86.8	0	33.5-120		%Rec	1	10/10/2017 1:28:56 PM	34281
Surr: 2-Fluorobiphenyl	72.9	0	26.5-109		%Rec	1	10/10/2017 1:28:56 PM	34281
Surr: 4-Terphenyl-d14	94.3	0	21.7-98.7		%Rec	1	10/10/2017 1:28:56 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2600	12	200		µg/L	200	10/5/2017 10:36:05 PM	W46148
Toluene	19	1.3	20	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
Ethylbenzene	71	1.9	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Methyl tert-butyl ether (MTBE)	160	4.8	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2,4-Trimethylbenzene	ND	2.3	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,3,5-Trimethylbenzene	ND	1.7	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2-Dichloroethane (EDC)	9.9	8.0	20	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Naphthalene	ND	2.3	40		µg/L	20	10/5/2017 11:04:48 PM	W46148
1-Methylnaphthalene	ND	3.2	80		µg/L	20	10/5/2017 11:04:48 PM	W46148
2-Methylnaphthalene	ND	3.0	80		µg/L	20	10/5/2017 11:04:48 PM	W46148
Acetone	ND	16	200		µg/L	20	10/5/2017 11:04:48 PM	W46148
Bromobenzene	ND	2.8	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Bromodichloromethane	ND	3.5	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Bromoform	ND	4.2	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Bromomethane	ND	5.1	60		µg/L	20	10/5/2017 11:04:48 PM	W46148
2-Butanone	ND	23	200		µg/L	20	10/5/2017 11:04:48 PM	W46148
Carbon disulfide	ND	8.0	200		µg/L	20	10/5/2017 11:04:48 PM	W46148
Carbon Tetrachloride	ND	2.2	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Chlorobenzene	ND	2.1	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Chloroethane	ND	4.7	40		µg/L	20	10/5/2017 11:04:48 PM	W46148
Chloroform	ND	8.0	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Chloromethane	ND	5.9	60		µg/L	20	10/5/2017 11:04:48 PM	W46148
2-Chlorotoluene	ND	8.0	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
4-Chlorotoluene	ND	8.0	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
cis-1,2-DCE	18	4.1	20	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
cis-1,3-Dichloropropene	ND	1.6	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	10/5/2017 11:04:48 PM	W46148
Dibromochloromethane	ND	1.4	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Dibromomethane	ND	1.8	20		µg/L	20	10/5/2017 11:04:48 PM	W46148

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 8:55:00 AM
Lab ID: 1710267-003
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,2-Dichlorobenzene	ND	1.8	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,3-Dichlorobenzene	ND	3.0	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Dichlorodifluoromethane	ND	20	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,1-Dichloroethane	72	8.0	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,1-Dichloroethene	35	1.6	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2-Dichloropropane	ND	2.0	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,3-Dichloropropane	ND	3.3	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
2,2-Dichloropropane	ND	3.1	40		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,1-Dichloropropene	ND	1.9	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Hexachlorobutadiene	ND	16	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
2-Hexanone	ND	13	200		µg/L	20	10/5/2017 11:04:48 PM	W46148
Isopropylbenzene	19	1.0	20	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
4-Isopropyltoluene	ND	1.9	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
4-Methyl-2-pentanone	ND	14	200		µg/L	20	10/5/2017 11:04:48 PM	W46148
Methylene Chloride	ND	2.2	60		µg/L	20	10/5/2017 11:04:48 PM	W46148
n-Butylbenzene	4.6	2.6	60	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
n-Propylbenzene	34	1.5	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
sec-Butylbenzene	3.1	2.2	20	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
Styrene	ND	3.1	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
tert-Butylbenzene	ND	2.1	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,1,1,2-Tetrachloroethane	ND	2.1	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	10/5/2017 11:04:48 PM	W46148
Tetrachloroethene (PCE)	ND	2.6	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
trans-1,2-DCE	ND	3.7	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
trans-1,3-Dichloropropene	ND	4.4	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2,4-Trichlorobenzene	ND	2.8	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,1,1-Trichloroethane	4.3	1.5	20	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Trichloroethene (TCE)	ND	2.2	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
Trichlorofluoromethane	ND	3.7	20		µg/L	20	10/5/2017 11:04:48 PM	W46148
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	10/5/2017 11:04:48 PM	W46148
Vinyl chloride	18	3.6	20	J	µg/L	20	10/5/2017 11:04:48 PM	W46148
Xylenes, Total	ND	6.4	30		µg/L	20	10/5/2017 11:04:48 PM	W46148
Surr: 1,2-Dichloroethane-d4	85.9	0	70-130		%Rec	20	10/5/2017 11:04:48 PM	W46148
Surr: 4-Bromofluorobenzene	97.0	0	70-130		%Rec	20	10/5/2017 11:04:48 PM	W46148
Surr: Dibromofluoromethane	95.3	0	70-130		%Rec	20	10/5/2017 11:04:48 PM	W46148
Surr: Toluene-d8	104	0	70-130		%Rec	20	10/5/2017 11:04:48 PM	W46148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-24
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 8:55:00 AM
Lab ID: 1710267-003
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	10	0.19	1.0		mg/L	20	10/5/2017 11:04:48 PM	G46148
Surr: BFB	90.0	0	70-130		%Rec	20	10/5/2017 11:04:48 PM	G46148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:10:00 AM
Lab ID: 1710267-004
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.37	0.36	1.0	J	mg/L	1	10/10/2017 7:43:48 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 7:43:48 PM	34278
Surr: DNOP	131	0	77.5-161		%Rec	1	10/10/2017 7:43:48 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.60	0.22	0.50		mg/L	5	10/5/2017 1:28:45 PM	R46186
Chloride	150	5.0	10		mg/L	20	10/5/2017 1:41:09 PM	R46186
Bromide	0.65	0.073	0.50		mg/L	5	10/5/2017 1:28:45 PM	R46186
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/5/2017 1:28:45 PM	R46186
Sulfate	880	1.9	10		mg/L	20	10/5/2017 1:41:09 PM	R46186
Nitrate+Nitrite as N	0.14	0.13	1.0	J	mg/L	5	10/5/2017 6:01:45 PM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.031	0.00085	0.0020		mg/L	1	10/19/2017 6:06:31 PM	A46509
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:06:31 PM	A46509
Calcium	84	0.078	1.0		mg/L	1	10/19/2017 6:06:31 PM	A46509
Chromium	ND	0.0013	0.0060		mg/L	1	10/19/2017 6:06:31 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:06:31 PM	A46509
Iron	0.022	0.016	0.020		mg/L	1	10/19/2017 6:06:31 PM	A46509
Magnesium	12	0.25	1.0		mg/L	1	10/19/2017 6:06:31 PM	A46509
Manganese	0.62	0.00039	0.0020	*	mg/L	1	10/19/2017 6:06:31 PM	A46509
Potassium	0.39	0.11	1.0	J	mg/L	1	10/19/2017 6:06:31 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:06:31 PM	A46509
Sodium	550	1.6	10		mg/L	10	10/20/2017 4:39:40 PM	A46537
Zinc	0.064	0.0021	0.010		mg/L	1	10/19/2017 6:06:31 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.00093	0.0020		mg/L	1	10/17/2017 9:03:24 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 9:03:24 PM	34427
Chromium	0.0036	0.0018	0.0060	J	mg/L	1	10/17/2017 9:03:24 PM	34427
Copper	0.0048	0.0017	0.0060	J	mg/L	1	10/17/2017 9:03:24 PM	34427
Iron	2.9	0.10	0.20	*	mg/L	10	10/17/2017 9:05:07 PM	34427
Manganese	0.73	0.0011	0.0020	*	mg/L	1	10/17/2017 9:03:24 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 9:03:24 PM	34427
Zinc	0.0085	0.0033	0.010	J	mg/L	1	10/19/2017 7:05:38 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0017	0.00018	0.0010		mg/L	1	10/6/2017 8:57:31 PM	D46196
Lead	ND	0.00017	0.00050		mg/L	1	10/6/2017 8:57:31 PM	D46196
Selenium	0.0029	0.00039	0.0010		mg/L	1	10/6/2017 8:57:31 PM	D46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:10:00 AM
Lab ID: 1710267-004
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0020	0.00030	0.0010		mg/L	1	10/17/2017 12:23:28 PM	34427
Lead	0.0021	0.000095	0.00050		mg/L	1	10/17/2017 12:23:28 PM	34427
Selenium	0.0027	0.00071	0.0010		mg/L	1	10/17/2017 12:23:28 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 9:14:18 AM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Benzoic acid	8.7	3.9	20	J	µg/L	1	10/10/2017 1:56:47 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 1:56:47 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 1:56:47 PM	34281
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 1:56:47 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 1:56:47 PM	34281

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:10:00 AM
Lab ID: 1710267-004
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 1:56:47 PM	34281
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/10/2017 1:56:47 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 1:56:47 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 1:56:47 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 1:56:47 PM	34281
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 1:56:47 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Naphthalene	ND	2.9	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 1:56:47 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 1:56:47 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 1:56:47 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Phenol	ND	3.1	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 1:56:47 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 1:56:47 PM	34281
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 1:56:47 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 1:56:47 PM	34281

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-29
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:10:00 AM
Lab ID: 1710267-004
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	59.8	0	15-88		%Rec	1	10/10/2017 1:56:47 PM	34281
Surr: Phenol-d5	47.6	0	15-72.4		%Rec	1	10/10/2017 1:56:47 PM	34281
Surr: 2,4,6-Tribromophenol	93.1	0	15-117		%Rec	1	10/10/2017 1:56:47 PM	34281
Surr: Nitrobenzene-d5	83.2	0	33.5-120		%Rec	1	10/10/2017 1:56:47 PM	34281
Surr: 2-Fluorobiphenyl	71.5	0	26.5-109		%Rec	1	10/10/2017 1:56:47 PM	34281
Surr: 4-Terphenyl-d14	85.4	0	21.7-98.7		%Rec	1	10/10/2017 1:56:47 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Toluene	ND	0.064	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Ethylbenzene	ND	0.093	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Methyl tert-butyl ether (MTBE)	7.2	0.24	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2,4-Trimethylbenzene	ND	0.11	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,3,5-Trimethylbenzene	ND	0.087	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2-Dichloroethane (EDC)	ND	0.40	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2-Dibromoethane (EDB)	ND	0.13	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Naphthalene	ND	0.11	2.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1-Methylnaphthalene	ND	0.16	4.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
2-Methylnaphthalene	ND	0.15	4.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Acetone	4.6	0.82	10	JP	µg/L	1	10/6/2017 12:02:05 AM	W46148
Bromobenzene	ND	0.14	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Bromodichloromethane	ND	0.18	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Bromoform	ND	0.21	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Bromomethane	ND	0.26	3.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
2-Butanone	ND	1.1	10	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Carbon disulfide	ND	0.40	10	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Carbon Tetrachloride	ND	0.11	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Chlorobenzene	ND	0.11	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Chloroethane	ND	0.23	2.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Chloroform	ND	0.40	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Chloromethane	ND	0.29	3.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
2-Chlorotoluene	ND	0.40	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
4-Chlorotoluene	ND	0.40	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
cis-1,2-DCE	ND	0.20	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
cis-1,3-Dichloropropene	ND	0.082	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2-Dibromo-3-chloropropane	ND	1.4	2.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Dibromochloromethane	ND	0.072	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Dibromomethane	ND	0.091	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2-Dichlorobenzene	ND	0.090	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,3-Dichlorobenzene	ND	0.15	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:10:00 AM
Lab ID: 1710267-004 **Matrix:** AQUEOUS **Received Date:** 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Dichlorodifluoromethane	ND	1.0	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,1-Dichloroethane	ND	0.40	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,1-Dichloroethene	ND	0.081	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2-Dichloropropane	ND	0.10	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,3-Dichloropropane	ND	0.17	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
2,2-Dichloropropane	ND	0.16	2.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,1-Dichloropropene	ND	0.093	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Hexachlorobutadiene	ND	0.80	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
2-Hexanone	ND	0.66	10	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Isopropylbenzene	ND	0.051	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
4-Isopropyltoluene	ND	0.096	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
4-Methyl-2-pentanone	ND	0.71	10	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Methylene Chloride	ND	0.11	3.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
n-Butylbenzene	ND	0.13	3.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
n-Propylbenzene	ND	0.074	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
sec-Butylbenzene	ND	0.11	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Styrene	ND	0.16	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
tert-Butylbenzene	ND	0.10	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,1,1,2-Tetrachloroethane	ND	0.10	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,1,2,2-Tetrachloroethane	ND	0.14	2.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Tetrachloroethene (PCE)	ND	0.13	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
trans-1,2-DCE	ND	0.18	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
trans-1,3-Dichloropropene	ND	0.22	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2,3-Trichlorobenzene	ND	0.12	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2,4-Trichlorobenzene	ND	0.14	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,1,1-Trichloroethane	ND	0.073	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,1,2-Trichloroethane	ND	0.14	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Trichloroethene (TCE)	ND	0.11	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Trichlorofluoromethane	ND	0.18	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
1,2,3-Trichloropropane	ND	0.39	2.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Vinyl chloride	ND	0.18	1.0	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Xylenes, Total	ND	0.32	1.5	P	µg/L	1	10/6/2017 12:02:05 AM	W46148
Surr: 1,2-Dichloroethane-d4	99.7	0	70-130	P	%Rec	1	10/6/2017 12:02:05 AM	W46148
Surr: 4-Bromofluorobenzene	95.8	0	70-130	P	%Rec	1	10/6/2017 12:02:05 AM	W46148
Surr: Dibromofluoromethane	108	0	70-130	P	%Rec	1	10/6/2017 12:02:05 AM	W46148
Surr: Toluene-d8	107	0	70-130	P	%Rec	1	10/6/2017 12:02:05 AM	W46148
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050	P	mg/L	1	10/6/2017 12:02:05 AM	G46148

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-29
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:10:00 AM
Lab ID: 1710267-004
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	89.0	0	70-130	P	%Rec	1	10/6/2017 12:02:05 AM	G46148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:45:00 AM
Lab ID: 1710267-005
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/10/2017 8:05:54 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 8:05:54 PM	34278
Surr: DNOP	131	0	77.5-161		%Rec	1	10/10/2017 8:05:54 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.95	0.22	0.50		mg/L	5	10/5/2017 1:53:33 PM	R46186
Chloride	390	12	25		mg/L	50	10/17/2017 10:38:22 PM	R46427
Bromide	2.0	0.073	0.50		mg/L	5	10/5/2017 1:53:33 PM	R46186
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/5/2017 1:53:33 PM	R46186
Sulfate	150	0.48	2.5		mg/L	5	10/5/2017 1:53:33 PM	R46186
Nitrate+Nitrite as N	1.6	0.13	1.0		mg/L	5	10/5/2017 6:14:11 PM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.049	0.00085	0.0020		mg/L	1	10/19/2017 6:08:25 PM	A46509
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:08:25 PM	A46509
Calcium	36	0.078	1.0		mg/L	1	10/19/2017 6:08:25 PM	A46509
Chromium	0.0016	0.0013	0.0060	J	mg/L	1	10/19/2017 6:08:25 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:08:25 PM	A46509
Iron	ND	0.016	0.020		mg/L	1	10/19/2017 6:08:25 PM	A46509
Magnesium	7.0	0.25	1.0		mg/L	1	10/19/2017 6:08:25 PM	A46509
Manganese	0.0017	0.00039	0.0020	J	mg/L	1	10/19/2017 6:08:25 PM	A46509
Potassium	2.0	0.11	1.0		mg/L	1	10/19/2017 6:08:25 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:08:25 PM	A46509
Sodium	520	1.6	10		mg/L	10	10/20/2017 4:48:27 PM	A46537
Zinc	0.049	0.0021	0.010		mg/L	1	10/19/2017 6:08:25 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.070	0.00093	0.0020		mg/L	1	10/17/2017 9:06:59 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 9:06:59 PM	34427
Chromium	ND	0.0018	0.0060		mg/L	1	10/17/2017 9:06:59 PM	34427
Copper	0.0040	0.0017	0.0060	J	mg/L	1	10/17/2017 9:06:59 PM	34427
Iron	1.4	0.10	0.20	*	mg/L	10	10/17/2017 9:08:52 PM	34427
Manganese	0.11	0.0011	0.0020	*	mg/L	1	10/17/2017 9:06:59 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 9:06:59 PM	34427
Zinc	0.0080	0.0033	0.010	J	mg/L	1	10/19/2017 7:07:18 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0042	0.00089	0.0050	J	mg/L	5	10/9/2017 4:45:31 PM	A46217
Lead	ND	0.00017	0.00050		mg/L	1	10/6/2017 9:00:35 PM	D46196
Selenium	0.015	0.0077	0.020	J	mg/L	20	10/9/2017 4:48:34 PM	A46217
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:45:00 AM
Lab ID: 1710267-005
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0051	0.0015	0.0050		mg/L	5	10/17/2017 12:38:34 PM	34427
Lead	0.0015	0.000095	0.00050		mg/L	1	10/17/2017 12:35:33 PM	34427
Selenium	0.011	0.0036	0.0050		mg/L	5	10/17/2017 12:38:34 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 9:17:34 AM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Benzoic acid	6.7	3.9	20	J	µg/L	1	10/10/2017 2:24:37 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 2:24:37 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 2:24:37 PM	34281
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 2:24:37 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 2:24:37 PM	34281

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Collection Date: 10/3/2017 10:45:00 AM
Lab ID: 1710267-005
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 2:24:37 PM	34281
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/10/2017 2:24:37 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 2:24:37 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 2:24:37 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 2:24:37 PM	34281
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 2:24:37 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Naphthalene	ND	2.9	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 2:24:37 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 2:24:37 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 2:24:37 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Phenol	ND	3.1	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 2:24:37 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 2:24:37 PM	34281
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 2:24:37 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 2:24:37 PM	34281

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:45:00 AM
Lab ID: 1710267-005 **Matrix:** AQUEOUS **Received Date:** 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	44.0	0	15-88		%Rec	1	10/10/2017 2:24:37 PM	34281
Surr: Phenol-d5	39.1	0	15-72.4		%Rec	1	10/10/2017 2:24:37 PM	34281
Surr: 2,4,6-Tribromophenol	82.3	0	15-117		%Rec	1	10/10/2017 2:24:37 PM	34281
Surr: Nitrobenzene-d5	61.2	0	33.5-120		%Rec	1	10/10/2017 2:24:37 PM	34281
Surr: 2-Fluorobiphenyl	62.5	0	26.5-109		%Rec	1	10/10/2017 2:24:37 PM	34281
Surr: 4-Terphenyl-d14	73.3	0	21.7-98.7		%Rec	1	10/10/2017 2:24:37 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Toluene	ND	0.064	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Methyl tert-butyl ether (MTBE)	0.35	0.24	1.0	J	µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Naphthalene	ND	0.11	2.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Acetone	8.3	0.82	10	J	µg/L	1	10/6/2017 12:30:46 AM	W46148
Bromobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Bromoform	ND	0.21	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Bromomethane	ND	0.26	3.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
2-Butanone	ND	1.1	10		µg/L	1	10/6/2017 12:30:46 AM	W46148
Carbon disulfide	ND	0.40	10		µg/L	1	10/6/2017 12:30:46 AM	W46148
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Chloroethane	ND	0.23	2.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Chloroform	ND	0.40	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Chloromethane	ND	0.29	3.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Dibromomethane	ND	0.091	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:45:00 AM
Lab ID: 1710267-005
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
2-Hexanone	ND	0.66	10		µg/L	1	10/6/2017 12:30:46 AM	W46148
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/6/2017 12:30:46 AM	W46148
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Styrene	ND	0.16	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/6/2017 12:30:46 AM	W46148
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/6/2017 12:30:46 AM	W46148
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	10/6/2017 12:30:46 AM	W46148
Surr: 4-Bromofluorobenzene	90.3	0	70-130		%Rec	1	10/6/2017 12:30:46 AM	W46148
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	10/6/2017 12:30:46 AM	W46148
Surr: Toluene-d8	105	0	70-130		%Rec	1	10/6/2017 12:30:46 AM	W46148
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	10/6/2017 12:30:46 AM	G46148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-28
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:45:00 AM
Lab ID: 1710267-005
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	87.5	0	70-130		%Rec	1	10/6/2017 12:30:46 AM	G46148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:55:00 AM
Lab ID: 1710267-006
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/10/2017 8:28:00 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 8:28:00 PM	34278
Surr: DNOP	129	0	77.5-161		%Rec	1	10/10/2017 8:28:00 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.87	0.22	0.50		mg/L	5	10/5/2017 2:43:11 PM	R46186
Chloride	430	12	25		mg/L	50	10/17/2017 10:50:46 PM	R46427
Bromide	2.2	0.073	0.50		mg/L	5	10/5/2017 2:43:11 PM	R46186
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/5/2017 2:43:11 PM	R46186
Sulfate	190	0.48	2.5		mg/L	5	10/5/2017 2:43:11 PM	R46186
Nitrate+Nitrite as N	1.2	0.13	1.0		mg/L	5	10/5/2017 6:26:35 PM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.048	0.00085	0.0020		mg/L	1	10/19/2017 6:16:24 PM	A46509
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:16:24 PM	A46509
Calcium	35	0.078	1.0		mg/L	1	10/19/2017 6:16:24 PM	A46509
Chromium	0.0013	0.0013	0.0060	J	mg/L	1	10/19/2017 6:16:24 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:16:24 PM	A46509
Iron	ND	0.016	0.020		mg/L	1	10/19/2017 6:16:24 PM	A46509
Magnesium	7.1	0.25	1.0		mg/L	1	10/19/2017 6:16:24 PM	A46509
Manganese	0.0016	0.00039	0.0020	J	mg/L	1	10/19/2017 6:16:24 PM	A46509
Potassium	2.0	0.11	1.0		mg/L	1	10/19/2017 6:16:24 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:16:24 PM	A46509
Sodium	520	1.6	10		mg/L	10	10/20/2017 4:50:22 PM	A46537
Zinc	0.034	0.0021	0.010		mg/L	1	10/19/2017 6:16:24 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.094	0.00093	0.0020		mg/L	1	10/17/2017 9:10:47 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 9:10:47 PM	34427
Chromium	0.0023	0.0018	0.0060	J	mg/L	1	10/17/2017 9:10:47 PM	34427
Copper	0.0068	0.0017	0.0060		mg/L	1	10/17/2017 9:10:47 PM	34427
Iron	3.4	0.10	0.20	*	mg/L	10	10/17/2017 9:12:26 PM	34427
Manganese	0.17	0.0011	0.0020	*	mg/L	1	10/17/2017 9:10:47 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 9:10:47 PM	34427
Zinc	0.017	0.0033	0.010		mg/L	1	10/19/2017 7:09:09 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0041	0.00089	0.0050	J	mg/L	5	10/9/2017 4:51:38 PM	A46217
Lead	ND	0.00017	0.00050		mg/L	1	10/6/2017 9:09:48 PM	D46196
Selenium	0.016	0.0077	0.020	J	mg/L	20	10/9/2017 5:00:52 PM	A46217
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	

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Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:55:00 AM
Lab ID: 1710267-006
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0060	0.0015	0.0050		mg/L	5	10/17/2017 12:44:35 PM	34427
Lead	0.0039	0.000095	0.00050		mg/L	1	10/17/2017 12:41:34 PM	34427
Selenium	0.012	0.0036	0.0050		mg/L	5	10/17/2017 12:44:35 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 9:20:50 AM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Benzoic acid	6.3	3.9	20	J	µg/L	1	10/10/2017 2:52:35 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 2:52:35 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 2:52:35 PM	34281
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 2:52:35 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 2:52:35 PM	34281

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:55:00 AM
Lab ID: 1710267-006
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 2:52:35 PM	34281
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/10/2017 2:52:35 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 2:52:35 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 2:52:35 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 2:52:35 PM	34281
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 2:52:35 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Naphthalene	ND	2.9	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 2:52:35 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 2:52:35 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 2:52:35 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Phenol	ND	3.1	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 2:52:35 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 2:52:35 PM	34281
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 2:52:35 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 2:52:35 PM	34281

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:55:00 AM
Lab ID: 1710267-006
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	55.1	0	15-88		%Rec	1	10/10/2017 2:52:35 PM	34281
Surr: Phenol-d5	47.8	0	15-72.4		%Rec	1	10/10/2017 2:52:35 PM	34281
Surr: 2,4,6-Tribromophenol	109	0	15-117		%Rec	1	10/10/2017 2:52:35 PM	34281
Surr: Nitrobenzene-d5	84.0	0	33.5-120		%Rec	1	10/10/2017 2:52:35 PM	34281
Surr: 2-Fluorobiphenyl	75.8	0	26.5-109		%Rec	1	10/10/2017 2:52:35 PM	34281
Surr: 4-Terphenyl-d14	95.9	0	21.7-98.7		%Rec	1	10/10/2017 2:52:35 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Toluene	ND	0.064	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Methyl tert-butyl ether (MTBE)	4.4	0.24	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Naphthalene	ND	0.11	2.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Acetone	7.2	0.82	10	J	µg/L	1	10/6/2017 12:59:16 AM	W46148
Bromobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Bromoform	ND	0.21	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Bromomethane	ND	0.26	3.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
2-Butanone	ND	1.1	10		µg/L	1	10/6/2017 12:59:16 AM	W46148
Carbon disulfide	ND	0.40	10		µg/L	1	10/6/2017 12:59:16 AM	W46148
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Chloroethane	ND	0.23	2.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Chloroform	ND	0.40	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Chloromethane	ND	0.29	3.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Dibromomethane	ND	0.091	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:55:00 AM
Lab ID: 1710267-006
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
2-Hexanone	ND	0.66	10		µg/L	1	10/6/2017 12:59:16 AM	W46148
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/6/2017 12:59:16 AM	W46148
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Styrene	ND	0.16	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/6/2017 12:59:16 AM	W46148
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/6/2017 12:59:16 AM	W46148
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	10/6/2017 12:59:16 AM	W46148
Surr: 4-Bromofluorobenzene	97.0	0	70-130		%Rec	1	10/6/2017 12:59:16 AM	W46148
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	10/6/2017 12:59:16 AM	W46148
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/6/2017 12:59:16 AM	W46148
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	0.0097	0.050		mg/L	1	10/6/2017 12:59:16 AM	G46148

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: DUPLICATE
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 10:55:00 AM
Lab ID: 1710267-006
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	88.9	0	70-130		%Rec	1	10/6/2017 12:59:16 AM	G46148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-27
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 11:25:00 AM
Lab ID: 1710267-007
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/10/2017 8:49:53 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 8:49:53 PM	34278
Surr: DNOP	130	0	77.5-161		%Rec	1	10/10/2017 8:49:53 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	10/5/2017 10:59:50 AM	R46186
Chloride	2900	120	250		mg/L	500	10/17/2017 11:03:11 PM	R46427
Nitrogen, Nitrite (As N)	ND	0.14	2.0		mg/L	20	10/5/2017 11:12:15 AM	R46186
Bromide	1.7	0.073	0.50		mg/L	5	10/5/2017 10:59:50 AM	R46186
Nitrogen, Nitrate (As N)	0.53	0.11	0.50		mg/L	5	10/5/2017 10:59:50 AM	R46186
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	10/5/2017 11:12:15 AM	R46186
Sulfate	290	1.9	10		mg/L	20	10/5/2017 11:12:15 AM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.067	0.00085	0.0020		mg/L	1	10/19/2017 6:18:29 PM	A46509
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:18:29 PM	A46509
Calcium	240	0.39	5.0		mg/L	5	10/20/2017 4:52:16 PM	A46537
Chromium	ND	0.0013	0.0060		mg/L	1	10/19/2017 6:18:29 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:18:29 PM	A46509
Iron	0.018	0.016	0.020	J	mg/L	1	10/19/2017 6:18:29 PM	A46509
Magnesium	38	0.25	1.0		mg/L	1	10/19/2017 6:18:29 PM	A46509
Manganese	0.17	0.00039	0.0020	*	mg/L	1	10/19/2017 6:18:29 PM	A46509
Potassium	12	0.11	1.0		mg/L	1	10/19/2017 6:18:29 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:18:29 PM	A46509
Sodium	2000	3.3	20		mg/L	20	10/20/2017 4:54:23 PM	A46537
Zinc	0.033	0.0021	0.010		mg/L	1	10/19/2017 6:18:29 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.10	0.00093	0.0020		mg/L	1	10/17/2017 9:14:17 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 9:14:17 PM	34427
Chromium	0.0019	0.0018	0.0060	J	mg/L	1	10/17/2017 9:14:17 PM	34427
Copper	0.0038	0.0017	0.0060	J	mg/L	1	10/17/2017 9:14:17 PM	34427
Iron	2.1	0.10	0.20	*	mg/L	10	10/17/2017 9:23:52 PM	34427
Manganese	0.40	0.0011	0.0020	*	mg/L	1	10/17/2017 9:14:17 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 9:14:17 PM	34427
Zinc	0.013	0.0033	0.010		mg/L	1	10/19/2017 7:10:47 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0037	0.00089	0.0050	J	mg/L	5	10/9/2017 5:03:55 PM	A46217
Lead	ND	0.00084	0.0025		mg/L	5	10/9/2017 5:03:55 PM	A46217
Selenium	0.012	0.0019	0.0050		mg/L	5	10/9/2017 5:03:55 PM	A46217

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-27
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 11:25:00 AM
Lab ID: 1710267-007
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0048	0.0015	0.0050	J	mg/L	5	10/17/2017 12:50:36 PM	34427
Lead	0.0024	0.00048	0.0025	J	mg/L	5	10/17/2017 12:50:36 PM	34427
Selenium	0.013	0.0036	0.0050		mg/L	5	10/17/2017 12:50:36 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 9:29:21 AM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Benzoic acid	ND	3.9	20		µg/L	1	10/10/2017 3:20:30 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 3:20:30 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 3:20:30 PM	34281
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 3:20:30 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 3:20:30 PM	34281

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 3:20:30 PM	34281
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/10/2017 3:20:30 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 3:20:30 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 3:20:30 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 3:20:30 PM	34281
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 3:20:30 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Naphthalene	ND	2.9	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 3:20:30 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 3:20:30 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 3:20:30 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Phenol	ND	3.1	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 3:20:30 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 3:20:30 PM	34281
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 3:20:30 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 3:20:30 PM	34281

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	43.9	0	15-88		%Rec	1	10/10/2017 3:20:30 PM	34281
Surr: Phenol-d5	40.5	0	15-72.4		%Rec	1	10/10/2017 3:20:30 PM	34281
Surr: 2,4,6-Tribromophenol	88.9	0	15-117		%Rec	1	10/10/2017 3:20:30 PM	34281
Surr: Nitrobenzene-d5	73.0	0	33.5-120		%Rec	1	10/10/2017 3:20:30 PM	34281
Surr: 2-Fluorobiphenyl	69.4	0	26.5-109		%Rec	1	10/10/2017 3:20:30 PM	34281
Surr: 4-Terphenyl-d14	80.3	0	21.7-98.7		%Rec	1	10/10/2017 3:20:30 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	0.13	0.062	1.0	J	µg/L	1	10/6/2017 1:28:00 AM	W46148
Toluene	ND	0.064	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Methyl tert-butyl ether (MTBE)	25	0.24	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2-Dichloroethane (EDC)	0.63	0.40	1.0	J	µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Naphthalene	ND	0.11	2.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Acetone	9.7	0.82	10	J	µg/L	1	10/6/2017 1:28:00 AM	W46148
Bromobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Bromoform	ND	0.21	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Bromomethane	ND	0.26	3.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
2-Butanone	ND	1.1	10		µg/L	1	10/6/2017 1:28:00 AM	W46148
Carbon disulfide	ND	0.40	10		µg/L	1	10/6/2017 1:28:00 AM	W46148
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Chloroethane	ND	0.23	2.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Chloroform	ND	0.40	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Chloromethane	ND	0.29	3.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
cis-1,2-DCE	0.29	0.20	1.0	J	µg/L	1	10/6/2017 1:28:00 AM	W46148
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Dibromomethane	ND	0.091	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,1-Dichloroethane	1.7	0.40	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,1-Dichloroethene	0.59	0.081	1.0	J	µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
2-Hexanone	ND	0.66	10		µg/L	1	10/6/2017 1:28:00 AM	W46148
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/6/2017 1:28:00 AM	W46148
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Styrene	ND	0.16	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/6/2017 1:28:00 AM	W46148
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/6/2017 1:28:00 AM	W46148
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	10/6/2017 1:28:00 AM	W46148
Surr: 4-Bromofluorobenzene	95.3	0	70-130		%Rec	1	10/6/2017 1:28:00 AM	W46148
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	10/6/2017 1:28:00 AM	W46148
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/6/2017 1:28:00 AM	W46148
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.013	0.0097	0.050	J	mg/L	1	10/6/2017 1:28:00 AM	G46148

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	88.7	0	70-130		%Rec	1	10/6/2017 1:28:00 AM	G46148

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 1:46:00 PM
Lab ID: 1710267-008
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.5	0.36	1.0		mg/L	1	10/10/2017 9:11:56 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 9:11:56 PM	34278
Surr: DNOP	128	0	77.5-161		%Rec	1	10/10/2017 9:11:56 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.28	0.22	0.50	J	mg/L	5	10/5/2017 11:24:39 AM	R46186
Chloride	110	5.0	10		mg/L	20	10/5/2017 11:37:04 AM	R46186
Nitrogen, Nitrite (As N)	ND	0.14	2.0		mg/L	20	10/5/2017 11:37:04 AM	R46186
Bromide	0.76	0.073	0.50		mg/L	5	10/5/2017 11:24:39 AM	R46186
Nitrogen, Nitrate (As N)	ND	0.43	2.0		mg/L	20	10/5/2017 11:37:04 AM	R46186
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	10/5/2017 11:37:04 AM	R46186
Sulfate	7.6	0.48	2.5		mg/L	5	10/5/2017 11:24:39 AM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **TES**	
Barium	1.6	0.0085	0.020		mg/L	10	10/20/2017 4:56:18 PM	A46537
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:20:22 PM	A46509
Calcium	140	0.78	10		mg/L	10	10/20/2017 4:56:18 PM	A46537
Chromium	ND	0.0013	0.0060		mg/L	1	10/19/2017 6:20:22 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:20:22 PM	A46509
Iron	7.1	0.16	0.20	*	mg/L	10	10/20/2017 4:56:18 PM	A46537
Magnesium	26	0.25	1.0		mg/L	1	10/19/2017 6:20:22 PM	A46509
Manganese	2.6	0.0039	0.020	*	mg/L	10	10/20/2017 4:56:18 PM	A46537
Potassium	0.58	0.11	1.0	J	mg/L	1	10/19/2017 6:20:22 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:20:22 PM	A46509
Sodium	230	1.6	10		mg/L	10	10/20/2017 4:56:18 PM	A46537
Zinc	0.028	0.0021	0.010		mg/L	1	10/19/2017 6:20:22 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.8	0.0093	0.020		mg/L	10	10/17/2017 9:27:31 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 9:25:46 PM	34427
Chromium	0.017	0.0018	0.0060		mg/L	1	10/17/2017 9:25:46 PM	34427
Copper	0.017	0.0017	0.0060		mg/L	1	10/17/2017 9:25:46 PM	34427
Iron	25	0.51	1.0	*	mg/L	50	10/19/2017 7:14:16 PM	34427
Manganese	3.0	0.011	0.020	*	mg/L	10	10/17/2017 9:27:31 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 9:25:46 PM	34427
Zinc	0.034	0.0033	0.010		mg/L	1	10/19/2017 7:12:33 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0017	0.00018	0.0010		mg/L	1	10/6/2017 9:15:54 PM	D46196
Lead	0.00031	0.00017	0.00050	J	mg/L	1	10/6/2017 9:15:54 PM	D46196
Selenium	0.0029	0.00039	0.0010		mg/L	1	10/6/2017 9:15:54 PM	D46196

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0024	0.00030	0.0010		mg/L	1	10/17/2017 12:53:36 PM	34427
Lead	0.027	0.00048	0.0025	*	mg/L	5	10/17/2017 12:56:37 PM	34427
Selenium	0.0022	0.00071	0.0010		mg/L	1	10/17/2017 12:53:36 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 9:32:32 AM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Benzoic acid	15	3.9	20	J	µg/L	1	10/10/2017 3:48:24 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 3:48:24 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 3:48:24 PM	34281
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 3:48:24 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 3:48:24 PM	34281

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Matrix: AQUEOUS
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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 3:48:24 PM	34281
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/10/2017 3:48:24 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 3:48:24 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 3:48:24 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 3:48:24 PM	34281
1-Methylnaphthalene	75	3.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 3:48:24 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Naphthalene	28	2.9	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 3:48:24 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 3:48:24 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 3:48:24 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Phenol	14	3.1	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 3:48:24 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 3:48:24 PM	34281
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 3:48:24 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 3:48:24 PM	34281

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2-Fluorophenol	46.1	0	15-88		%Rec	1	10/10/2017 3:48:24 PM	34281
Surr: Phenol-d5	35.8	0	15-72.4		%Rec	1	10/10/2017 3:48:24 PM	34281
Surr: 2,4,6-Tribromophenol	86.6	0	15-117		%Rec	1	10/10/2017 3:48:24 PM	34281
Surr: Nitrobenzene-d5	68.8	0	33.5-120		%Rec	1	10/10/2017 3:48:24 PM	34281
Surr: 2-Fluorobiphenyl	61.9	0	26.5-109		%Rec	1	10/10/2017 3:48:24 PM	34281
Surr: 4-Terphenyl-d14	77.1	0	21.7-98.7		%Rec	1	10/10/2017 3:48:24 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2400	6.2	100		µg/L	100	10/6/2017 1:56:32 AM	W46148
Toluene	18	0.64	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Ethylbenzene	280	0.93	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Methyl tert-butyl ether (MTBE)	4900	24	100		µg/L	100	10/6/2017 1:56:32 AM	W46148
1,2,4-Trimethylbenzene	15	1.1	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,3,5-Trimethylbenzene	ND	0.87	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Naphthalene	59	1.1	20		µg/L	10	10/6/2017 2:25:13 AM	W46148
1-Methylnaphthalene	100	1.6	40		µg/L	10	10/6/2017 2:25:13 AM	W46148
2-Methylnaphthalene	10	1.5	40	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
Acetone	ND	8.2	100		µg/L	10	10/6/2017 2:25:13 AM	W46148
Bromobenzene	ND	1.4	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Bromodichloromethane	ND	1.8	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Bromoform	ND	2.1	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Bromomethane	ND	2.6	30		µg/L	10	10/6/2017 2:25:13 AM	W46148
2-Butanone	ND	11	100		µg/L	10	10/6/2017 2:25:13 AM	W46148
Carbon disulfide	ND	4.0	100		µg/L	10	10/6/2017 2:25:13 AM	W46148
Carbon Tetrachloride	ND	1.1	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Chlorobenzene	ND	1.1	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Chloroethane	ND	2.3	20		µg/L	10	10/6/2017 2:25:13 AM	W46148
Chloroform	ND	4.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Chloromethane	ND	2.9	30		µg/L	10	10/6/2017 2:25:13 AM	W46148
2-Chlorotoluene	ND	4.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
4-Chlorotoluene	ND	4.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
cis-1,2-DCE	6.1	2.0	10	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	10/6/2017 2:25:13 AM	W46148
Dibromochloromethane	ND	0.72	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Dibromomethane	ND	0.91	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	10/6/2017 2:25:13 AM	W46148

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Dichlorodifluoromethane	ND	10	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,1-Dichloroethane	4.1	4.0	10	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
1,1-Dichloroethene	5.1	0.81	10	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2-Dichloropropane	ND	1.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,3-Dichloropropane	ND	1.7	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
2,2-Dichloropropane	ND	1.6	20		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,1-Dichloropropene	ND	0.93	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Hexachlorobutadiene	ND	8.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
2-Hexanone	ND	6.6	100		µg/L	10	10/6/2017 2:25:13 AM	W46148
Isopropylbenzene	15	0.51	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
4-Isopropyltoluene	2.3	0.96	10	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	10/6/2017 2:25:13 AM	W46148
Methylene Chloride	3.3	1.1	30	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
n-Butylbenzene	13	1.3	30	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
n-Propylbenzene	42	0.74	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
sec-Butylbenzene	6.6	1.1	10	J	µg/L	10	10/6/2017 2:25:13 AM	W46148
Styrene	ND	1.6	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
tert-Butylbenzene	ND	1.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	10/6/2017 2:25:13 AM	W46148
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
trans-1,2-DCE	ND	1.8	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Trichlorofluoromethane	ND	1.8	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	10/6/2017 2:25:13 AM	W46148
Vinyl chloride	ND	1.8	10		µg/L	10	10/6/2017 2:25:13 AM	W46148
Xylenes, Total	37	3.2	15		µg/L	10	10/6/2017 2:25:13 AM	W46148
Surr: 1,2-Dichloroethane-d4	89.6	0	70-130		%Rec	10	10/6/2017 2:25:13 AM	W46148
Surr: 4-Bromofluorobenzene	93.6	0	70-130		%Rec	10	10/6/2017 2:25:13 AM	W46148
Surr: Dibromofluoromethane	93.0	0	70-130		%Rec	10	10/6/2017 2:25:13 AM	W46148
Surr: Toluene-d8	102	0	70-130		%Rec	10	10/6/2017 2:25:13 AM	W46148
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	13	0.097	0.50		mg/L	10	10/6/2017 2:25:13 AM	G46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 1:46:00 PM
Lab ID: 1710267-008
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Surr: BFB	87.0	0	70-130		%Rec	10	10/6/2017 2:25:13 AM	G46148

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 3:05:00 PM
Lab ID: 1710267-009
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	10/10/2017 1:14:47 PM	34318
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	10/10/2017 9:33:55 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 9:33:55 PM	34278
Surr: DNOP	132	0	77.5-161		%Rec	1	10/10/2017 9:33:55 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.79	0.22	0.50		mg/L	5	10/5/2017 12:14:17 PM	R46186
Chloride	630	12	25		mg/L	50	10/17/2017 11:15:35 PM	R46427
Nitrogen, Nitrite (As N)	ND	0.14	2.0		mg/L	20	10/5/2017 12:26:42 PM	R46186
Bromide	0.95	0.073	0.50		mg/L	5	10/5/2017 12:14:17 PM	R46186
Nitrogen, Nitrate (As N)	0.33	0.11	0.50	J	mg/L	5	10/5/2017 12:14:17 PM	R46186
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/5/2017 12:14:17 PM	R46186
Sulfate	510	1.9	10		mg/L	20	10/5/2017 12:26:42 PM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.033	0.00085	0.0020		mg/L	1	10/19/2017 6:21:57 PM	A46509
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:21:57 PM	A46509
Calcium	76	0.078	1.0		mg/L	1	10/19/2017 6:21:57 PM	A46509
Chromium	ND	0.0013	0.0060		mg/L	1	10/19/2017 6:21:57 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:21:57 PM	A46509
Iron	0.051	0.016	0.020		mg/L	1	10/19/2017 6:21:57 PM	A46509
Magnesium	15	0.25	1.0		mg/L	1	10/19/2017 6:21:57 PM	A46509
Manganese	0.017	0.00039	0.0020		mg/L	1	10/19/2017 6:21:57 PM	A46509
Potassium	0.33	0.11	1.0	J	mg/L	1	10/19/2017 6:21:57 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:21:57 PM	A46509
Sodium	760	1.6	10		mg/L	10	10/20/2017 4:58:03 PM	A46537
Zinc	0.019	0.0021	0.010		mg/L	1	10/19/2017 6:21:57 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.18	0.00093	0.0020		mg/L	1	10/17/2017 9:29:13 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 9:29:13 PM	34427
Chromium	0.0075	0.0018	0.0060		mg/L	1	10/17/2017 9:29:13 PM	34427
Copper	0.0068	0.0017	0.0060		mg/L	1	10/17/2017 9:29:13 PM	34427
Iron	7.1	0.10	0.20	*	mg/L	10	10/17/2017 9:30:53 PM	34427
Manganese	0.66	0.0011	0.0020	*	mg/L	1	10/17/2017 9:29:13 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 9:29:13 PM	34427
Zinc	0.017	0.0033	0.010		mg/L	1	10/19/2017 7:16:03 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0026	0.00089	0.0050	J	mg/L	5	10/9/2017 5:10:02 PM	A46217

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 3:05:00 PM
Lab ID: 1710267-009
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00018	0.00017	0.00050	J	mg/L	1	10/6/2017 9:18:57 PM	D46196
Selenium	0.0042	0.00039	0.0010		mg/L	1	10/6/2017 9:18:57 PM	D46196
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0023	0.00030	0.0010		mg/L	1	10/17/2017 12:59:38 PM	34427
Lead	0.0070	0.000095	0.00050		mg/L	1	10/17/2017 12:59:38 PM	34427
Selenium	0.0036	0.00071	0.0010		mg/L	1	10/17/2017 12:59:38 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 9:35:54 AM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Benzoic acid	8.5	3.9	20	J	µg/L	1	10/10/2017 4:16:19 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 4:16:19 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 4:16:19 PM	34281

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 3:05:00 PM
Lab ID: 1710267-009
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 4:16:19 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 4:16:19 PM	34281
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 4:16:19 PM	34281
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	10/10/2017 4:16:19 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 4:16:19 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 4:16:19 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 4:16:19 PM	34281
1-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 4:16:19 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Naphthalene	ND	2.9	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 4:16:19 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 4:16:19 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 4:16:19 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Phenol	ND	3.1	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 4:16:19 PM	34281

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 3:05:00 PM
Lab ID: 1710267-009
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 4:16:19 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 4:16:19 PM	34281
Surr: 2-Fluorophenol	34.9	0	15-88		%Rec	1	10/10/2017 4:16:19 PM	34281
Surr: Phenol-d5	32.4	0	15-72.4		%Rec	1	10/10/2017 4:16:19 PM	34281
Surr: 2,4,6-Tribromophenol	81.1	0	15-117		%Rec	1	10/10/2017 4:16:19 PM	34281
Surr: Nitrobenzene-d5	48.7	0	33.5-120		%Rec	1	10/10/2017 4:16:19 PM	34281
Surr: 2-Fluorobiphenyl	53.0	0	26.5-109		%Rec	1	10/10/2017 4:16:19 PM	34281
Surr: 4-Terphenyl-d14	78.1	0	21.7-98.7		%Rec	1	10/10/2017 4:16:19 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Toluene	ND	0.064	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Ethylbenzene	ND	0.093	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Methyl tert-butyl ether (MTBE)	1.1	0.24	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2-Dichloroethane (EDC)	2.9	0.40	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Naphthalene	ND	0.11	2.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Acetone	6.5	0.82	10	J	µg/L	1	10/6/2017 3:22:27 AM	W46148
Bromobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Bromodichloromethane	ND	0.18	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Bromoform	ND	0.21	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Bromomethane	ND	0.26	3.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
2-Butanone	ND	1.1	10		µg/L	1	10/6/2017 3:22:27 AM	W46148
Carbon disulfide	ND	0.40	10		µg/L	1	10/6/2017 3:22:27 AM	W46148
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Chlorobenzene	ND	0.11	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Chloroethane	ND	0.23	2.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Chloroform	ND	0.40	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Chloromethane	ND	0.29	3.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
cis-1,2-DCE	5.6	0.20	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Dibromochloromethane	ND	0.072	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 3:05:00 PM
Lab ID: 1710267-009
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.091	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,1-Dichloroethane	68	0.40	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,1-Dichloroethene	5.0	0.081	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
2-Hexanone	ND	0.66	10		µg/L	1	10/6/2017 3:22:27 AM	W46148
Isopropylbenzene	ND	0.051	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/6/2017 3:22:27 AM	W46148
Methylene Chloride	ND	0.11	3.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
n-Butylbenzene	ND	0.13	3.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
n-Propylbenzene	ND	0.074	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Styrene	ND	0.16	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Tetrachloroethene (PCE)	0.27	0.13	1.0	J	µg/L	1	10/6/2017 3:22:27 AM	W46148
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,1,1-Trichloroethane	1.5	0.073	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,1,2-Trichloroethane	0.69	0.14	1.0	J	µg/L	1	10/6/2017 3:22:27 AM	W46148
Trichloroethene (TCE)	4.1	0.11	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/6/2017 3:22:27 AM	W46148
Xylenes, Total	ND	0.32	1.5		µg/L	1	10/6/2017 3:22:27 AM	W46148
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	10/6/2017 3:22:27 AM	W46148
Surr: 4-Bromofluorobenzene	94.9	0	70-130		%Rec	1	10/6/2017 3:22:27 AM	W46148
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	10/6/2017 3:22:27 AM	W46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-30
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 3:05:00 PM
Lab ID: 1710267-009
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	105	0	70-130		%Rec	1	10/6/2017 3:22:27 AM	W46148
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	0.10	0.0097	0.050		mg/L	1	10/6/2017 3:22:27 AM	G46148
Surr: BFB	89.0	0	70-130		%Rec	1	10/6/2017 3:22:27 AM	G46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 4:00:00 PM
Lab ID: 1710267-010
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	10/10/2017 1:29:54 PM	34318
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.5	0.36	1.0		mg/L	1	10/10/2017 9:56:02 PM	34278
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/10/2017 9:56:02 PM	34278
Surr: DNOP	135	0	77.5-161		%Rec	1	10/10/2017 9:56:02 PM	34278
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.8	0.22	0.50		mg/L	5	10/5/2017 12:39:06 PM	R46186
Chloride	460	12	25		mg/L	50	10/17/2017 11:28:00 PM	R46427
Nitrogen, Nitrite (As N)	ND	0.14	2.0		mg/L	20	10/5/2017 12:51:31 PM	R46186
Bromide	1.1	0.073	0.50		mg/L	5	10/5/2017 12:39:06 PM	R46186
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	10/5/2017 12:39:06 PM	R46186
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	10/5/2017 12:51:31 PM	R46186
Sulfate	20	0.48	2.5		mg/L	5	10/5/2017 12:39:06 PM	R46186
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.33	0.00085	0.0020		mg/L	1	10/19/2017 6:23:49 PM	A46509
Cadmium	ND	0.0010	0.0020		mg/L	1	10/19/2017 6:23:49 PM	A46509
Calcium	56	0.078	1.0		mg/L	1	10/19/2017 6:23:49 PM	A46509
Chromium	ND	0.0013	0.0060		mg/L	1	10/19/2017 6:23:49 PM	A46509
Copper	ND	0.0032	0.0060		mg/L	1	10/19/2017 6:23:49 PM	A46509
Iron	1.5	0.16	0.20	*	mg/L	10	10/20/2017 5:00:02 PM	A46537
Magnesium	11	0.25	1.0		mg/L	1	10/19/2017 6:23:49 PM	A46509
Manganese	0.92	0.00039	0.0020	*	mg/L	1	10/19/2017 6:23:49 PM	A46509
Potassium	2.0	0.11	1.0		mg/L	1	10/19/2017 6:23:49 PM	A46509
Silver	ND	0.0018	0.0050		mg/L	1	10/19/2017 6:23:49 PM	A46509
Sodium	600	1.6	10		mg/L	10	10/20/2017 5:00:02 PM	A46537
Zinc	0.034	0.0021	0.010		mg/L	1	10/19/2017 6:23:49 PM	A46509
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.34	0.00093	0.0020		mg/L	1	10/17/2017 9:32:50 PM	34427
Cadmium	ND	0.00058	0.0020		mg/L	1	10/17/2017 9:32:50 PM	34427
Chromium	ND	0.0018	0.0060		mg/L	1	10/17/2017 9:32:50 PM	34427
Copper	0.0040	0.0017	0.0060	J	mg/L	1	10/17/2017 9:32:50 PM	34427
Iron	3.0	0.10	0.20	*	mg/L	10	10/17/2017 9:34:27 PM	34427
Manganese	0.91	0.0011	0.0020	*	mg/L	1	10/17/2017 9:32:50 PM	34427
Silver	ND	0.0012	0.0050		mg/L	1	10/17/2017 9:32:50 PM	34427
Zinc	0.0085	0.0033	0.010	J	mg/L	1	10/19/2017 7:17:42 PM	34427
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0058	0.00089	0.0050		mg/L	5	10/9/2017 5:13:05 PM	A46217

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 4:00:00 PM
Lab ID: 1710267-010
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Lead	0.00018	0.00017	0.00050	J	mg/L	1	10/6/2017 9:22:01 PM	D46196
Selenium	0.0081	0.0019	0.0050		mg/L	5	10/9/2017 5:13:05 PM	A46217
200.8 ICPMS METALS:TOTAL							Analyst: **ELS**	
Arsenic	0.0054	0.00030	0.0010		mg/L	1	10/17/2017 1:11:43 PM	34427
Lead	0.0020	0.000095	0.00050		mg/L	1	10/17/2017 1:11:43 PM	34427
Selenium	0.0056	0.00071	0.0010		mg/L	1	10/17/2017 1:11:43 PM	34427
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	10/18/2017 12:18:23 PM	34447
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Acenaphthylene	ND	3.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Aniline	ND	3.1	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Anthracene	ND	3.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Azobenzene	ND	4.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Benz(a)anthracene	ND	3.9	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Benzo(a)pyrene	ND	4.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Benzoic acid	13	3.9	20	J	µg/L	1	10/10/2017 4:44:13 PM	34281
Benzyl alcohol	ND	4.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	10/10/2017 4:44:13 PM	34281
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Carbazole	ND	4.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
4-Chloroaniline	ND	3.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2-Chloronaphthalene	ND	3.7	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2-Chlorophenol	ND	7.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Chrysene	ND	3.8	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Dibenzofuran	ND	4.1	10		µg/L	1	10/10/2017 4:44:13 PM	34281

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 4:00:00 PM
Lab ID: 1710267-010
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	10/10/2017 4:44:13 PM	34281
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 4:44:13 PM	34281
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Diethyl phthalate	ND	4.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Dimethyl phthalate	ND	3.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	10/10/2017 4:44:13 PM	34281
2,4-Dimethylphenol	3.0	2.8	10	J	µg/L	1	10/10/2017 4:44:13 PM	34281
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	10/10/2017 4:44:13 PM	34281
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/10/2017 4:44:13 PM	34281
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Fluoranthene	ND	4.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Fluorene	ND	4.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Hexachlorobenzene	ND	3.8	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Hexachlorobutadiene	ND	1.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Hexachloroethane	ND	1.2	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Isophorone	ND	4.4	10		µg/L	1	10/10/2017 4:44:13 PM	34281
1-Methylnaphthalene	9.7	3.3	10	J	µg/L	1	10/10/2017 4:44:13 PM	34281
2-Methylnaphthalene	ND	3.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2-Methylphenol	ND	3.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
3+4-Methylphenol	ND	3.2	10		µg/L	1	10/10/2017 4:44:13 PM	34281
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Naphthalene	5.0	2.9	10	J	µg/L	1	10/10/2017 4:44:13 PM	34281
2-Nitroaniline	ND	4.9	10		µg/L	1	10/10/2017 4:44:13 PM	34281
3-Nitroaniline	ND	4.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
4-Nitroaniline	ND	4.0	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Nitrobenzene	ND	3.6	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2-Nitrophenol	ND	5.2	10		µg/L	1	10/10/2017 4:44:13 PM	34281
4-Nitrophenol	ND	5.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Pentachlorophenol	ND	4.9	20		µg/L	1	10/10/2017 4:44:13 PM	34281
Phenanthrene	ND	4.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Phenol	19	3.1	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Pyrene	ND	4.4	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Pyridine	ND	2.3	10		µg/L	1	10/10/2017 4:44:13 PM	34281

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 4:00:00 PM
Lab ID: 1710267-010
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	10/10/2017 4:44:13 PM	34281
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	10/10/2017 4:44:13 PM	34281
Surr: 2-Fluorophenol	55.6	0	15-88		%Rec	1	10/10/2017 4:44:13 PM	34281
Surr: Phenol-d5	47.8	0	15-72.4		%Rec	1	10/10/2017 4:44:13 PM	34281
Surr: 2,4,6-Tribromophenol	100	0	15-117		%Rec	1	10/10/2017 4:44:13 PM	34281
Surr: Nitrobenzene-d5	78.3	0	33.5-120		%Rec	1	10/10/2017 4:44:13 PM	34281
Surr: 2-Fluorobiphenyl	73.3	0	26.5-109		%Rec	1	10/10/2017 4:44:13 PM	34281
Surr: 4-Terphenyl-d14	89.8	0	21.7-98.7		%Rec	1	10/10/2017 4:44:13 PM	34281
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2700	3.1	50		µg/L	50	10/6/2017 3:51:10 AM	W46148
Toluene	28	0.32	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Ethylbenzene	150	0.47	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Methyl tert-butyl ether (MTBE)	130	1.2	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2,4-Trimethylbenzene	53	0.56	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2-Dichloroethane (EDC)	3.5	2.0	5.0	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Naphthalene	6.7	0.57	10	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
1-Methylnaphthalene	9.5	0.80	20	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
2-Methylnaphthalene	ND	0.76	20		µg/L	5	10/6/2017 4:19:45 AM	W46148
Acetone	ND	4.1	50		µg/L	5	10/6/2017 4:19:45 AM	W46148
Bromobenzene	ND	0.70	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Bromodichloromethane	ND	0.88	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Bromoform	ND	1.1	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Bromomethane	ND	1.3	15		µg/L	5	10/6/2017 4:19:45 AM	W46148
2-Butanone	ND	5.7	50		µg/L	5	10/6/2017 4:19:45 AM	W46148
Carbon disulfide	ND	2.0	50		µg/L	5	10/6/2017 4:19:45 AM	W46148
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Chlorobenzene	ND	0.53	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Chloroethane	ND	1.2	10		µg/L	5	10/6/2017 4:19:45 AM	W46148
Chloroform	ND	2.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Chloromethane	ND	1.5	15		µg/L	5	10/6/2017 4:19:45 AM	W46148
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
cis-1,2-DCE	17	1.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	10/6/2017 4:19:45 AM	W46148
Dibromochloromethane	ND	0.36	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 4:00:00 PM
Lab ID: 1710267-010
Matrix: AQUEOUS
Received Date: 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromomethane	ND	0.45	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,1-Dichloroethane	45	2.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,1-Dichloroethene	21	0.40	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
2,2-Dichloropropane	ND	0.79	10		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
2-Hexanone	ND	3.3	50		µg/L	5	10/6/2017 4:19:45 AM	W46148
Isopropylbenzene	17	0.26	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
4-Isopropyltoluene	0.88	0.48	5.0	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	10/6/2017 4:19:45 AM	W46148
Methylene Chloride	1.8	0.54	15	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
n-Butylbenzene	4.5	0.65	15	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
n-Propylbenzene	47	0.37	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
sec-Butylbenzene	2.1	0.55	5.0	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
Styrene	ND	0.78	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	10/6/2017 4:19:45 AM	W46148
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Trichloroethene (TCE)	1.9	0.56	5.0	J	µg/L	5	10/6/2017 4:19:45 AM	W46148
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	10/6/2017 4:19:45 AM	W46148
Vinyl chloride	5.1	0.89	5.0		µg/L	5	10/6/2017 4:19:45 AM	W46148
Xylenes, Total	37	1.6	7.5		µg/L	5	10/6/2017 4:19:45 AM	W46148
Surr: 1,2-Dichloroethane-d4	82.2	0	70-130		%Rec	5	10/6/2017 4:19:45 AM	W46148
Surr: 4-Bromofluorobenzene	91.6	0	70-130		%Rec	5	10/6/2017 4:19:45 AM	W46148
Surr: Dibromofluoromethane	87.3	0	70-130		%Rec	5	10/6/2017 4:19:45 AM	W46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-02
Project: 2017 3rd QTR MKTF
Collection Date: 10/3/2017 4:00:00 PM
Lab ID: 1710267-010 **Matrix:** AQUEOUS **Received Date:** 10/4/2017 3:25:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Toluene-d8	107	0	70-130		%Rec	5	10/6/2017 4:19:45 AM	W46148
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **DJF**	
Gasoline Range Organics (GRO)	9.3	0.048	0.25		mg/L	5	10/6/2017 4:19:45 AM	G46148
Surr: BFB	89.8	0	70-130		%Rec	5	10/6/2017 4:19:45 AM	G46148

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46509**	RunNo: **46509**
Prep Date:	Analysis Date: **10/19/2017**	SeqNo: **1481127** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46509**	RunNo: **46509**
Prep Date:	Analysis Date: **10/19/2017**	SeqNo: **1481129** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0023	0.0020	0.002000	0	115	50	150			
Cadmium	0.0024	0.0020	0.002000	0	121	50	150			
Calcium	0.52	1.0	0.5000	0	105	50	150			J
Chromium	0.0066	0.0060	0.006000	0	110	50	150			
Copper	0.0066	0.0060	0.006000	0	109	50	150			
Iron	0.022	0.020	0.02000	0	109	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0022	0.0020	0.002000	0	108	50	150			
Potassium	0.53	1.0	0.5000	0	106	50	150			J
Silver	0.0050	0.0050	0.005000	0	100	50	150			
Zinc	0.0060	0.010	0.005000	0	120	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46509**	RunNo: **46509**
Prep Date:	Analysis Date: **10/19/2017**	SeqNo: **1481131** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.9	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.1	85	115			
Calcium	50	1.0	50.00	0	99.8	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Copper	0.49	0.0060	0.5000	0	97.8	85	115			
Iron	0.49	0.020	0.5000	0	98.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46509**	RunNo: **46509**
Prep Date:	Analysis Date: **10/19/2017**	SeqNo: **1481131** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.48	0.0020	0.5000	0	96.1	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.47	0.010	0.5000	0	94.0	85	115			

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A46537**	RunNo: **46537**
Prep Date:	Analysis Date: **10/20/2017**	SeqNo: **1482215** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	0.17	1.0								J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A46537**	RunNo: **46537**
Prep Date:	Analysis Date: **10/20/2017**	SeqNo: **1482217** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.4	85	115			
Calcium	48	1.0	50.00	0	95.6	85	115			
Iron	0.47	0.020	0.5000	0	94.7	85	115			
Manganese	0.48	0.0020	0.5000	0	96.3	85	115			
Sodium	47	1.0	50.00	0	94.0	85	115			

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A46537**	RunNo: **46537**
Prep Date:	Analysis Date: **10/20/2017**	SeqNo: **1482220** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	95.0	50	150			J
Calcium	0.51	1.0	0.5000	0	103	50	150			J
Iron	0.020	0.020	0.02000	0	102	50	150			
Manganese	0.0020	0.0020	0.002000	0	99.5	50	150			J
Sodium	0.53	1.0	0.5000	0	105	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB-34427**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **34427**	RunNo: **46417**
Prep Date: **10/16/2017**	Analysis Date: **10/17/2017**	SeqNo: **1479681** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-34427**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **34427**	RunNo: **46417**
Prep Date: **10/16/2017**	Analysis Date: **10/17/2017**	SeqNo: **1479682** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	105	50	150			
Cadmium	0.0025	0.0020	0.002000	0	125	50	150			
Chromium	0.0062	0.0060	0.006000	0	103	50	150			
Copper	0.0074	0.0060	0.006000	0	124	50	150			
Iron	0.023	0.020	0.02000	0	113	50	150			
Manganese	0.0023	0.0020	0.002000	0	114	50	150			
Silver	0.0055	0.0050	0.005000	0	109	50	150			
Zinc	0.0066	0.010	0.005000	0	132	50	150			J

Sample ID **LCS-34427**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **34427**	RunNo: **46417**
Prep Date: **10/16/2017**	Analysis Date: **10/17/2017**	SeqNo: **1479683** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.5	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.4	85	115			
Chromium	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.5	85	115			
Manganese	0.49	0.0020	0.5000	0	98.7	85	115			
Silver	0.096	0.0050	0.1000	0	96.2	85	115			
Zinc	0.47	0.010	0.5000	0	94.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34427**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**34427**	RunNo:	**46457**					
Prep Date:	**10/16/2017**	Analysis Date:	**10/17/2017**	SeqNo:	**1479770**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID	**LLLCS-34427**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**34427**	RunNo:	**46457**					
Prep Date:	**10/16/2017**	Analysis Date:	**10/17/2017**	SeqNo:	**1479771**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0051	0.010	0.005000	0	103	50	150			J

Sample ID	**LCS-34427**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**34427**	RunNo:	**46457**					
Prep Date:	**10/16/2017**	Analysis Date:	**10/17/2017**	SeqNo:	**1479773**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.50	0.010	0.5000	0	99.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**1710267-003GLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-24**	Batch ID:	**D46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470714**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.014	0.00050	0.01250	0.0006041	105	70	130			

Sample ID	**1710267-003GLLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-24**	Batch ID:	**D46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470715**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.014	0.00050	0.01250	0.0006041	106	70	130	0.150	20	

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**D46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470731**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	90.2	85	115			
Lead	0.012	0.00050	0.01250	0	94.7	85	115			
Selenium	0.022	0.0010	0.02500	0	88.8	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**D46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470735**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00090	0.0010	0.001000	0	90.3	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.7	50	150			J
Selenium	0.00076	0.0010	0.001000	0	75.5	50	150			J

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**D46196**		RunNo:	**46196**				
Prep Date:		Analysis Date:	**10/6/2017**		SeqNo:	**1470739**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**1710267-003GLLMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-24**	Batch ID:	**A46217**		RunNo:	**46217**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471576**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.004674	94.1	70	130			
Selenium	0.12	0.0050	0.1250	0.009437	86.0	70	130			

Sample ID	**1710267-003GLLMS**	SampType:	**MSD**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**MKTF-24**	Batch ID:	**A46217**		RunNo:	**46217**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471577**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0.004674	95.2	70	130	1.11	20	
Selenium	0.12	0.0050	0.1250	0.009437	86.7	70	130	0.800	20	

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**A46217**		RunNo:	**46217**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471613**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	91.8	85	115			
Lead	0.011	0.00050	0.01250	0	91.6	85	115			
Selenium	0.023	0.0010	0.02500	0	90.6	85	115			

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**A46217**		RunNo:	**46217**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471615**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00045	0.00050	0.0005000	0	90.7	50	150			J
Selenium	0.0012	0.0010	0.001000	0	123	50	150			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**A46217**		RunNo:	**46217**				
Prep Date:		Analysis Date:	**10/9/2017**		SeqNo:	**1471618**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID	**MB-34427**	SampType: **MBLK**	TestCode: **200.8 ICPMS Metals:Total**
Client ID:	**PBW**	Batch ID: **34427**	RunNo: **46398**
Prep Date:	**10/16/2017**	Analysis Date: **10/17/2017**	SeqNo: **1478285** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID	**MSLCS-34427**	SampType: **LCS**	TestCode: **200.8 ICPMS Metals:Total**
Client ID:	**LCSW**	Batch ID: **34427**	RunNo: **46398**
Prep Date:	**10/16/2017**	Analysis Date: **10/17/2017**	SeqNo: **1478287** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.0	85	115			
Lead	0.012	0.00050	0.01250	0	99.8	85	115			
Selenium	0.023	0.0010	0.02500	0	90.4	85	115			

Sample ID	**MSLLLCS-34427**	SampType: **LCSLL**	TestCode: **200.8 ICPMS Metals:Total**
Client ID:	**BatchQC**	Batch ID: **34427**	RunNo: **46398**
Prep Date:	**10/16/2017**	Analysis Date: **10/17/2017**	SeqNo: **1478289** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00093	0.0010	0.001000	0	93.2	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.0	50	150			J
Selenium	0.00096	0.0010	0.001000	0	95.6	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34447**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**34447**	RunNo:	**46445**					
Prep Date:	**10/17/2017**	Analysis Date:	**10/18/2017**	SeqNo:	**1479407**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-34447**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**34447**	RunNo:	**46445**					
Prep Date:	**10/17/2017**	Analysis Date:	**10/18/2017**	SeqNo:	**1479408**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	104	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46186**	RunNo: **46186**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1470263** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.36	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46186**	RunNo: **46186**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1470264** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.9	90	110			
Chloride	4.8	0.50	5.000	0	96.2	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	98.2	90	110			
Bromide	2.5	0.10	2.500	0	98.1	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.8	90	110			
Sulfate	9.9	0.50	10.00	0	99.4	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R46427**	RunNo: **46427**
Prep Date:	Analysis Date: **10/17/2017**	SeqNo: **1479109** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R46427**	RunNo: **46427**
Prep Date:	Analysis Date: **10/17/2017**	SeqNo: **1479110** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID	**MB-34318**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**34318**	RunNo:	**46244**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/10/2017**	SeqNo:	**1472526**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-34318**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**34318**	RunNo:	**46244**					
Prep Date:	**10/10/2017**	Analysis Date:	**10/10/2017**	SeqNo:	**1472534**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.099	0.010	0.1000	0	98.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **1710267-003BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-24**	Batch ID: **34278**	RunNo: **46224**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1472747** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.3	1.0	5.000	0.5577	115	83.3	151			
Surr: DNOP	0.62		0.5000		125	77.5	161			

Sample ID **1710267-003BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **MKTF-24**	Batch ID: **34278**	RunNo: **46224**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1472748** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.5	1.0	5.000	0.5577	119	83.3	151	3.19	20	
Surr: DNOP	0.63		0.5000		126	77.5	161	0	0	

Sample ID **LCS-34278**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **34278**	RunNo: **46224**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1472817** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.3	1.0	5.000	0	106	92.3	135			
Surr: DNOP	0.55		0.5000		110	77.5	161			

Sample ID **MB-34278**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **34278**	RunNo: **46224**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1472822** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		120	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468819** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468819** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.7	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.6	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468820** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.8	70	130			
Toluene	19	1.0	20.00	0	96.7	70	130			
Chlorobenzene	19	1.0	20.00	0	96.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468820** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	20	1.0	20.00	0	99.1	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	88.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.5	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.3	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID **1710267-004a ms2**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-29**	Batch ID: **W46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1468826** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	92.8	70	130			P
Toluene	19	1.0	20.00	0	97.4	70	130			P
Chlorobenzene	19	1.0	20.00	0	93.9	70	130			P
1,1-Dichloroethene	20	1.0	20.00	0	101	70	130			P
Trichloroethene (TCE)	19	1.0	20.00	0	92.8	70	130			P
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			P
Surr: 4-Bromofluorobenzene	9.3		10.00		93.1	70	130			P
Surr: Dibromofluoromethane	10		10.00		100	70	130			P
Surr: Toluene-d8	10		10.00		101	70	130			P

Sample ID **1710267-004a msd2**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-29**	Batch ID: **W46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1468827** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	88.9	70	130	4.21	20	P
Toluene	19	1.0	20.00	0	96.5	70	130	0.886	20	P
Chlorobenzene	19	1.0	20.00	0	94.1	70	130	0.226	20	P
1,1-Dichloroethene	18	1.0	20.00	0	91.7	70	130	9.21	20	P
Trichloroethene (TCE)	17	1.0	20.00	0	86.8	70	130	6.71	20	P
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130	0	0	P
Surr: 4-Bromofluorobenzene	9.2		10.00		91.7	70	130	0	0	P
Surr: Dibromofluoromethane	9.8		10.00		98.1	70	130	0	0	P
Surr: Toluene-d8	10		10.00		104	70	130	0	0	P

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **lcs-34281**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **34281**	RunNo: **46283**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1474104** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	80	10	100.0	0	80.2	41.2	98.9			
4-Chloro-3-methylphenol	170	10	200.0	0	86.8	29.1	111			
2-Chlorophenol	160	10	200.0	0	80.9	23.3	108			
1,4-Dichlorobenzene	74	10	100.0	0	73.7	29.4	84.5			
2,4-Dinitrotoluene	69	10	100.0	0	68.6	36.6	88.7			
N-Nitrosodi-n-propylamine	94	10	100.0	0	93.6	46.9	106			
4-Nitrophenol	97	10	200.0	0	48.4	15	74.7			
Pentachlorophenol	160	20	200.0	0	82.0	28.1	85.4			
Phenol	110	10	200.0	0	56.2	15	78.2			
Pyrene	77	10	100.0	0	77.2	44.4	96.8			
1,2,4-Trichlorobenzene	77	10	100.0	0	76.6	34.3	89			
Surr: 2-Fluorophenol	110		200.0		54.3	15	88			
Surr: Phenol-d5	97		200.0		48.7	15	72.4			
Surr: 2,4,6-Tribromophenol	190		200.0		95.0	15	117			
Surr: Nitrobenzene-d5	76		100.0		75.7	33.5	120			
Surr: 2-Fluorobiphenyl	66		100.0		65.8	26.5	109			
Surr: 4-Terphenyl-d14	97		100.0		97.0	21.7	98.7			

Sample ID **mb-34281**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34281**	RunNo: **46283**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1474105** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	6.3	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	41	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**
01-Nov-17

Client: Western Refining Southwest, Gallup
Project: 2017 3rd QTR MKTF

Sample ID **mb-34281**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34281**	RunNo: **46283**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1474105** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **mb-34281**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **34281**	RunNo: **46283**
Prep Date: **10/6/2017**	Analysis Date: **10/10/2017**	SeqNo: **1474105** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	95		200.0		47.7	15	88			
Surr: Phenol-d5	79		200.0		39.6	15	72.4			
Surr: 2,4,6-Tribromophenol	150		200.0		75.8	15	117			
Surr: Nitrobenzene-d5	73		100.0		72.7	33.5	120			
Surr: 2-Fluorobiphenyl	61		100.0		61.1	26.5	109			
Surr: 4-Terphenyl-d14	76		100.0		75.6	21.7	98.7			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1710267**

01-Nov-17

Client: Western Refining Southwest, Gallup

Project: 2017 3rd QTR MKTF

Sample ID **rb1**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.0		10.00		89.6	70	130			

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/5/2017**	SeqNo: **1468839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	100	75.9	120			
Surr: BFB	9.1		10.00		91.5	70	130			

Sample ID **1710267-003a ms**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-24**	Batch ID: **G46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1468842** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	1.0	10.00	10.19	94.7	70	130			
Surr: BFB	170		200.0		84.9	70	130			

Sample ID **1710267-003a msd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **MKTF-24**	Batch ID: **G46148**	RunNo: **46148**
Prep Date:	Analysis Date: **10/6/2017**	SeqNo: **1468843** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	1.0	10.00	10.19	100	70	130	2.69	20	
Surr: BFB	180		200.0		89.4	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1710267** RcptNo: **1**

Received By: **Erin Melendrez** **10/4/2017 3:25:00 PM**

Completed By: **Ashley Gallegos** **10/4/2017 4:38:20 PM**

Reviewed By: DDS 10/5/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 24
(<2 or >12 unless noted)
Adjusted? NO
Checked by: Re

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING ROAD, GALLUP, NM 87301

Phone #: 505-722-3833

Email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

X Standard ☐ Rush

Project Name:

2017 3rd QTR - MKTF

PO #20837992-CO#1

Project Manager:

C. JOHNSON (cheryl.a.johnson@andeavor.com)

Sampler: C. JOHNSON

On Ice: X Yes ☐ No

Sample Temperature: -3

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1710267	Analysis Request: 8260+MTBE	8015D EXTENDED	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	8011/504.1 FOR EDB	Air Bubbles (Y or N)
10/3/2017	700	AQUEOUS	Field Blank	3-40ml VOAs	HCL	-001	X							
10/3/2017	700	AQUEOUS	Trip Blank	3-40ml VOAs	HCL	-002	X							
10/3/2017	855	AQUEOUS	MKTF-24	MISC	MISC	-003	X	X	X	X	X	X	X	
10/3/2017	1010	AQUEOUS	MKTF-29	MISC	MISC	-004	X	X	X	X	X	X		
10/3/2017	1045	AQUEOUS	MKTF-28	MISC	MISC	-005	X	X	X	X	X	X		
10/3/2017	1055	AQUEOUS	DUPLICATE	MISC	MISC	-006	X	X	X	X	X	X		
10/3/2017	1125	AQUEOUS	MKTF-27	MISC	MISC	-007	X	X	X	X	X	X		
10/3/2017	1346	AQUEOUS	MKTF-22	MISC	MISC	-008	X	X	X	X	X	X		
10/3/2017	1505	AQUEOUS	MKTF-30	MISC	MISC	-009	X	X	X	X	X	X	X	
10/3/2017	1600	AQUEOUS	MKTF-02	MISC	MISC	-010	X	X	X	X	X	X	X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/4/17	1300			10/4/17	1316
Date:	Time:	Relinquished by:	Received by:	Date	Time
10/4/17	15:25			10/4/17	1525

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS MINUS URANIUM, INCLUDES MERCURY

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 11, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th QTR 2017 GW Sampling MKTF OrderNo.: 1712043

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 15 sample(s) on 12/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-44
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 8:25:00 AM
Lab ID: 1712043-001
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/5/2017 10:58:34 PM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 10:58:34 PM	35300
Surr: DNOP	117	0	77.5-161		%Rec	1	12/5/2017 10:58:34 PM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	12/10/2017 11:18:07 PM	R47699
Chloride	730	12	25		mg/L	50	12/14/2017 3:23:39 AM	A47741
Bromide	0.70	0.073	0.50		mg/L	5	12/10/2017 11:18:07 PM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/10/2017 11:18:07 PM	R47699
Sulfate	91	0.48	2.5		mg/L	5	12/10/2017 11:18:07 PM	R47699
Nitrate+Nitrite as N	4.2	0.13	1.0		mg/L	5	12/11/2017 5:55:14 AM	R47699
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.076	0.00099	0.0020		mg/L	1	12/19/2017 6:50:16 PM	A47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 6:50:16 PM	A47895
Calcium	17	0.078	1.0		mg/L	1	12/19/2017 6:50:16 PM	A47895
Chromium	0.0065	0.0013	0.0060		mg/L	1	12/19/2017 6:50:16 PM	A47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 6:50:16 PM	A47895
Iron	0.034	0.016	0.020		mg/L	1	12/19/2017 6:50:16 PM	A47895
Magnesium	1.2	0.25	1.0		mg/L	1	12/19/2017 6:50:16 PM	A47895
Manganese	0.0012	0.00039	0.0020	J	mg/L	1	12/19/2017 6:50:16 PM	A47895
Potassium	1.7	0.11	1.0		mg/L	1	12/19/2017 6:50:16 PM	A47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 6:50:16 PM	A47895
Sodium	720	1.6	10		mg/L	10	12/19/2017 9:05:53 PM	A47895
Zinc	0.0050	0.0021	0.010	J	mg/L	1	12/19/2017 6:50:16 PM	A47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.13	0.0010	0.0020		mg/L	1	12/18/2017 6:03:50 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 12:13:58 AM	35487
Chromium	0.0098	0.0018	0.0060		mg/L	1	12/18/2017 6:03:50 PM	35487
Copper	0.0052	0.0041	0.0060	J	mg/L	1	12/17/2017 8:21:47 PM	35487
Iron	6.5	0.10	0.20	*	mg/L	10	12/20/2017 7:54:06 PM	35487
Manganese	0.092	0.0011	0.0020	*	mg/L	1	12/20/2017 7:42:51 PM	35487
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 6:03:50 PM	35487
Zinc	0.020	0.0033	0.010		mg/L	1	12/20/2017 7:42:51 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0054	0.00042	0.0010		mg/L	1	12/19/2017 11:24:32 PM	B47906
Lead	ND	0.00017	0.00050		mg/L	1	12/19/2017 11:24:32 PM	B47906
Selenium	0.0097	0.00076	0.0010		mg/L	1	12/19/2017 11:24:32 PM	B47906
Uranium	0.14	0.0019	0.010	*	mg/L	20	12/20/2017 7:37:14 PM	B47943

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: MKTF-44
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 8:25:00 AM
Lab ID: 1712043-001
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.021	0.050		mg/L	50	1/8/2018 6:28:51 PM	35487
Lead	0.0054	0.00023	0.00050		mg/L	1	12/15/2017 9:22:33 PM	35487
Selenium	0.0089	0.00098	0.0010		mg/L	1	12/15/2017 9:22:33 PM	35487
Uranium	0.15	0.0031	0.010	*	mg/L	20	1/4/2018 7:43:57 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Aniline	ND	3.1	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Benzoic acid	11	3.9	20	J	µg/L	1	12/11/2017 3:28:56 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/11/2017 3:28:56 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Carbazole	ND	4.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 3:28:56 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 3:28:56 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 3:28:56 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321

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Collection Date: 11/28/2017 8:25:00 AM
Lab ID: 1712043-001 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 3:28:56 PM	35321
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/11/2017 3:28:56 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 3:28:56 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 3:28:56 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Fluorene	ND	4.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 3:28:56 PM	35321
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2-Methylphenol	ND	3.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/11/2017 3:28:56 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Naphthalene	ND	2.9	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 3:28:56 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 3:28:56 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 3:28:56 PM	35321
Phenanthrene	ND	4.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Phenol	ND	3.1	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 3:28:56 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 3:28:56 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 3:28:56 PM	35321
Surr: 2-Fluorophenol	58.8	0	15-114		%Rec	1	12/11/2017 3:28:56 PM	35321
Surr: Phenol-d5	44.0	0	15-97.9		%Rec	1	12/11/2017 3:28:56 PM	35321

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CLIENT: Western Refining Southwest, Gallup
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Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 8:25:00 AM
Lab ID: 1712043-001 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	90.6	0	15-161		%Rec	1	12/11/2017 3:28:56 PM	35321
Surr: Nitrobenzene-d5	80.0	0	29.3-120		%Rec	1	12/11/2017 3:28:56 PM	35321
Surr: 2-Fluorobiphenyl	71.9	0	17.5-116		%Rec	1	12/11/2017 3:28:56 PM	35321
Surr: 4-Terphenyl-d14	70.7	0	21-92.2		%Rec	1	12/11/2017 3:28:56 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Toluene	ND	0.064	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Naphthalene	ND	0.11	2.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Acetone	2.1	0.82	10	J	µg/L	1	12/6/2017 5:26:00 PM	R47586
Bromobenzene	ND	0.14	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Bromoform	ND	0.21	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Bromomethane	ND	0.26	3.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
2-Butanone	ND	1.1	10		µg/L	1	12/6/2017 5:26:00 PM	R47586
Carbon disulfide	ND	0.40	10		µg/L	1	12/6/2017 5:26:00 PM	R47586
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Chloroethane	ND	0.23	2.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Chloroform	ND	0.40	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Chloromethane	ND	0.29	3.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Dibromomethane	ND	0.091	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
2-Hexanone	ND	0.66	10		µg/L	1	12/6/2017 5:26:00 PM	R47586
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2017 5:26:00 PM	R47586
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Styrene	ND	0.16	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2017 5:26:00 PM	R47586
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/6/2017 5:26:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	108	0	70-130		%Rec	1	12/6/2017 5:26:00 PM	R47586
Surr: 4-Bromofluorobenzene	97.2	0	70-130		%Rec	1	12/6/2017 5:26:00 PM	R47586
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	12/6/2017 5:26:00 PM	R47586
Surr: Toluene-d8	96.7	0	70-130		%Rec	1	12/6/2017 5:26:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.017	0.0097	0.050	J	mg/L	1	12/6/2017 6:15:04 PM	R47561
Surr: BFB	103	0	70-130		%Rec	1	12/6/2017 6:15:04 PM	R47561

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:10:00 AM
Lab ID: 1712043-002 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.4	0.36	1.0		mg/L	1	12/5/2017 11:20:37 PM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 11:20:37 PM	35300
Surr: DNOP	110	0	77.5-161		%Rec	1	12/5/2017 11:20:37 PM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.34	0.22	0.50	J	mg/L	5	12/10/2017 11:42:56 PM	R47699
Chloride	100	5.0	10		mg/L	20	12/14/2017 3:36:03 AM	A47741
Bromide	0.92	0.073	0.50		mg/L	5	12/10/2017 11:42:56 PM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/10/2017 11:42:56 PM	R47699
Sulfate	3.3	0.48	2.5		mg/L	5	12/10/2017 11:42:56 PM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 6:44:52 AM	R47699
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.4	0.0049	0.010		mg/L	5	12/19/2017 9:07:42 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 6:57:58 PM	B47895
Calcium	130	0.39	5.0		mg/L	5	12/19/2017 9:07:42 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 6:57:58 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 6:57:58 PM	B47895
Iron	1.6	0.082	0.10	*	mg/L	5	12/19/2017 9:07:42 PM	B47895
Magnesium	26	0.25	1.0		mg/L	1	12/19/2017 6:57:58 PM	B47895
Manganese	2.3	0.0020	0.010	*	mg/L	5	12/19/2017 9:07:42 PM	B47895
Potassium	0.65	0.11	1.0	J	mg/L	1	12/19/2017 6:57:58 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 6:57:58 PM	B47895
Sodium	250	0.82	5.0		mg/L	5	12/19/2017 9:07:42 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 6:57:58 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.5	0.010	0.020		mg/L	10	12/18/2017 6:23:11 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 12:21:19 AM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 6:21:44 PM	35487
Copper	0.0043	0.0041	0.0060	J	mg/L	1	12/17/2017 8:36:34 PM	35487
Iron	7.9	0.10	0.20	*	mg/L	10	12/18/2017 6:23:11 PM	35487
Manganese	2.6	0.0055	0.010	*	mg/L	5	12/20/2017 7:57:43 PM	35487
Silver	0.0017	0.0012	0.0050	J	mg/L	1	12/18/2017 6:21:44 PM	35487
Zinc	0.0080	0.0033	0.010	J	mg/L	1	12/20/2017 7:55:46 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0025	0.0021	0.0050	J	mg/L	5	1/5/2018 5:17:08 PM	C48247
Lead	ND	0.00017	0.00050		mg/L	1	12/19/2017 11:50:52 PM	B47906
Selenium	ND	0.0038	0.0050		mg/L	5	1/5/2018 5:17:08 PM	C48247
Uranium	0.0023	0.000096	0.00050		mg/L	1	12/19/2017 11:50:52 PM	B47906

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:10:00 AM
Lab ID: 1712043-002 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0083	0.020		mg/L	20	1/8/2018 6:32:28 PM	35487
Lead	0.0048	0.00023	0.00050		mg/L	1	12/15/2017 9:27:28 PM	35487
Selenium	ND	0.0049	0.0050		mg/L	5	1/4/2018 7:53:45 PM	35487
Uranium	0.0026	0.00015	0.00050		mg/L	1	12/15/2017 9:27:28 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Aniline	ND	3.1	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Benzoic acid	15	3.9	20	J	µg/L	1	12/11/2017 3:56:51 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Bis(2-ethylhexyl)phthalate	100	4.8	10		µg/L	1	12/11/2017 3:56:51 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Carbazole	ND	4.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 3:56:51 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 3:56:51 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 3:56:51 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:10:00 AM
Lab ID: 1712043-002
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 3:56:51 PM	35321
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/11/2017 3:56:51 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 3:56:51 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 3:56:51 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Fluorene	5.3	4.0	10	J	µg/L	1	12/11/2017 3:56:51 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 3:56:51 PM	35321
1-Methylnaphthalene	58	3.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2-Methylphenol	ND	3.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/11/2017 3:56:51 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Naphthalene	22	2.9	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 3:56:51 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 3:56:51 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 3:56:51 PM	35321
Phenanthrene	ND	4.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Phenol	22	3.1	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 3:56:51 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 3:56:51 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 3:56:51 PM	35321
Surr: 2-Fluorophenol	55.7	0	15-114		%Rec	1	12/11/2017 3:56:51 PM	35321
Surr: Phenol-d5	44.2	0	15-97.9		%Rec	1	12/11/2017 3:56:51 PM	35321

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:10:00 AM
Lab ID: 1712043-002 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	95.0	0	15-161		%Rec	1	12/11/2017 3:56:51 PM	35321
Surr: Nitrobenzene-d5	77.9	0	29.3-120		%Rec	1	12/11/2017 3:56:51 PM	35321
Surr: 2-Fluorobiphenyl	74.7	0	17.5-116		%Rec	1	12/11/2017 3:56:51 PM	35321
Surr: 4-Terphenyl-d14	53.9	0	21-92.2		%Rec	1	12/11/2017 3:56:51 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	2500	6.2	100		µg/L	100	12/6/2017 5:49:00 PM	R47586
Toluene	13	0.64	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Ethylbenzene	180	0.93	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Methyl tert-butyl ether (MTBE)	6000	24	100		µg/L	100	12/6/2017 5:49:00 PM	R47586
1,2,4-Trimethylbenzene	9.4	1.1	10	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
1,3,5-Trimethylbenzene	1.7	0.87	10	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Naphthalene	33	1.1	20		µg/L	10	12/6/2017 6:13:00 PM	R47586
1-Methylnaphthalene	89	1.6	40		µg/L	10	12/6/2017 6:13:00 PM	R47586
2-Methylnaphthalene	8.6	1.5	40	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
Acetone	23	8.2	100	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
Bromobenzene	ND	1.4	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Bromodichloromethane	ND	1.8	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Bromoform	ND	2.1	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Bromomethane	ND	2.6	30		µg/L	10	12/6/2017 6:13:00 PM	R47586
2-Butanone	ND	11	100		µg/L	10	12/6/2017 6:13:00 PM	R47586
Carbon disulfide	ND	4.0	100		µg/L	10	12/6/2017 6:13:00 PM	R47586
Carbon Tetrachloride	ND	1.1	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Chlorobenzene	ND	1.1	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Chloroethane	ND	2.3	20		µg/L	10	12/6/2017 6:13:00 PM	R47586
Chloroform	ND	4.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Chloromethane	ND	2.9	30		µg/L	10	12/6/2017 6:13:00 PM	R47586
2-Chlorotoluene	ND	4.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
4-Chlorotoluene	ND	4.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
cis-1,2-DCE	8.0	2.0	10	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	12/6/2017 6:13:00 PM	R47586
Dibromochloromethane	ND	0.72	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Dibromomethane	ND	0.91	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Dichlorodifluoromethane	ND	10	10		µg/L	10	12/6/2017 6:13:00 PM	R47586

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-22
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:10:00 AM
Lab ID: 1712043-002 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	4.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,1-Dichloroethene	6.2	0.81	10	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2-Dichloropropane	ND	1.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,3-Dichloropropane	ND	1.7	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
2,2-Dichloropropane	ND	1.6	20		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,1-Dichloropropene	ND	0.93	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Hexachlorobutadiene	ND	8.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
2-Hexanone	ND	6.6	100		µg/L	10	12/6/2017 6:13:00 PM	R47586
Isopropylbenzene	10	0.51	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
4-Isopropyltoluene	3.6	0.96	10	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	12/6/2017 6:13:00 PM	R47586
Methylene Chloride	ND	1.1	30		µg/L	10	12/6/2017 6:13:00 PM	R47586
n-Butylbenzene	11	1.3	30	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
n-Propylbenzene	23	0.74	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
sec-Butylbenzene	6.1	1.1	10	J	µg/L	10	12/6/2017 6:13:00 PM	R47586
Styrene	ND	1.6	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
tert-Butylbenzene	ND	1.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	12/6/2017 6:13:00 PM	R47586
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
trans-1,2-DCE	ND	1.8	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Trichlorofluoromethane	ND	1.8	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	12/6/2017 6:13:00 PM	R47586
Vinyl chloride	ND	1.8	10		µg/L	10	12/6/2017 6:13:00 PM	R47586
Xylenes, Total	25	3.2	15		µg/L	10	12/6/2017 6:13:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	10	12/6/2017 6:13:00 PM	R47586
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	10	12/6/2017 6:13:00 PM	R47586
Surr: Dibromofluoromethane	101	0	70-130		%Rec	10	12/6/2017 6:13:00 PM	R47586
Surr: Toluene-d8	99.6	0	70-130		%Rec	10	12/6/2017 6:13:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	13	0.097	0.50		mg/L	10	12/6/2017 6:38:02 PM	R47561
Surr: BFB	104	0	70-130		%Rec	10	12/6/2017 6:38:02 PM	R47561

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:50:00 AM
Lab ID: 1712043-003 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/5/2017 11:42:28 PM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 11:42:28 PM	35300
Surr: DNOP	110	0	77.5-161		%Rec	1	12/5/2017 11:42:28 PM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.23	0.22	0.50	J	mg/L	5	12/11/2017 12:07:46 AM	R47699
Chloride	96	5.0	10		mg/L	20	12/14/2017 3:48:27 AM	A47741
Bromide	0.63	0.073	0.50		mg/L	5	12/11/2017 12:07:46 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 12:07:46 AM	R47699
Sulfate	250	1.9	10		mg/L	20	12/11/2017 12:20:10 AM	R47699
Nitrate+Nitrite as N	0.32	0.13	1.0	J	mg/L	5	12/11/2017 6:57:17 AM	R47699
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.040	0.00099	0.0020		mg/L	1	12/19/2017 6:59:45 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 6:59:45 PM	B47895
Calcium	73	0.078	1.0		mg/L	1	12/19/2017 6:59:45 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 6:59:45 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 6:59:45 PM	B47895
Iron	ND	0.016	0.020		mg/L	1	12/19/2017 6:59:45 PM	B47895
Magnesium	16	0.25	1.0		mg/L	1	12/19/2017 6:59:45 PM	B47895
Manganese	0.28	0.00039	0.0020	*	mg/L	1	12/19/2017 6:59:45 PM	B47895
Potassium	0.99	0.11	1.0	J	mg/L	1	12/19/2017 6:59:45 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 6:59:45 PM	B47895
Sodium	300	0.82	5.0		mg/L	5	12/19/2017 9:09:52 PM	B47895
Zinc	0.0051	0.0021	0.010	J	mg/L	1	12/19/2017 6:59:45 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.18	0.0010	0.0020		mg/L	1	12/18/2017 6:24:39 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 12:32:24 AM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 6:24:39 PM	35487
Copper	0.0045	0.0041	0.0060	J	mg/L	1	12/17/2017 8:38:23 PM	35487
Iron	3.0	0.051	0.10	*	mg/L	5	12/18/2017 6:26:12 PM	35487
Manganese	0.39	0.0011	0.0020	*	mg/L	1	12/20/2017 12:32:24 AM	35487
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 6:24:39 PM	35487
Zinc	0.0095	0.0033	0.010	J	mg/L	1	12/20/2017 7:59:22 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00071	0.00042	0.0010	J	mg/L	1	12/20/2017 8:01:52 PM	B47943
Lead	ND	0.00017	0.00050		mg/L	1	12/19/2017 11:57:26 PM	B47906
Selenium	ND	0.0038	0.0050		mg/L	5	1/5/2018 5:26:57 PM	C48247
Uranium	0.032	0.00048	0.0025	*	mg/L	5	12/20/2017 8:06:47 PM	B47943

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:50:00 AM
Lab ID: 1712043-003
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0083	0.020		mg/L	20	1/8/2018 6:36:04 PM	35487
Lead	0.0036	0.00023	0.00050		mg/L	1	12/15/2017 9:52:06 PM	35487
Selenium	0.0011	0.00098	0.0010		mg/L	1	12/15/2017 9:52:06 PM	35487
Uranium	0.033	0.0015	0.0050	*	mg/L	10	1/4/2018 8:08:29 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Aniline	ND	3.1	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Benzoic acid	4.5	3.9	20	J	µg/L	1	12/11/2017 4:24:30 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Bis(2-ethylhexyl)phthalate	5.0	4.8	10	J	µg/L	1	12/11/2017 4:24:30 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Carbazole	ND	4.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 4:24:30 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 4:24:30 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 4:24:30 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:50:00 AM
Lab ID: 1712043-003 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 4:24:30 PM	35321
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/11/2017 4:24:30 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 4:24:30 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 4:24:30 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Fluorene	ND	4.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 4:24:30 PM	35321
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2-Methylphenol	ND	3.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/11/2017 4:24:30 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Naphthalene	ND	2.9	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 4:24:30 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 4:24:30 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 4:24:30 PM	35321
Phenanthrene	ND	4.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Phenol	ND	3.1	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 4:24:30 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 4:24:30 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 4:24:30 PM	35321
Surr: 2-Fluorophenol	51.4	0	15-114		%Rec	1	12/11/2017 4:24:30 PM	35321
Surr: Phenol-d5	42.1	0	15-97.9		%Rec	1	12/11/2017 4:24:30 PM	35321

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:50:00 AM
Lab ID: 1712043-003 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	87.8	0	15-161		%Rec	1	12/11/2017 4:24:30 PM	35321
Surr: Nitrobenzene-d5	76.7	0	29.3-120		%Rec	1	12/11/2017 4:24:30 PM	35321
Surr: 2-Fluorobiphenyl	73.2	0	17.5-116		%Rec	1	12/11/2017 4:24:30 PM	35321
Surr: 4-Terphenyl-d14	47.5	0	21-92.2		%Rec	1	12/11/2017 4:24:30 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.11	0.062	1.0	J	µg/L	1	12/6/2017 6:59:00 PM	R47586
Toluene	ND	0.064	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Methyl tert-butyl ether (MTBE)	530	2.4	10		µg/L	10	12/6/2017 6:36:00 PM	R47586
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Naphthalene	ND	0.11	2.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Acetone	2.7	0.82	10	J	µg/L	1	12/6/2017 6:59:00 PM	R47586
Bromobenzene	ND	0.14	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Bromoform	ND	0.21	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Bromomethane	ND	0.26	3.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
2-Butanone	ND	1.1	10		µg/L	1	12/6/2017 6:59:00 PM	R47586
Carbon disulfide	ND	0.40	10		µg/L	1	12/6/2017 6:59:00 PM	R47586
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Chloroethane	ND	0.23	2.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Chloroform	ND	0.40	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Chloromethane	ND	0.29	3.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Dibromomethane	ND	0.091	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-33
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 9:50:00 AM
Lab ID: 1712043-003 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
2-Hexanone	ND	0.66	10		µg/L	1	12/6/2017 6:59:00 PM	R47586
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2017 6:59:00 PM	R47586
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
sec-Butylbenzene	0.21	0.11	1.0	J	µg/L	1	12/6/2017 6:59:00 PM	R47586
Styrene	ND	0.16	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2017 6:59:00 PM	R47586
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/6/2017 6:59:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	12/6/2017 6:59:00 PM	R47586
Surr: 4-Bromofluorobenzene	98.8	0	70-130		%Rec	1	12/6/2017 6:59:00 PM	R47586
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/6/2017 6:59:00 PM	R47586
Surr: Toluene-d8	98.9	0	70-130		%Rec	1	12/6/2017 6:59:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.35	0.0097	0.050		mg/L	1	12/6/2017 7:01:00 PM	R47561
Surr: BFB	103	0	70-130		%Rec	1	12/6/2017 7:01:00 PM	R47561

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP04
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-004
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/6/2017 12:04:31 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 12:04:31 AM	35300
Surr: DNOP	112	0	77.5-161		%Rec	1	12/6/2017 12:04:31 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.25	0.22	0.50	J	mg/L	5	12/11/2017 12:32:35 AM	R47699
Chloride	94	5.0	10		mg/L	20	12/14/2017 4:00:52 AM	A47741
Bromide	0.57	0.073	0.50		mg/L	5	12/11/2017 12:32:35 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 12:32:35 AM	R47699
Sulfate	260	1.9	10		mg/L	20	12/11/2017 12:44:59 AM	R47699
Nitrate+Nitrite as N	0.27	0.13	1.0	J	mg/L	5	12/11/2017 7:09:42 AM	R47699
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.040	0.00099	0.0020		mg/L	1	12/19/2017 7:01:41 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:01:41 PM	B47895
Calcium	73	0.078	1.0		mg/L	1	12/19/2017 7:01:41 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:01:41 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:01:41 PM	B47895
Iron	ND	0.016	0.020		mg/L	1	12/19/2017 7:01:41 PM	B47895
Magnesium	16	0.25	1.0		mg/L	1	12/19/2017 7:01:41 PM	B47895
Manganese	0.28	0.00039	0.0020	*	mg/L	1	12/19/2017 7:01:41 PM	B47895
Potassium	1.0	0.11	1.0		mg/L	1	12/19/2017 7:01:41 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:01:41 PM	B47895
Sodium	280	0.82	5.0		mg/L	5	12/19/2017 9:11:58 PM	B47895
Zinc	0.0053	0.0021	0.010	J	mg/L	1	12/19/2017 7:01:41 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.22	0.0010	0.0020		mg/L	1	12/18/2017 6:27:57 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 12:34:15 AM	35487
Chromium	0.0023	0.0018	0.0060	J	mg/L	1	12/18/2017 6:27:57 PM	35487
Copper	0.0050	0.0041	0.0060	J	mg/L	1	12/17/2017 8:40:12 PM	35487
Iron	3.7	0.051	0.10	*	mg/L	5	12/18/2017 6:29:24 PM	35487
Manganese	0.42	0.0011	0.0020	*	mg/L	1	12/20/2017 12:34:15 AM	35487
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 6:27:57 PM	35487
Zinc	0.011	0.0033	0.010		mg/L	1	12/20/2017 8:01:10 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.00067	0.00042	0.0010	J	mg/L	1	12/20/2017 8:11:42 PM	B47943
Lead	ND	0.00017	0.00050		mg/L	1	12/20/2017 12:04:00 AM	B47906
Selenium	ND	0.0038	0.0050		mg/L	5	1/5/2018 5:31:52 PM	C48247
Uranium	0.033	0.00048	0.0025	*	mg/L	5	12/20/2017 8:16:37 PM	B47943

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP04
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-004
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0083	0.020		mg/L	20	1/8/2018 6:39:40 PM	35487
Lead	0.0045	0.00023	0.00050		mg/L	1	12/15/2017 9:57:01 PM	35487
Selenium	0.0012	0.00098	0.0010		mg/L	1	12/15/2017 9:57:01 PM	35487
Uranium	0.034	0.0015	0.0050	*	mg/L	10	1/4/2018 8:13:24 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Aniline	ND	3.1	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Benzoic acid	ND	3.9	20		µg/L	1	12/11/2017 5:47:21 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Bis(2-ethylhexyl)phthalate	42	4.8	10		µg/L	1	12/11/2017 5:47:21 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Carbazole	ND	4.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Di-n-octyl phthalate	4.8	4.7	10	J	µg/L	1	12/11/2017 5:47:21 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 5:47:21 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 5:47:21 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 5:47:21 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP04
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-004
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 5:47:21 PM	35321
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/11/2017 5:47:21 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 5:47:21 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 5:47:21 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Fluorene	ND	4.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 5:47:21 PM	35321
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2-Methylphenol	ND	3.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/11/2017 5:47:21 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Naphthalene	ND	2.9	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 5:47:21 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 5:47:21 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 5:47:21 PM	35321
Phenanthrene	ND	4.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Phenol	ND	3.1	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 5:47:21 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 5:47:21 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 5:47:21 PM	35321
Surr: 2-Fluorophenol	52.9	0	15-114		%Rec	1	12/11/2017 5:47:21 PM	35321
Surr: Phenol-d5	44.5	0	15-97.9		%Rec	1	12/11/2017 5:47:21 PM	35321

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP04
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-004
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	85.1	0	15-161		%Rec	1	12/11/2017 5:47:21 PM	35321
Surr: Nitrobenzene-d5	82.4	0	29.3-120		%Rec	1	12/11/2017 5:47:21 PM	35321
Surr: 2-Fluorobiphenyl	69.4	0	17.5-116		%Rec	1	12/11/2017 5:47:21 PM	35321
Surr: 4-Terphenyl-d14	48.8	0	21-92.2		%Rec	1	12/11/2017 5:47:21 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Toluene	ND	0.064	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Methyl tert-butyl ether (MTBE)	530	2.4	10		µg/L	10	12/7/2017 10:16:00 AM	R47586
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Naphthalene	ND	0.11	2.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1-Methylnaphthalene	0.58	0.16	4.0	J	µg/L	1	12/6/2017 7:22:00 PM	R47586
2-Methylnaphthalene	0.66	0.15	4.0	J	µg/L	1	12/6/2017 7:22:00 PM	R47586
Acetone	ND	0.82	10		µg/L	1	12/6/2017 7:22:00 PM	R47586
Bromobenzene	ND	0.14	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Bromoform	ND	0.21	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Bromomethane	ND	0.26	3.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
2-Butanone	ND	1.1	10		µg/L	1	12/6/2017 7:22:00 PM	R47586
Carbon disulfide	ND	0.40	10		µg/L	1	12/6/2017 7:22:00 PM	R47586
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Chloroethane	ND	0.23	2.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Chloroform	ND	0.40	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Chloromethane	ND	0.29	3.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Dibromomethane	ND	0.091	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP04
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-004
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
2-Hexanone	ND	0.66	10		µg/L	1	12/6/2017 7:22:00 PM	R47586
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2017 7:22:00 PM	R47586
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
sec-Butylbenzene	0.21	0.11	1.0	J	µg/L	1	12/6/2017 7:22:00 PM	R47586
Styrene	ND	0.16	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2017 7:22:00 PM	R47586
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/6/2017 7:22:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	12/6/2017 7:22:00 PM	R47586
Surr: 4-Bromofluorobenzene	96.8	0	70-130		%Rec	1	12/6/2017 7:22:00 PM	R47586
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/6/2017 7:22:00 PM	R47586
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	12/6/2017 7:22:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.35	0.0097	0.050		mg/L	1	12/6/2017 7:23:52 PM	R47561
Surr: BFB	105	0	70-130		%Rec	1	12/6/2017 7:23:52 PM	R47561

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 2:10:00 PM
Lab ID: 1712043-005
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	14	0.36	1.0		mg/L	1	12/6/2017 12:26:23 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 12:26:23 AM	35300
Surr: DNOP	115	0	77.5-161		%Rec	1	12/6/2017 12:26:23 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.46	0.22	0.50	J	mg/L	5	12/11/2017 12:57:23 AM	R47699
Chloride	1900	50	100		mg/L	200	12/14/2017 4:38:05 AM	A47741
Bromide	3.1	0.073	0.50		mg/L	5	12/11/2017 12:57:23 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 12:57:23 AM	R47699
Sulfate	ND	0.48	2.5		mg/L	5	12/11/2017 12:57:23 AM	R47699
Nitrate+Nitrite as N	0.36	0.26	2.0	J	mg/L	10	12/14/2017 7:44:13 AM	A47741
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	12	0.020	0.040	*	mg/L	20	12/19/2017 9:15:56 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:03:38 PM	B47895
Calcium	170	0.39	5.0		mg/L	5	12/19/2017 9:13:59 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:03:38 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:03:38 PM	B47895
Iron	12	0.33	0.40	*	mg/L	20	12/19/2017 9:15:56 PM	B47895
Magnesium	61	0.25	1.0		mg/L	1	12/19/2017 7:03:38 PM	B47895
Manganese	2.0	0.0020	0.010	*	mg/L	5	12/19/2017 9:13:59 PM	B47895
Potassium	6.0	0.11	1.0		mg/L	1	12/19/2017 7:03:38 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:03:38 PM	B47895
Sodium	1200	3.3	20		mg/L	20	12/19/2017 9:15:56 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:03:38 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	13	0.050	0.10	*	mg/L	50	12/18/2017 6:41:21 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 12:36:02 AM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 6:38:13 PM	35487
Copper	0.0066	0.0041	0.0060		mg/L	1	12/17/2017 8:42:00 PM	35487
Iron	13	0.51	1.0	*	mg/L	50	12/18/2017 6:41:21 PM	35487
Manganese	1.9	0.0055	0.010	*	mg/L	5	12/20/2017 12:37:50 AM	35487
Silver	0.0019	0.0012	0.0050	J	mg/L	1	12/18/2017 6:38:13 PM	35487
Zinc	0.0064	0.0033	0.010	J	mg/L	1	12/20/2017 8:03:06 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0027	0.0021	0.0050	J	mg/L	5	12/20/2017 8:21:32 PM	B47943
Lead	ND	0.00087	0.0025		mg/L	5	12/20/2017 8:21:32 PM	B47943
Selenium	0.0099	0.0076	0.010	J	mg/L	10	1/5/2018 5:36:46 PM	C48247
Uranium	ND	0.00048	0.0025		mg/L	5	12/20/2017 8:21:32 PM	B47943

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 2:10:00 PM
Lab ID: 1712043-005
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.0072	0.0041	0.010	J	mg/L	10	1/8/2018 6:43:16 PM	35487
Lead	0.0039	0.0011	0.0025		mg/L	5	1/4/2018 8:18:19 PM	35487
Selenium	0.0061	0.0049	0.0050		mg/L	5	1/4/2018 8:18:19 PM	35487
Uranium	ND	0.00077	0.0025		mg/L	5	1/4/2018 8:18:19 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Acenaphthylene	ND	35	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Aniline	ND	31	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Anthracene	ND	35	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Azobenzene	ND	45	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Benz(a)anthracene	ND	39	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Benzo(a)pyrene	ND	40	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Benzo(b)fluoranthene	ND	40	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Benzo(g,h,i)perylene	ND	40	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Benzo(k)fluoranthene	ND	44	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Benzoic acid	60	39	200	JD	µg/L	1	12/11/2017 6:14:49 PM	35321
Benzyl alcohol	ND	46	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Bis(2-chloroethoxy)methane	ND	43	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Bis(2-chloroethyl)ether	ND	43	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Bis(2-chloroisopropyl)ether	ND	39	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Bis(2-ethylhexyl)phthalate	ND	48	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
4-Bromophenyl phenyl ether	ND	46	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Butyl benzyl phthalate	ND	46	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Carbazole	ND	46	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
4-Chloro-3-methylphenol	ND	63	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
4-Chloroaniline	ND	35	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2-Chloronaphthalene	ND	37	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2-Chlorophenol	ND	75	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
4-Chlorophenyl phenyl ether	ND	36	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Chrysene	ND	38	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Di-n-butyl phthalate	ND	50	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Di-n-octyl phthalate	ND	47	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Dibenz(a,h)anthracene	ND	46	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Dibenzofuran	ND	41	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
1,2-Dichlorobenzene	ND	20	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
1,3-Dichlorobenzene	ND	18	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
1,4-Dichlorobenzene	ND	21	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
3,3´-Dichlorobenzidine	ND	39	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Diethyl phthalate	ND	40	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 2:10:00 PM
Lab ID: 1712043-005 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	36	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2,4-Dichlorophenol	ND	57	200	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2,4-Dimethylphenol	ND	28	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
4,6-Dinitro-2-methylphenol	ND	39	200	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2,4-Dinitrophenol	ND	26	200	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2,4-Dinitrotoluene	ND	40	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2,6-Dinitrotoluene	ND	45	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Fluoranthene	ND	43	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Fluorene	ND	40	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Hexachlorobenzene	ND	38	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Hexachlorobutadiene	ND	13	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Hexachlorocyclopentadiene	ND	13	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Hexachloroethane	ND	12	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Indeno(1,2,3-cd)pyrene	ND	42	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Isophorone	ND	44	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
1-Methylnaphthalene	120	33	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2-Methylnaphthalene	52	33	100	JD	µg/L	1	12/11/2017 6:14:49 PM	35321
2-Methylphenol	ND	33	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
3+4-Methylphenol	ND	32	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
N-Nitrosodi-n-propylamine	ND	46	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
N-Nitrosodimethylamine	ND	35	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
N-Nitrosodiphenylamine	ND	39	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Naphthalene	64	29	100	JD	µg/L	1	12/11/2017 6:14:49 PM	35321
2-Nitroaniline	ND	49	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
3-Nitroaniline	ND	43	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
4-Nitroaniline	ND	40	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Nitrobenzene	ND	36	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2-Nitrophenol	ND	52	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
4-Nitrophenol	ND	55	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Pentachlorophenol	ND	49	200	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Phenanthrene	ND	43	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Phenol	ND	31	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Pyrene	ND	44	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Pyridine	ND	23	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
1,2,4-Trichlorobenzene	ND	21	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2,4,5-Trichlorophenol	ND	51	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
2,4,6-Trichlorophenol	ND	55	100	D	µg/L	1	12/11/2017 6:14:49 PM	35321
Surr: 2-Fluorophenol	40.8	0	15-114	D	%Rec	1	12/11/2017 6:14:49 PM	35321
Surr: Phenol-d5	37.0	0	15-97.9	D	%Rec	1	12/11/2017 6:14:49 PM	35321

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 2:10:00 PM
Lab ID: 1712043-005 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	73.9	0	15-161	D	%Rec	1	12/11/2017 6:14:49 PM	35321
Surr: Nitrobenzene-d5	69.4	0	29.3-120	D	%Rec	1	12/11/2017 6:14:49 PM	35321
Surr: 2-Fluorobiphenyl	63.5	0	17.5-116	D	%Rec	1	12/11/2017 6:14:49 PM	35321
Surr: 4-Terphenyl-d14	45.3	0	21-92.2	D	%Rec	1	12/11/2017 6:14:49 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	13	0.31	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Toluene	ND	0.32	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Ethylbenzene	50	0.47	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Methyl tert-butyl ether (MTBE)	ND	1.2	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2,4-Trimethylbenzene	10	0.56	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Naphthalene	110	0.57	10		µg/L	5	12/6/2017 7:45:00 PM	R47586
1-Methylnaphthalene	220	0.80	20		µg/L	5	12/6/2017 7:45:00 PM	R47586
2-Methylnaphthalene	93	0.76	20		µg/L	5	12/6/2017 7:45:00 PM	R47586
Acetone	ND	4.1	50		µg/L	5	12/6/2017 7:45:00 PM	R47586
Bromobenzene	ND	0.70	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Bromodichloromethane	ND	0.88	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Bromoform	ND	1.1	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Bromomethane	ND	1.3	15		µg/L	5	12/6/2017 7:45:00 PM	R47586
2-Butanone	ND	5.7	50		µg/L	5	12/6/2017 7:45:00 PM	R47586
Carbon disulfide	ND	2.0	50		µg/L	5	12/6/2017 7:45:00 PM	R47586
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Chlorobenzene	ND	0.53	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Chloroethane	ND	1.2	10		µg/L	5	12/6/2017 7:45:00 PM	R47586
Chloroform	ND	2.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Chloromethane	ND	1.5	15		µg/L	5	12/6/2017 7:45:00 PM	R47586
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	12/6/2017 7:45:00 PM	R47586
Dibromochloromethane	ND	0.36	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Dibromomethane	ND	0.45	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2-Dichlorobenzene	0.58	0.45	5.0	J	µg/L	5	12/6/2017 7:45:00 PM	R47586
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-39
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 2:10:00 PM
Lab ID: 1712043-005
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
2,2-Dichloropropane	ND	0.79	10		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
2-Hexanone	ND	3.3	50		µg/L	5	12/6/2017 7:45:00 PM	R47586
Isopropylbenzene	22	0.26	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
4-Isopropyltoluene	3.3	0.48	5.0	J	µg/L	5	12/6/2017 7:45:00 PM	R47586
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	12/6/2017 7:45:00 PM	R47586
Methylene Chloride	ND	0.54	15		µg/L	5	12/6/2017 7:45:00 PM	R47586
n-Butylbenzene	8.5	0.65	15	J	µg/L	5	12/6/2017 7:45:00 PM	R47586
n-Propylbenzene	31	0.37	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
sec-Butylbenzene	15	0.55	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Styrene	ND	0.78	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
tert-Butylbenzene	1.0	0.52	5.0	J	µg/L	5	12/6/2017 7:45:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	12/6/2017 7:45:00 PM	R47586
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	12/6/2017 7:45:00 PM	R47586
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	12/6/2017 7:45:00 PM	R47586
Vinyl chloride	0.96	0.89	5.0	J	µg/L	5	12/6/2017 7:45:00 PM	R47586
Xylenes, Total	ND	1.6	7.5		µg/L	5	12/6/2017 7:45:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	5	12/6/2017 7:45:00 PM	R47586
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	5	12/6/2017 7:45:00 PM	R47586
Surr: Dibromofluoromethane	102	0	70-130		%Rec	5	12/6/2017 7:45:00 PM	R47586
Surr: Toluene-d8	98.5	0	70-130		%Rec	5	12/6/2017 7:45:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.90	0.097	0.50		mg/L	10	12/6/2017 7:46:39 PM	R47561
Surr: BFB	105	0	70-130		%Rec	10	12/6/2017 7:46:39 PM	R47561

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 10:50:00 AM
Lab ID: 1712043-006
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	22	0.36	1.0		mg/L	1	12/6/2017 4:23:04 PM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 4:23:04 PM	35300
Surr: DNOP	116	0	77.5-161		%Rec	1	12/6/2017 4:23:04 PM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	2.1	0.22	0.50		mg/L	5	12/11/2017 1:47:01 AM	R47699
Chloride	420	12	25		mg/L	50	12/14/2017 4:50:30 AM	A47741
Bromide	3.5	0.073	0.50		mg/L	5	12/11/2017 1:47:01 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 1:47:01 AM	R47699
Sulfate	1.0	0.48	2.5	J	mg/L	5	12/11/2017 1:47:01 AM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 7:34:31 AM	R47699
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	8.6	0.0099	0.020	*	mg/L	10	12/19/2017 9:19:45 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:05:26 PM	B47895
Calcium	170	0.39	5.0		mg/L	5	12/19/2017 9:17:59 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:05:26 PM	B47895
Copper	0.014	0.0032	0.0060		mg/L	1	12/19/2017 7:05:26 PM	B47895
Iron	13	0.33	0.40	*	mg/L	20	12/19/2017 9:27:30 PM	B47895
Magnesium	46	0.25	1.0		mg/L	1	12/19/2017 7:05:26 PM	B47895
Manganese	3.0	0.0020	0.010	*	mg/L	5	12/19/2017 9:17:59 PM	B47895
Potassium	3.3	0.11	1.0		mg/L	1	12/19/2017 7:05:26 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:05:26 PM	B47895
Sodium	300	0.82	5.0		mg/L	5	12/19/2017 9:17:59 PM	B47895
Zinc	0.0086	0.0021	0.010	J	mg/L	1	12/19/2017 7:05:26 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	9.3	0.020	0.040	*	mg/L	20	12/18/2017 6:46:07 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 12:39:49 AM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 6:43:03 PM	35487
Copper	0.045	0.0041	0.0060		mg/L	1	12/17/2017 8:43:49 PM	35487
Iron	15	0.20	0.40	*	mg/L	20	12/18/2017 6:46:07 PM	35487
Manganese	2.9	0.0055	0.010	*	mg/L	5	12/20/2017 12:41:39 AM	35487
Silver	0.0018	0.0012	0.0050	J	mg/L	1	12/18/2017 6:43:03 PM	35487
Zinc	0.060	0.0033	0.010		mg/L	1	12/20/2017 8:04:55 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.017	0.0021	0.0050	*	mg/L	5	12/20/2017 8:36:16 PM	B47943
Lead	0.0033	0.00017	0.00050		mg/L	1	12/20/2017 12:17:07 AM	B47906
Selenium	ND	0.015	0.020		mg/L	20	1/5/2018 5:41:41 PM	C48247
Uranium	0.0023	0.000096	0.00050		mg/L	1	12/20/2017 12:17:07 AM	B47906

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 10:50:00 AM
Lab ID: 1712043-006
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.025	0.0021	0.0050	*	mg/L	5	1/8/2018 6:46:52 PM	35487
Lead	0.0086	0.00023	0.00050		mg/L	1	12/15/2017 10:06:52 PM	35487
Selenium	0.0096	0.0049	0.0050		mg/L	5	1/4/2018 8:33:04 PM	35487
Uranium	0.0025	0.00015	0.00050		mg/L	1	12/15/2017 10:06:52 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Acenaphthylene	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Aniline	ND	15	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Anthracene	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Azobenzene	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Benz(a)anthracene	ND	19	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Benzo(a)pyrene	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Benzoic acid	ND	20	100	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Benzyl alcohol	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Bis(2-ethylhexyl)phthalate	ND	24	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Carbazole	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
4-Chloroaniline	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2-Chloronaphthalene	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2-Chlorophenol	ND	38	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Chrysene	ND	19	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Dibenzofuran	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Diethyl phthalate	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 10:50:00 AM
Lab ID: 1712043-006 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2,4-Dimethylphenol	44	14	50	JD	µg/L	1	12/11/2017 6:42:11 PM	35321
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Fluoranthene	ND	21	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Fluorene	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Hexachlorobenzene	ND	19	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Hexachloroethane	ND	6.0	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Isophorone	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
1-Methylnaphthalene	59	17	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2-Methylnaphthalene	61	16	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2-Methylphenol	28	17	50	JD	µg/L	1	12/11/2017 6:42:11 PM	35321
3+4-Methylphenol	ND	16	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Naphthalene	200	14	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2-Nitroaniline	ND	25	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
3-Nitroaniline	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
4-Nitroaniline	ND	20	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Nitrobenzene	ND	18	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2-Nitrophenol	ND	26	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
4-Nitrophenol	ND	27	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Pentachlorophenol	ND	25	100	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Phenanthrene	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Phenol	85	16	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Pyrene	ND	22	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Pyridine	ND	11	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	12/11/2017 6:42:11 PM	35321
Surr: 2-Fluorophenol	62.7	0	15-114	D	%Rec	1	12/11/2017 6:42:11 PM	35321
Surr: Phenol-d5	46.1	0	15-97.9	D	%Rec	1	12/11/2017 6:42:11 PM	35321

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 10:50:00 AM
Lab ID: 1712043-006 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	107	0	15-161	D	%Rec	1	12/11/2017 6:42:11 PM	35321
Surr: Nitrobenzene-d5	96.4	0	29.3-120	D	%Rec	1	12/11/2017 6:42:11 PM	35321
Surr: 2-Fluorobiphenyl	86.0	0	17.5-116	D	%Rec	1	12/11/2017 6:42:11 PM	35321
Surr: 4-Terphenyl-d14	68.7	0	21-92.2	D	%Rec	1	12/11/2017 6:42:11 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	17000	62	1000		µg/L	1000	12/6/2017 8:08:00 PM	R47586
Toluene	240	6.4	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Ethylbenzene	800	9.3	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Methyl tert-butyl ether (MTBE)	100	24	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2,4-Trimethylbenzene	1400	11	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,3,5-Trimethylbenzene	410	8.7	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Naphthalene	270	11	200		µg/L	100	12/6/2017 8:31:00 PM	R47586
1-Methylnaphthalene	90	16	400	J	µg/L	100	12/6/2017 8:31:00 PM	R47586
2-Methylnaphthalene	100	15	400	J	µg/L	100	12/6/2017 8:31:00 PM	R47586
Acetone	ND	82	1000		µg/L	100	12/6/2017 8:31:00 PM	R47586
Bromobenzene	ND	14	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Bromodichloromethane	ND	18	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Bromoform	ND	21	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Bromomethane	ND	26	300		µg/L	100	12/6/2017 8:31:00 PM	R47586
2-Butanone	ND	110	1000		µg/L	100	12/6/2017 8:31:00 PM	R47586
Carbon disulfide	ND	40	1000		µg/L	100	12/6/2017 8:31:00 PM	R47586
Carbon Tetrachloride	ND	11	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Chlorobenzene	ND	11	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Chloroethane	ND	23	200		µg/L	100	12/6/2017 8:31:00 PM	R47586
Chloroform	ND	40	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Chloromethane	ND	29	300		µg/L	100	12/6/2017 8:31:00 PM	R47586
2-Chlorotoluene	ND	40	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
4-Chlorotoluene	ND	40	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
cis-1,2-DCE	ND	20	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/6/2017 8:31:00 PM	R47586
Dibromochloromethane	ND	7.2	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Dibromomethane	ND	9.1	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/6/2017 8:31:00 PM	R47586

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-20
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 10:50:00 AM
Lab ID: 1712043-006 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	40	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2-Dichloropropane	ND	10	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,3-Dichloropropane	ND	17	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
2,2-Dichloropropane	ND	16	200		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Hexachlorobutadiene	ND	80	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
2-Hexanone	ND	66	1000		µg/L	100	12/6/2017 8:31:00 PM	R47586
Isopropylbenzene	28	5.1	100	J	µg/L	100	12/6/2017 8:31:00 PM	R47586
4-Isopropyltoluene	ND	9.6	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/6/2017 8:31:00 PM	R47586
Methylene Chloride	ND	11	300		µg/L	100	12/6/2017 8:31:00 PM	R47586
n-Butylbenzene	32	13	300	J	µg/L	100	12/6/2017 8:31:00 PM	R47586
n-Propylbenzene	57	7.4	100	J	µg/L	100	12/6/2017 8:31:00 PM	R47586
sec-Butylbenzene	ND	11	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Styrene	ND	16	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
tert-Butylbenzene	ND	10	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/6/2017 8:31:00 PM	R47586
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
trans-1,2-DCE	ND	18	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Trichlorofluoromethane	ND	18	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/6/2017 8:31:00 PM	R47586
Vinyl chloride	ND	18	100		µg/L	100	12/6/2017 8:31:00 PM	R47586
Xylenes, Total	11000	32	150		µg/L	100	12/6/2017 8:31:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	100	12/6/2017 8:31:00 PM	R47586
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	100	12/6/2017 8:31:00 PM	R47586
Surr: Dibromofluoromethane	100	0	70-130		%Rec	100	12/6/2017 8:31:00 PM	R47586
Surr: Toluene-d8	99.7	0	70-130		%Rec	100	12/6/2017 8:31:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	91	0.97	5.0		mg/L	100	12/6/2017 8:09:27 PM	R47561
Surr: BFB	95.3	0	70-130		%Rec	100	12/6/2017 8:09:27 PM	R47561

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 11:25:00 AM
Lab ID: 1712043-007
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.0	0.36	1.0		mg/L	1	12/6/2017 1:10:28 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 1:10:28 AM	35300
Surr: DNOP	113	0	77.5-161		%Rec	1	12/6/2017 1:10:28 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.63	0.22	0.50		mg/L	5	12/11/2017 2:11:51 AM	R47699
Chloride	700	25	50		mg/L	100	12/14/2017 5:02:54 AM	A47741
Bromide	3.7	0.073	0.50		mg/L	5	12/11/2017 2:11:51 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 2:11:51 AM	R47699
Sulfate	ND	0.48	2.5		mg/L	5	12/11/2017 2:11:51 AM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 7:46:56 AM	R47699
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.7	0.0049	0.010	*	mg/L	5	12/19/2017 9:29:34 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:07:15 PM	B47895
Calcium	97	0.39	5.0		mg/L	5	12/19/2017 9:29:34 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:07:15 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:07:15 PM	B47895
Iron	3.5	0.082	0.10	*	mg/L	5	12/19/2017 9:29:34 PM	B47895
Magnesium	30	0.25	1.0		mg/L	1	12/19/2017 7:07:15 PM	B47895
Manganese	2.1	0.0020	0.010	*	mg/L	5	12/19/2017 9:29:34 PM	B47895
Potassium	1.8	0.11	1.0		mg/L	1	12/19/2017 7:07:15 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:07:15 PM	B47895
Sodium	700	1.6	10		mg/L	10	12/19/2017 9:31:43 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:07:15 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.9	0.0050	0.010	*	mg/L	5	12/18/2017 6:52:40 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 12:43:24 AM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 6:47:54 PM	35487
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 8:45:38 PM	35487
Iron	5.2	0.10	0.20	*	mg/L	10	12/21/2017 6:42:24 PM	35487
Manganese	2.3	0.0055	0.010	*	mg/L	5	12/21/2017 6:31:11 PM	35487
Silver	0.0015	0.0012	0.0050	J	mg/L	1	12/18/2017 6:47:54 PM	35487
Zinc	0.0079	0.0033	0.010	J	mg/L	1	12/20/2017 8:06:45 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.015	0.0042	0.010	*	mg/L	10	1/5/2018 5:46:36 PM	C48247
Lead	ND	0.00087	0.0025		mg/L	5	12/20/2017 8:56:00 PM	B47943
Selenium	ND	0.015	0.020		mg/L	20	1/5/2018 6:01:24 PM	C48247
Uranium	0.0046	0.00048	0.0025		mg/L	5	12/20/2017 8:56:00 PM	B47943

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 11:25:00 AM
Lab ID: 1712043-007
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.019	0.0041	0.010	*	mg/L	10	1/8/2018 6:50:28 PM	35487
Lead	0.0012	0.00023	0.00050		mg/L	1	12/15/2017 10:11:47 PM	35487
Selenium	0.011	0.0049	0.0050		mg/L	5	1/4/2018 8:37:58 PM	35487
Uranium	0.0066	0.00015	0.00050		mg/L	1	12/15/2017 10:11:47 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Acenaphthylene	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Aniline	ND	15	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Anthracene	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Azobenzene	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Benz(a)anthracene	ND	19	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Benzo(a)pyrene	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Benzoic acid	50	20	100	JD	µg/L	1	12/11/2017 7:09:34 PM	35321
Benzyl alcohol	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Bis(2-ethylhexyl)phthalate	35	24	50	JD	µg/L	1	12/11/2017 7:09:34 PM	35321
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Carbazole	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
4-Chloroaniline	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2-Chloronaphthalene	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2-Chlorophenol	ND	38	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Chrysene	ND	19	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Dibenzofuran	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Diethyl phthalate	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 11:25:00 AM
Lab ID: 1712043-007
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2,4-Dimethylphenol	59	14	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Fluoranthene	ND	21	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Fluorene	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Hexachlorobenzene	ND	19	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Hexachloroethane	ND	6.0	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Isophorone	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
1-Methylnaphthalene	26	17	50	JD	µg/L	1	12/11/2017 7:09:34 PM	35321
2-Methylnaphthalene	23	16	50	JD	µg/L	1	12/11/2017 7:09:34 PM	35321
2-Methylphenol	29	17	50	JD	µg/L	1	12/11/2017 7:09:34 PM	35321
3+4-Methylphenol	16	16	50	JD	µg/L	1	12/11/2017 7:09:34 PM	35321
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Naphthalene	90	14	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2-Nitroaniline	ND	25	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
3-Nitroaniline	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
4-Nitroaniline	ND	20	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Nitrobenzene	ND	18	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2-Nitrophenol	ND	26	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
4-Nitrophenol	ND	27	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Pentachlorophenol	ND	25	100	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Phenanthrene	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Phenol	490	16	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Pyrene	ND	22	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Pyridine	ND	11	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	12/11/2017 7:09:34 PM	35321
Surr: 2-Fluorophenol	57.9	0	15-114	D	%Rec	1	12/11/2017 7:09:34 PM	35321
Surr: Phenol-d5	43.5	0	15-97.9	D	%Rec	1	12/11/2017 7:09:34 PM	35321

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 11:25:00 AM
Lab ID: 1712043-007 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	91.8	0	15-161	D	%Rec	1	12/11/2017 7:09:34 PM	35321
Surr: Nitrobenzene-d5	84.4	0	29.3-120	D	%Rec	1	12/11/2017 7:09:34 PM	35321
Surr: 2-Fluorobiphenyl	72.5	0	17.5-116	D	%Rec	1	12/11/2017 7:09:34 PM	35321
Surr: 4-Terphenyl-d14	52.9	0	21-92.2	D	%Rec	1	12/11/2017 7:09:34 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	21000	62	1000		µg/L	1000	12/6/2017 8:54:00 PM	R47586
Toluene	210	6.4	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Ethylbenzene	1400	9.3	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Methyl tert-butyl ether (MTBE)	800	24	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2,4-Trimethylbenzene	690	11	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,3,5-Trimethylbenzene	190	8.7	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Naphthalene	160	11	200	J	µg/L	100	12/6/2017 9:17:00 PM	R47586
1-Methylnaphthalene	66	16	400	J	µg/L	100	12/6/2017 9:17:00 PM	R47586
2-Methylnaphthalene	72	15	400	J	µg/L	100	12/6/2017 9:17:00 PM	R47586
Acetone	ND	82	1000		µg/L	100	12/6/2017 9:17:00 PM	R47586
Bromobenzene	ND	14	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Bromodichloromethane	ND	18	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Bromoform	ND	21	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Bromomethane	ND	26	300		µg/L	100	12/6/2017 9:17:00 PM	R47586
2-Butanone	ND	110	1000		µg/L	100	12/6/2017 9:17:00 PM	R47586
Carbon disulfide	ND	40	1000		µg/L	100	12/6/2017 9:17:00 PM	R47586
Carbon Tetrachloride	ND	11	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Chlorobenzene	ND	11	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Chloroethane	ND	23	200		µg/L	100	12/6/2017 9:17:00 PM	R47586
Chloroform	ND	40	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Chloromethane	ND	29	300		µg/L	100	12/6/2017 9:17:00 PM	R47586
2-Chlorotoluene	ND	40	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
4-Chlorotoluene	ND	40	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
cis-1,2-DCE	ND	20	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/6/2017 9:17:00 PM	R47586
Dibromochloromethane	ND	7.2	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Dibromomethane	ND	9.1	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/6/2017 9:17:00 PM	R47586

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-16
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/29/2017 11:25:00 AM
Lab ID: 1712043-007
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	40	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2-Dichloropropane	ND	10	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,3-Dichloropropane	ND	17	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
2,2-Dichloropropane	ND	16	200		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Hexachlorobutadiene	ND	80	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
2-Hexanone	ND	66	1000		µg/L	100	12/6/2017 9:17:00 PM	R47586
Isopropylbenzene	33	5.1	100	J	µg/L	100	12/6/2017 9:17:00 PM	R47586
4-Isopropyltoluene	ND	9.6	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/6/2017 9:17:00 PM	R47586
Methylene Chloride	ND	11	300		µg/L	100	12/6/2017 9:17:00 PM	R47586
n-Butylbenzene	ND	13	300		µg/L	100	12/6/2017 9:17:00 PM	R47586
n-Propylbenzene	67	7.4	100	J	µg/L	100	12/6/2017 9:17:00 PM	R47586
sec-Butylbenzene	ND	11	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Styrene	ND	16	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
tert-Butylbenzene	ND	10	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/6/2017 9:17:00 PM	R47586
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
trans-1,2-DCE	ND	18	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Trichlorofluoromethane	ND	18	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/6/2017 9:17:00 PM	R47586
Vinyl chloride	ND	18	100		µg/L	100	12/6/2017 9:17:00 PM	R47586
Xylenes, Total	3200	32	150		µg/L	100	12/6/2017 9:17:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	100	12/6/2017 9:17:00 PM	R47586
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	100	12/6/2017 9:17:00 PM	R47586
Surr: Dibromofluoromethane	104	0	70-130		%Rec	100	12/6/2017 9:17:00 PM	R47586
Surr: Toluene-d8	99.4	0	70-130		%Rec	100	12/6/2017 9:17:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	70	0.97	5.0		mg/L	100	12/6/2017 8:32:12 PM	R47561
Surr: BFB	99.1	0	70-130		%Rec	100	12/6/2017 8:32:12 PM	R47561

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 12:25:00 PM
Lab ID: 1712043-008
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.6	0.36	1.0		mg/L	1	12/6/2017 1:32:22 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 1:32:22 AM	35300
Surr: DNOP	114	0	77.5-161		%Rec	1	12/6/2017 1:32:22 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	12/11/2017 2:36:41 AM	R47699
Chloride	210	5.0	10		mg/L	20	12/14/2017 5:15:19 AM	A47741
Bromide	2.2	0.073	0.50		mg/L	5	12/11/2017 2:36:41 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 2:36:41 AM	R47699
Sulfate	7.0	0.48	2.5		mg/L	5	12/11/2017 2:36:41 AM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 7:59:20 AM	R47699
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.7	0.0049	0.010	*	mg/L	5	12/19/2017 9:33:48 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:09:01 PM	B47895
Calcium	190	0.39	5.0		mg/L	5	12/19/2017 9:33:48 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:09:01 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:09:01 PM	B47895
Iron	15	0.33	0.40	*	mg/L	20	12/19/2017 9:35:40 PM	B47895
Magnesium	36	0.25	1.0		mg/L	1	12/19/2017 7:09:01 PM	B47895
Manganese	4.4	0.0020	0.010	*	mg/L	5	12/19/2017 9:33:48 PM	B47895
Potassium	20	0.11	1.0		mg/L	1	12/19/2017 7:09:01 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:09:01 PM	B47895
Sodium	150	0.82	5.0		mg/L	5	12/19/2017 9:33:48 PM	B47895
Zinc	0.011	0.0021	0.010		mg/L	1	12/19/2017 7:09:01 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	4.4	0.010	0.020	*	mg/L	10	12/18/2017 7:04:17 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:02:49 PM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:02:49 PM	35487
Copper	0.0061	0.0041	0.0060		mg/L	1	12/17/2017 9:00:22 PM	35487
Iron	21	0.51	1.0	*	mg/L	50	12/18/2017 7:05:45 PM	35487
Manganese	4.9	0.011	0.020	*	mg/L	10	12/18/2017 7:04:17 PM	35487
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 7:02:49 PM	35487
Zinc	0.070	0.0033	0.010		mg/L	1	12/18/2017 7:02:49 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.012	0.0021	0.0050	*	mg/L	5	12/30/2017 11:00:24 AM	A48118
Lead	0.00034	0.00017	0.00050	J	mg/L	1	12/20/2017 12:30:15 AM	B47906
Selenium	0.0084	0.0076	0.010	J	mg/L	10	1/5/2018 6:06:19 PM	C48247
Uranium	0.0022	0.000096	0.00050		mg/L	1	12/20/2017 12:30:15 AM	B47906

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Lab ID: 1712043-008
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.023	0.0041	0.010	*	mg/L	10	1/8/2018 7:01:19 PM	35487
Lead	0.0013	0.00023	0.00050		mg/L	1	12/15/2017 10:16:42 PM	35487
Selenium	0.0056	0.0049	0.0050		mg/L	5	1/4/2018 8:42:53 PM	35487
Uranium	0.0047	0.00015	0.00050		mg/L	1	12/15/2017 10:16:42 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Acenaphthylene	ND	35	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Aniline	ND	31	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Anthracene	ND	35	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Azobenzene	ND	45	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Benz(a)anthracene	ND	39	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Benzo(a)pyrene	ND	40	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Benzo(b)fluoranthene	ND	40	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Benzo(g,h,i)perylene	ND	40	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Benzo(k)fluoranthene	ND	44	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Benzoic acid	70	39	200	JD	µg/L	1	12/11/2017 7:36:54 PM	35321
Benzyl alcohol	ND	46	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Bis(2-chloroethoxy)methane	ND	43	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Bis(2-chloroethyl)ether	ND	43	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Bis(2-chloroisopropyl)ether	ND	39	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Bis(2-ethylhexyl)phthalate	ND	48	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
4-Bromophenyl phenyl ether	ND	46	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Butyl benzyl phthalate	ND	46	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Carbazole	ND	46	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
4-Chloro-3-methylphenol	ND	63	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
4-Chloroaniline	ND	35	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2-Chloronaphthalene	ND	37	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2-Chlorophenol	ND	75	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
4-Chlorophenyl phenyl ether	ND	36	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Chrysene	ND	38	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Di-n-butyl phthalate	ND	50	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Di-n-octyl phthalate	ND	47	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Dibenz(a,h)anthracene	ND	46	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Dibenzofuran	ND	41	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
1,2-Dichlorobenzene	ND	20	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
1,3-Dichlorobenzene	ND	18	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
1,4-Dichlorobenzene	ND	21	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
3,3´-Dichlorobenzidine	ND	39	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Diethyl phthalate	ND	40	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 12:25:00 PM
Lab ID: 1712043-008 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	36	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2,4-Dichlorophenol	ND	57	200	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2,4-Dimethylphenol	ND	28	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
4,6-Dinitro-2-methylphenol	ND	39	200	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2,4-Dinitrophenol	ND	26	200	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2,4-Dinitrotoluene	ND	40	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2,6-Dinitrotoluene	ND	45	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Fluoranthene	ND	43	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Fluorene	ND	40	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Hexachlorobenzene	ND	38	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Hexachlorobutadiene	ND	13	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Hexachlorocyclopentadiene	ND	13	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Hexachloroethane	ND	12	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Indeno(1,2,3-cd)pyrene	ND	42	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Isophorone	ND	44	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
1-Methylnaphthalene	ND	33	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2-Methylnaphthalene	ND	33	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2-Methylphenol	ND	33	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
3+4-Methylphenol	ND	32	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
N-Nitrosodi-n-propylamine	ND	46	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
N-Nitrosodimethylamine	ND	35	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
N-Nitrosodiphenylamine	ND	39	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Naphthalene	47	29	100	JD	µg/L	1	12/11/2017 7:36:54 PM	35321
2-Nitroaniline	ND	49	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
3-Nitroaniline	ND	43	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
4-Nitroaniline	ND	40	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Nitrobenzene	ND	36	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2-Nitrophenol	ND	52	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
4-Nitrophenol	ND	55	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Pentachlorophenol	ND	49	200	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Phenanthrene	ND	43	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Phenol	120	31	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Pyrene	ND	44	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Pyridine	ND	23	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
1,2,4-Trichlorobenzene	ND	21	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2,4,5-Trichlorophenol	ND	51	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
2,4,6-Trichlorophenol	ND	55	100	D	µg/L	1	12/11/2017 7:36:54 PM	35321
Surr: 2-Fluorophenol	52.2	0	15-114	D	%Rec	1	12/11/2017 7:36:54 PM	35321
Surr: Phenol-d5	39.6	0	15-97.9	D	%Rec	1	12/11/2017 7:36:54 PM	35321

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 12:25:00 PM
Lab ID: 1712043-008
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	100	0	15-161	D	%Rec	1	12/11/2017 7:36:54 PM	35321
Surr: Nitrobenzene-d5	85.1	0	29.3-120	D	%Rec	1	12/11/2017 7:36:54 PM	35321
Surr: 2-Fluorobiphenyl	79.2	0	17.5-116	D	%Rec	1	12/11/2017 7:36:54 PM	35321
Surr: 4-Terphenyl-d14	59.1	0	21-92.2	D	%Rec	1	12/11/2017 7:36:54 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	4900	3.1	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Toluene	18	3.2	50	J	µg/L	50	12/6/2017 10:03:00 PM	R47586
Ethylbenzene	520	4.7	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Methyl tert-butyl ether (MTBE)	520	12	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2,4-Trimethylbenzene	290	5.6	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,3,5-Trimethylbenzene	97	4.4	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Naphthalene	61	5.7	100	J	µg/L	50	12/6/2017 10:03:00 PM	R47586
1-Methylnaphthalene	ND	8.0	200		µg/L	50	12/6/2017 10:03:00 PM	R47586
2-Methylnaphthalene	ND	7.6	200		µg/L	50	12/6/2017 10:03:00 PM	R47586
Acetone	ND	41	500		µg/L	50	12/6/2017 10:03:00 PM	R47586
Bromobenzene	ND	7.0	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Bromodichloromethane	ND	8.8	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Bromoform	ND	11	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Bromomethane	ND	13	150		µg/L	50	12/6/2017 10:03:00 PM	R47586
2-Butanone	ND	57	500		µg/L	50	12/6/2017 10:03:00 PM	R47586
Carbon disulfide	ND	20	500		µg/L	50	12/6/2017 10:03:00 PM	R47586
Carbon Tetrachloride	ND	5.5	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Chlorobenzene	ND	5.3	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Chloroethane	ND	12	100		µg/L	50	12/6/2017 10:03:00 PM	R47586
Chloroform	ND	20	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Chloromethane	ND	15	150		µg/L	50	12/6/2017 10:03:00 PM	R47586
2-Chlorotoluene	ND	20	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
4-Chlorotoluene	ND	20	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
cis-1,2-DCE	ND	10	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	12/6/2017 10:03:00 PM	R47586
Dibromochloromethane	ND	3.6	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Dibromomethane	ND	4.5	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,4-Dichlorobenzene	ND	20	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Dichlorodifluoromethane	ND	50	50		µg/L	50	12/6/2017 10:03:00 PM	R47586

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-21
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 12:25:00 PM
Lab ID: 1712043-008 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	20	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,1-Dichloroethene	ND	4.0	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2-Dichloropropane	ND	5.1	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,3-Dichloropropane	ND	8.4	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
2,2-Dichloropropane	ND	7.9	100		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,1-Dichloropropene	ND	4.6	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Hexachlorobutadiene	ND	40	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
2-Hexanone	ND	33	500		µg/L	50	12/6/2017 10:03:00 PM	R47586
Isopropylbenzene	18	2.6	50	J	µg/L	50	12/6/2017 10:03:00 PM	R47586
4-Isopropyltoluene	ND	4.8	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
4-Methyl-2-pentanone	ND	35	500		µg/L	50	12/6/2017 10:03:00 PM	R47586
Methylene Chloride	ND	5.4	150		µg/L	50	12/6/2017 10:03:00 PM	R47586
n-Butylbenzene	ND	6.5	150		µg/L	50	12/6/2017 10:03:00 PM	R47586
n-Propylbenzene	29	3.7	50	J	µg/L	50	12/6/2017 10:03:00 PM	R47586
sec-Butylbenzene	ND	5.5	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Styrene	ND	7.8	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
tert-Butylbenzene	ND	5.2	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	12/6/2017 10:03:00 PM	R47586
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
trans-1,2-DCE	ND	9.2	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Trichlorofluoromethane	ND	9.1	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
1,2,3-Trichloropropane	ND	19	100		µg/L	50	12/6/2017 10:03:00 PM	R47586
Vinyl chloride	ND	8.9	50		µg/L	50	12/6/2017 10:03:00 PM	R47586
Xylenes, Total	1400	16	75		µg/L	50	12/6/2017 10:03:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	50	12/6/2017 10:03:00 PM	R47586
Surr: 4-Bromofluorobenzene	98.8	0	70-130		%Rec	50	12/6/2017 10:03:00 PM	R47586
Surr: Dibromofluoromethane	102	0	70-130		%Rec	50	12/6/2017 10:03:00 PM	R47586
Surr: Toluene-d8	99.6	0	70-130		%Rec	50	12/6/2017 10:03:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	25	0.97	5.0		mg/L	100	12/6/2017 8:54:59 PM	R47561
Surr: BFB	103	0	70-130		%Rec	100	12/6/2017 8:54:59 PM	R47561

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 1:30:00 PM
Lab ID: 1712043-009
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.3	0.36	1.0		mg/L	1	12/6/2017 1:54:15 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 1:54:15 AM	35300
Surr: DNOP	113	0	77.5-161		%Rec	1	12/6/2017 1:54:15 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.87	2.0		mg/L	20	12/11/2017 3:13:54 AM	R47699
Chloride	6000	250	500		mg/L	1000	12/14/2017 5:27:44 AM	A47741
Bromide	1.6	0.073	0.50		mg/L	5	12/11/2017 3:01:30 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 3:01:30 AM	R47699
Sulfate	0.56	0.48	2.5	J	mg/L	5	12/11/2017 3:01:30 AM	R47699
Nitrate+Nitrite as N	1.8	1.3	10	J	mg/L	50	12/14/2017 7:56:38 AM	A47741
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	44	0.049	0.10	*	mg/L	50	12/19/2017 9:39:20 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:10:48 PM	B47895
Calcium	1600	1.6	20		mg/L	20	12/19/2017 9:37:22 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:10:48 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:10:48 PM	B47895
Iron	75	1.6	2.0	*	mg/L	100	12/19/2017 9:41:16 PM	B47895
Magnesium	470	5.0	20		mg/L	20	12/19/2017 9:37:22 PM	B47895
Manganese	23	0.020	0.10	*	mg/L	50	12/19/2017 9:39:20 PM	B47895
Potassium	4.3	0.11	1.0		mg/L	1	12/19/2017 7:10:48 PM	B47895
Silver	ND	0.037	0.10		mg/L	20	12/19/2017 9:37:22 PM	B47895
Sodium	2500	8.2	50		mg/L	50	12/19/2017 9:39:20 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:10:48 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	47	0.050	0.10	*	mg/L	50	12/18/2017 7:09:13 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:07:31 PM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:07:31 PM	35487
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:02:03 PM	35487
Iron	78	1.0	2.0	*	mg/L	100	12/18/2017 7:10:48 PM	35487
Manganese	25	0.055	0.10	*	mg/L	50	12/18/2017 7:09:13 PM	35487
Silver	0.012	0.0012	0.0050		mg/L	1	12/18/2017 7:07:31 PM	35487
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:07:31 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0072	0.0042	0.010	J	mg/L	10	12/21/2017 7:10:03 PM	B47988
Lead	ND	0.00087	0.0025		mg/L	5	12/20/2017 9:10:45 PM	B47943
Selenium	ND	0.0076	0.010		mg/L	10	12/21/2017 7:10:03 PM	B47988
Uranium	ND	0.00048	0.0025		mg/L	5	12/20/2017 9:10:45 PM	B47943

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 1:30:00 PM
Lab ID: 1712043-009
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.024	0.021	0.050	J*	mg/L	50	1/8/2018 7:04:56 PM	35487
Lead	0.0037	0.0011	0.0025		mg/L	5	1/4/2018 8:47:47 PM	35487
Selenium	0.0079	0.0049	0.0050		mg/L	5	1/4/2018 8:47:47 PM	35487
Uranium	ND	0.00077	0.0025		mg/L	5	1/4/2018 8:47:47 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Acenaphthylene	ND	35	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Aniline	41	31	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Anthracene	ND	35	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Azobenzene	ND	45	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Benz(a)anthracene	54	39	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Benzo(a)pyrene	ND	40	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Benzo(b)fluoranthene	ND	40	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Benzo(g,h,i)perylene	ND	40	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Benzo(k)fluoranthene	ND	44	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Benzoic acid	51	39	200	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Benzyl alcohol	ND	46	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Bis(2-chloroethoxy)methane	ND	43	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Bis(2-chloroethyl)ether	ND	43	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Bis(2-chloroisopropyl)ether	ND	39	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Bis(2-ethylhexyl)phthalate	ND	48	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
4-Bromophenyl phenyl ether	ND	46	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Butyl benzyl phthalate	ND	46	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Carbazole	ND	46	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
4-Chloro-3-methylphenol	ND	63	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
4-Chloroaniline	ND	35	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2-Chloronaphthalene	ND	37	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2-Chlorophenol	ND	75	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
4-Chlorophenyl phenyl ether	ND	36	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Chrysene	53	38	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Di-n-butyl phthalate	ND	50	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Di-n-octyl phthalate	ND	47	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Dibenz(a,h)anthracene	ND	46	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Dibenzofuran	ND	41	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
1,2-Dichlorobenzene	ND	20	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
1,3-Dichlorobenzene	ND	18	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
1,4-Dichlorobenzene	ND	21	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
3,3´-Dichlorobenzidine	ND	39	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Diethyl phthalate	ND	40	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 1:30:00 PM
Lab ID: 1712043-009 **Matrix:** AQUEOUS **Received Date:** 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	36	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2,4-Dichlorophenol	ND	57	200	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2,4-Dimethylphenol	67	28	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
4,6-Dinitro-2-methylphenol	ND	39	200	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2,4-Dinitrophenol	ND	26	200	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2,4-Dinitrotoluene	ND	40	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2,6-Dinitrotoluene	ND	45	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Fluoranthene	60	43	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Fluorene	ND	40	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Hexachlorobenzene	ND	38	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Hexachlorobutadiene	ND	13	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Hexachlorocyclopentadiene	ND	13	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Hexachloroethane	ND	12	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Indeno(1,2,3-cd)pyrene	43	42	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Isophorone	ND	44	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
1-Methylnaphthalene	ND	33	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2-Methylnaphthalene	ND	33	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2-Methylphenol	380	33	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
3+4-Methylphenol	340	32	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
N-Nitrosodi-n-propylamine	ND	46	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
N-Nitrosodimethylamine	ND	35	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
N-Nitrosodiphenylamine	ND	39	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Naphthalene	72	29	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
2-Nitroaniline	ND	49	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
3-Nitroaniline	ND	43	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
4-Nitroaniline	ND	40	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Nitrobenzene	ND	36	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2-Nitrophenol	ND	52	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
4-Nitrophenol	ND	55	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Pentachlorophenol	ND	49	200	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Phenanthrene	54	43	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Phenol	710	31	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Pyrene	62	44	100	JD	µg/L	1	12/11/2017 8:04:16 PM	35321
Pyridine	ND	23	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
1,2,4-Trichlorobenzene	ND	21	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2,4,5-Trichlorophenol	ND	51	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
2,4,6-Trichlorophenol	ND	55	100	D	µg/L	1	12/11/2017 8:04:16 PM	35321
Surr: 2-Fluorophenol	63.4	0	15-114	D	%Rec	1	12/11/2017 8:04:16 PM	35321
Surr: Phenol-d5	49.6	0	15-97.9	D	%Rec	1	12/11/2017 8:04:16 PM	35321

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 1:30:00 PM
Lab ID: 1712043-009
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	114	0	15-161	D	%Rec	1	12/11/2017 8:04:16 PM	35321
Surr: Nitrobenzene-d5	95.0	0	29.3-120	D	%Rec	1	12/11/2017 8:04:16 PM	35321
Surr: 2-Fluorobiphenyl	92.3	0	17.5-116	D	%Rec	1	12/11/2017 8:04:16 PM	35321
Surr: 4-Terphenyl-d14	61.0	0	21-92.2	D	%Rec	1	12/11/2017 8:04:16 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	18000	62	1000		µg/L	1000	12/6/2017 10:26:00 PM	R47586
Toluene	15000	64	1000		µg/L	1000	12/6/2017 10:26:00 PM	R47586
Ethylbenzene	2200	9.3	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Methyl tert-butyl ether (MTBE)	160	24	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2,4-Trimethylbenzene	720	11	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,3,5-Trimethylbenzene	210	8.7	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Naphthalene	100	11	200	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
1-Methylnaphthalene	ND	16	400		µg/L	100	12/6/2017 10:49:00 PM	R47586
2-Methylnaphthalene	ND	15	400		µg/L	100	12/6/2017 10:49:00 PM	R47586
Acetone	200	82	1000	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
Bromobenzene	ND	14	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Bromodichloromethane	ND	18	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Bromoform	ND	21	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Bromomethane	ND	26	300		µg/L	100	12/6/2017 10:49:00 PM	R47586
2-Butanone	360	110	1000	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
Carbon disulfide	ND	40	1000		µg/L	100	12/6/2017 10:49:00 PM	R47586
Carbon Tetrachloride	ND	11	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Chlorobenzene	ND	11	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Chloroethane	41	23	200	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
Chloroform	ND	40	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Chloromethane	ND	29	300		µg/L	100	12/6/2017 10:49:00 PM	R47586
2-Chlorotoluene	ND	40	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
4-Chlorotoluene	ND	40	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
cis-1,2-DCE	ND	20	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/6/2017 10:49:00 PM	R47586
Dibromochloromethane	ND	7.2	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Dibromomethane	ND	9.1	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/6/2017 10:49:00 PM	R47586

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-15
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 1:30:00 PM
Lab ID: 1712043-009
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	40	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2-Dichloropropane	ND	10	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,3-Dichloropropane	ND	17	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
2,2-Dichloropropane	ND	16	200		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Hexachlorobutadiene	ND	80	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
2-Hexanone	ND	66	1000		µg/L	100	12/6/2017 10:49:00 PM	R47586
Isopropylbenzene	120	5.1	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
4-Isopropyltoluene	27	9.6	100	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/6/2017 10:49:00 PM	R47586
Methylene Chloride	ND	11	300		µg/L	100	12/6/2017 10:49:00 PM	R47586
n-Butylbenzene	31	13	300	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
n-Propylbenzene	170	7.4	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
sec-Butylbenzene	30	11	100	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
Styrene	ND	16	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
tert-Butylbenzene	ND	10	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/6/2017 10:49:00 PM	R47586
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
trans-1,2-DCE	ND	18	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
Trichlorofluoromethane	ND	18	100		µg/L	100	12/6/2017 10:49:00 PM	R47586
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/6/2017 10:49:00 PM	R47586
Vinyl chloride	18	18	100	J	µg/L	100	12/6/2017 10:49:00 PM	R47586
Xylenes, Total	7700	32	150		µg/L	100	12/6/2017 10:49:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	100	12/6/2017 10:49:00 PM	R47586
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	100	12/6/2017 10:49:00 PM	R47586
Surr: Dibromofluoromethane	101	0	70-130		%Rec	100	12/6/2017 10:49:00 PM	R47586
Surr: Toluene-d8	100	0	70-130		%Rec	100	12/6/2017 10:49:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	130	1.9	10		mg/L	200	12/6/2017 9:17:50 PM	R47561
Surr: BFB	100	0	70-130		%Rec	200	12/6/2017 9:17:50 PM	R47561

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-11
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 2:20:00 PM
Lab ID: 1712043-010
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.1	0.36	1.0		mg/L	1	12/6/2017 2:16:09 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 2:16:09 AM	35300
Surr: DNOP	115	0	77.5-161		%Rec	1	12/6/2017 2:16:09 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	12/11/2017 3:26:18 AM	R47699
Chloride	860	12	25		mg/L	50	12/14/2017 5:40:08 AM	A47741
Bromide	1.1	0.073	0.50		mg/L	5	12/11/2017 3:26:18 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 3:26:18 AM	R47699
Sulfate	1.2	0.48	2.5	J	mg/L	5	12/11/2017 3:26:18 AM	R47699
Nitrate+Nitrite as N	0.27	0.13	1.0	J	mg/L	5	12/14/2017 12:11:57 PM	R47809
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.8	0.0049	0.010	*	mg/L	5	12/19/2017 9:43:21 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:12:44 PM	B47895
Calcium	140	0.39	5.0		mg/L	5	12/19/2017 9:43:21 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:12:44 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:12:44 PM	B47895
Iron	5.8	0.16	0.20	*	mg/L	10	12/19/2017 9:45:19 PM	B47895
Magnesium	43	0.25	1.0		mg/L	1	12/19/2017 7:12:44 PM	B47895
Manganese	3.0	0.0020	0.010	*	mg/L	5	12/19/2017 9:43:21 PM	B47895
Potassium	1.1	0.11	1.0		mg/L	1	12/19/2017 7:12:44 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:12:44 PM	B47895
Sodium	780	1.6	10		mg/L	10	12/19/2017 9:45:19 PM	B47895
Zinc	ND	0.011	0.050		mg/L	5	12/19/2017 9:43:21 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.0	0.0050	0.010	*	mg/L	5	12/18/2017 7:14:07 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:12:34 PM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:12:34 PM	35487
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:04:00 PM	35487
Iron	7.6	0.10	0.20	*	mg/L	10	12/18/2017 7:22:18 PM	35487
Manganese	3.2	0.0055	0.010	*	mg/L	5	12/18/2017 7:14:07 PM	35487
Silver	0.0019	0.0012	0.0050	J	mg/L	1	12/18/2017 7:12:34 PM	35487
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:12:34 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.013	0.0021	0.0050	*	mg/L	5	12/21/2017 7:14:58 PM	B47988
Lead	ND	0.00017	0.00050		mg/L	1	12/20/2017 9:20:35 PM	B47943
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 7:14:58 PM	B47988
Uranium	0.0056	0.000096	0.00050		mg/L	1	12/20/2017 9:20:35 PM	B47943

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Collection Date: 11/28/2017 2:20:00 PM
Lab ID: 1712043-010
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.016	0.0021	0.0050	*	mg/L	5	1/8/2018 7:08:33 PM	35487
Lead	ND	0.0011	0.0025		mg/L	5	1/4/2018 8:52:42 PM	35487
Selenium	ND	0.0049	0.0050		mg/L	5	1/4/2018 8:52:42 PM	35487
Uranium	0.0054	0.00077	0.0025		mg/L	5	1/4/2018 8:52:42 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Aniline	21	3.1	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Benzoic acid	ND	3.9	20		µg/L	1	12/11/2017 8:31:36 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/11/2017 8:31:36 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Carbazole	ND	4.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 8:31:36 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 8:31:36 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 8:31:36 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 8:31:36 PM	35321
2,4-Dimethylphenol	55	2.8	10		µg/L	1	12/11/2017 8:31:36 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 8:31:36 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 8:31:36 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Fluorene	ND	4.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 8:31:36 PM	35321
1-Methylnaphthalene	14	3.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2-Methylnaphthalene	12	3.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2-Methylphenol	220	3.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
3+4-Methylphenol	270	6.4	20		µg/L	2	12/12/2017 2:33:01 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Naphthalene	45	2.9	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 8:31:36 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 8:31:36 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 8:31:36 PM	35321
Phenanthrene	ND	4.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Phenol	88	3.1	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 8:31:36 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 8:31:36 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 8:31:36 PM	35321
Surr: 2-Fluorophenol	51.0	0	15-114		%Rec	1	12/11/2017 8:31:36 PM	35321
Surr: Phenol-d5	38.4	0	15-97.9		%Rec	1	12/11/2017 8:31:36 PM	35321

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Collection Date: 11/28/2017 2:20:00 PM
Lab ID: 1712043-010
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	82.9	0	15-161		%Rec	1	12/11/2017 8:31:36 PM	35321
Surr: Nitrobenzene-d5	77.4	0	29.3-120		%Rec	1	12/11/2017 8:31:36 PM	35321
Surr: 2-Fluorobiphenyl	74.7	0	17.5-116		%Rec	1	12/11/2017 8:31:36 PM	35321
Surr: 4-Terphenyl-d14	66.9	0	21-92.2		%Rec	1	12/11/2017 8:31:36 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	9900	12	200		µg/L	200	12/6/2017 11:11:00 PM	R47586
Toluene	8800	13	200		µg/L	200	12/6/2017 11:11:00 PM	R47586
Ethylbenzene	840	1.9	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Methyl tert-butyl ether (MTBE)	68	4.8	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2,4-Trimethylbenzene	330	2.3	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,3,5-Trimethylbenzene	63	1.7	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2-Dichloroethane (EDC)	ND	8.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2-Dibromoethane (EDB)	ND	2.6	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Naphthalene	65	2.3	40		µg/L	20	12/6/2017 11:34:00 PM	R47586
1-Methylnaphthalene	18	3.2	80	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
2-Methylnaphthalene	18	3.0	80	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
Acetone	94	16	200	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
Bromobenzene	ND	2.8	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Bromodichloromethane	ND	3.5	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Bromoform	ND	4.2	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Bromomethane	ND	5.1	60		µg/L	20	12/6/2017 11:34:00 PM	R47586
2-Butanone	150	23	200	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
Carbon disulfide	ND	8.0	200		µg/L	20	12/6/2017 11:34:00 PM	R47586
Carbon Tetrachloride	ND	2.2	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Chlorobenzene	ND	2.1	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Chloroethane	23	4.7	40	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
Chloroform	ND	8.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Chloromethane	ND	5.9	60		µg/L	20	12/6/2017 11:34:00 PM	R47586
2-Chlorotoluene	ND	8.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
4-Chlorotoluene	ND	8.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
cis-1,2-DCE	ND	4.1	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
cis-1,3-Dichloropropene	ND	1.6	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2-Dibromo-3-chloropropane	ND	28	40		µg/L	20	12/6/2017 11:34:00 PM	R47586
Dibromochloromethane	ND	1.4	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Dibromomethane	ND	1.8	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2-Dichlorobenzene	ND	1.8	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,3-Dichlorobenzene	ND	3.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,4-Dichlorobenzene	ND	8.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Dichlorodifluoromethane	ND	20	20		µg/L	20	12/6/2017 11:34:00 PM	R47586

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	40	8.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,1-Dichloroethene	ND	1.6	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2-Dichloropropane	ND	2.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,3-Dichloropropane	ND	3.3	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
2,2-Dichloropropane	ND	3.1	40		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,1-Dichloropropene	ND	1.9	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Hexachlorobutadiene	ND	16	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
2-Hexanone	ND	13	200		µg/L	20	12/6/2017 11:34:00 PM	R47586
Isopropylbenzene	27	1.0	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
4-Isopropyltoluene	5.6	1.9	20	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
4-Methyl-2-pentanone	29	14	200	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
Methylene Chloride	ND	2.2	60		µg/L	20	12/6/2017 11:34:00 PM	R47586
n-Butylbenzene	10	2.6	60	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
n-Propylbenzene	68	1.5	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
sec-Butylbenzene	12	2.2	20	J	µg/L	20	12/6/2017 11:34:00 PM	R47586
Styrene	ND	3.1	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
tert-Butylbenzene	ND	2.1	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,1,1,2-Tetrachloroethane	ND	2.1	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,1,2,2-Tetrachloroethane	ND	2.7	40		µg/L	20	12/6/2017 11:34:00 PM	R47586
Tetrachloroethene (PCE)	ND	2.6	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
trans-1,2-DCE	ND	3.7	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
trans-1,3-Dichloropropene	ND	4.4	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2,3-Trichlorobenzene	ND	2.3	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2,4-Trichlorobenzene	ND	2.8	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,1,1-Trichloroethane	ND	1.5	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,1,2-Trichloroethane	ND	2.8	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Trichloroethene (TCE)	ND	2.2	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Trichlorofluoromethane	ND	3.7	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
1,2,3-Trichloropropane	ND	7.8	40		µg/L	20	12/6/2017 11:34:00 PM	R47586
Vinyl chloride	30	3.6	20		µg/L	20	12/6/2017 11:34:00 PM	R47586
Xylenes, Total	2600	6.4	30		µg/L	20	12/6/2017 11:34:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	20	12/6/2017 11:34:00 PM	R47586
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	20	12/6/2017 11:34:00 PM	R47586
Surr: Dibromofluoromethane	102	0	70-130		%Rec	20	12/6/2017 11:34:00 PM	R47586
Surr: Toluene-d8	100	0	70-130		%Rec	20	12/6/2017 11:34:00 PM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	59	0.48	2.5		mg/L	50	12/6/2017 9:40:32 PM	R47561
Surr: BFB	101	0	70-130		%Rec	50	12/6/2017 9:40:32 PM	R47561

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 11/28/2017 3:00:00 PM
Lab ID: 1712043-011
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	5.6	0.36	1.0		mg/L	1	12/6/2017 2:38:05 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 2:38:05 AM	35300
Surr: DNOP	113	0	77.5-161		%Rec	1	12/6/2017 2:38:05 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.1	0.22	0.50		mg/L	5	12/11/2017 4:15:56 AM	R47699
Chloride	210	5.0	10		mg/L	20	12/14/2017 5:52:33 AM	A47741
Bromide	2.6	0.073	0.50		mg/L	5	12/11/2017 4:15:56 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 4:15:56 AM	R47699
Sulfate	2.3	0.48	2.5	J	mg/L	5	12/11/2017 4:15:56 AM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/14/2017 12:24:22 PM	R47809
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.1	0.0049	0.010	*	mg/L	5	12/19/2017 9:53:14 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:14:34 PM	B47895
Calcium	110	0.39	5.0		mg/L	5	12/19/2017 9:53:14 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:14:34 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:14:34 PM	B47895
Iron	3.7	0.082	0.10	*	mg/L	5	12/19/2017 9:53:14 PM	B47895
Magnesium	30	0.25	1.0		mg/L	1	12/19/2017 7:14:34 PM	B47895
Manganese	1.3	0.0020	0.010	*	mg/L	5	12/19/2017 9:53:14 PM	B47895
Potassium	0.49	0.11	1.0	J	mg/L	1	12/19/2017 7:14:34 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:14:34 PM	B47895
Sodium	340	0.82	5.0		mg/L	5	12/19/2017 9:53:14 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:14:34 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.5	0.0050	0.010	*	mg/L	5	12/18/2017 7:25:36 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:24:02 PM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:24:02 PM	35487
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:05:50 PM	35487
Iron	7.0	0.10	0.20	*	mg/L	10	12/18/2017 7:27:12 PM	35487
Manganese	1.3	0.0055	0.010	*	mg/L	5	12/18/2017 7:25:36 PM	35487
Silver	0.0013	0.0012	0.0050	J	mg/L	1	12/18/2017 7:24:02 PM	35487
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:24:02 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0098	0.0042	0.010	J	mg/L	10	12/21/2017 7:19:54 PM	B47988
Lead	ND	0.00087	0.0025		mg/L	5	12/20/2017 9:30:24 PM	B47943
Selenium	ND	0.0076	0.010		mg/L	10	12/21/2017 7:19:54 PM	B47988
Uranium	0.0017	0.00048	0.0025	J	mg/L	5	12/20/2017 9:30:24 PM	B47943

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.015	0.0021	0.0050	*	mg/L	5	1/8/2018 7:15:46 PM	35487
Lead	0.00041	0.00023	0.00050	J	mg/L	1	12/15/2017 10:46:13 PM	35487
Selenium	0.0062	0.0049	0.0050		mg/L	5	1/4/2018 9:02:30 PM	35487
Uranium	0.0019	0.00077	0.0025	J	mg/L	5	1/4/2018 9:02:30 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	6.8	3.6	10	J	µg/L	1	12/11/2017 8:58:51 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Aniline	ND	3.1	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Benzoic acid	ND	3.9	20		µg/L	1	12/11/2017 8:58:51 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/11/2017 8:58:51 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Carbazole	21	4.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 8:58:51 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 8:58:51 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 8:58:51 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321

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Lab ID: 1712043-011
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 8:58:51 PM	35321
2,4-Dimethylphenol	5.4	2.8	10	J	µg/L	1	12/11/2017 8:58:51 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 8:58:51 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 8:58:51 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Fluorene	8.1	4.0	10	J	µg/L	1	12/11/2017 8:58:51 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 8:58:51 PM	35321
1-Methylnaphthalene	160	3.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2-Methylnaphthalene	190	3.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2-Methylphenol	ND	3.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/11/2017 8:58:51 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Naphthalene	270	5.7	20		µg/L	2	12/12/2017 3:00:59 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 8:58:51 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 8:58:51 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 8:58:51 PM	35321
Phenanthrene	6.8	4.3	10	J	µg/L	1	12/11/2017 8:58:51 PM	35321
Phenol	4.3	3.1	10	J	µg/L	1	12/11/2017 8:58:51 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 8:58:51 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 8:58:51 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 8:58:51 PM	35321
Surr: 2-Fluorophenol	52.9	0	15-114		%Rec	1	12/11/2017 8:58:51 PM	35321
Surr: Phenol-d5	33.7	0	15-97.9		%Rec	1	12/11/2017 8:58:51 PM	35321

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EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	87.1	0	15-161		%Rec	1	12/11/2017 8:58:51 PM	35321
Surr: Nitrobenzene-d5	69.7	0	29.3-120		%Rec	1	12/11/2017 8:58:51 PM	35321
Surr: 2-Fluorobiphenyl	71.7	0	17.5-116		%Rec	1	12/11/2017 8:58:51 PM	35321
Surr: 4-Terphenyl-d14	50.1	0	21-92.2		%Rec	1	12/11/2017 8:58:51 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1200	3.1	50		µg/L	50	12/6/2017 11:57:00 PM	R47586
Toluene	19	0.32	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Ethylbenzene	820	4.7	50		µg/L	50	12/6/2017 11:57:00 PM	R47586
Methyl tert-butyl ether (MTBE)	2300	12	50		µg/L	50	12/6/2017 11:57:00 PM	R47586
1,2,4-Trimethylbenzene	580	5.6	50		µg/L	50	12/6/2017 11:57:00 PM	R47586
1,3,5-Trimethylbenzene	110	0.44	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Naphthalene	420	0.57	10		µg/L	5	12/7/2017 12:20:00 AM	R47586
1-Methylnaphthalene	250	0.80	20		µg/L	5	12/7/2017 12:20:00 AM	R47586
2-Methylnaphthalene	260	0.76	20		µg/L	5	12/7/2017 12:20:00 AM	R47586
Acetone	16	4.1	50	J	µg/L	5	12/7/2017 12:20:00 AM	R47586
Bromobenzene	ND	0.70	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Bromodichloromethane	ND	0.88	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Bromoform	ND	1.1	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Bromomethane	ND	1.3	15		µg/L	5	12/7/2017 12:20:00 AM	R47586
2-Butanone	ND	5.7	50		µg/L	5	12/7/2017 12:20:00 AM	R47586
Carbon disulfide	ND	2.0	50		µg/L	5	12/7/2017 12:20:00 AM	R47586
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Chlorobenzene	ND	0.53	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Chloroethane	ND	1.2	10		µg/L	5	12/7/2017 12:20:00 AM	R47586
Chloroform	ND	2.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Chloromethane	ND	1.5	15		µg/L	5	12/7/2017 12:20:00 AM	R47586
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
cis-1,2-DCE	6.1	1.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	12/7/2017 12:20:00 AM	R47586
Dibromochloromethane	ND	0.36	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Dibromomethane	ND	0.45	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	5.7	2.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,1-Dichloroethene	8.7	0.40	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
2,2-Dichloropropane	ND	0.79	10		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
2-Hexanone	ND	3.3	50		µg/L	5	12/7/2017 12:20:00 AM	R47586
Isopropylbenzene	29	0.26	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
4-Isopropyltoluene	5.5	0.48	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	12/7/2017 12:20:00 AM	R47586
Methylene Chloride	ND	0.54	15		µg/L	5	12/7/2017 12:20:00 AM	R47586
n-Butylbenzene	10	0.65	15	J	µg/L	5	12/7/2017 12:20:00 AM	R47586
n-Propylbenzene	73	0.37	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
sec-Butylbenzene	6.0	0.55	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Styrene	1.7	0.78	5.0	J	µg/L	5	12/7/2017 12:20:00 AM	R47586
tert-Butylbenzene	0.72	0.52	5.0	J	µg/L	5	12/7/2017 12:20:00 AM	R47586
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	12/7/2017 12:20:00 AM	R47586
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Trichloroethene (TCE)	2.2	0.56	5.0	J	µg/L	5	12/7/2017 12:20:00 AM	R47586
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	12/7/2017 12:20:00 AM	R47586
Vinyl chloride	ND	0.89	5.0		µg/L	5	12/7/2017 12:20:00 AM	R47586
Xylenes, Total	1100	16	75		µg/L	50	12/6/2017 11:57:00 PM	R47586
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	5	12/7/2017 12:20:00 AM	R47586
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	5	12/7/2017 12:20:00 AM	R47586
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	12/7/2017 12:20:00 AM	R47586
Surr: Toluene-d8	100	0	70-130		%Rec	5	12/7/2017 12:20:00 AM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	16	0.19	1.0		mg/L	20	12/6/2017 10:03:19 PM	R47561
Surr: BFB	95.3	0	70-130		%Rec	20	12/6/2017 10:03:19 PM	R47561

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Hall Environmental Analysis Laboratory, Inc.

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Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 3:30:00 PM
Lab ID: 1712043-012
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.5	0.36	1.0		mg/L	1	12/6/2017 3:00:15 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 3:00:15 AM	35300
Surr: DNOP	112	0	77.5-161		%Rec	1	12/6/2017 3:00:15 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	1.1	0.22	0.50		mg/L	5	12/11/2017 4:40:45 AM	R47699
Chloride	370	12	25		mg/L	50	12/14/2017 6:04:57 AM	A47741
Bromide	1.3	0.073	0.50		mg/L	5	12/11/2017 4:40:45 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 4:40:45 AM	R47699
Sulfate	ND	0.48	2.5		mg/L	5	12/11/2017 4:40:45 AM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/14/2017 12:36:46 PM	R47809
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.9	0.0049	0.010	*	mg/L	5	12/19/2017 9:55:24 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:22:39 PM	B47895
Calcium	140	0.39	5.0		mg/L	5	12/19/2017 9:55:24 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:22:39 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:22:39 PM	B47895
Iron	8.2	0.16	0.20	*	mg/L	10	12/19/2017 9:57:22 PM	B47895
Magnesium	34	0.25	1.0		mg/L	1	12/19/2017 7:22:39 PM	B47895
Manganese	3.0	0.0020	0.010	*	mg/L	5	12/19/2017 9:55:24 PM	B47895
Potassium	0.52	0.11	1.0	J	mg/L	1	12/19/2017 7:22:39 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:22:39 PM	B47895
Sodium	280	0.82	5.0		mg/L	5	12/19/2017 9:55:24 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:22:39 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	4.2	0.0050	0.010	*	mg/L	5	12/18/2017 7:30:31 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:29:00 PM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:29:00 PM	35487
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:07:35 PM	35487
Iron	9.8	0.20	0.40	*	mg/L	20	12/18/2017 7:32:02 PM	35487
Manganese	3.0	0.0055	0.010	*	mg/L	5	12/18/2017 7:30:31 PM	35487
Silver	0.0017	0.0012	0.0050	J	mg/L	1	12/18/2017 7:29:00 PM	35487
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:29:00 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0063	0.0021	0.0050		mg/L	5	12/21/2017 7:29:44 PM	B47988
Lead	ND	0.00087	0.0025		mg/L	5	12/20/2017 9:50:08 PM	B47943
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 7:29:44 PM	B47988
Uranium	ND	0.00048	0.0025		mg/L	5	12/20/2017 9:50:08 PM	B47943

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Collection Date: 11/28/2017 3:30:00 PM
Lab ID: 1712043-012
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.0099	0.0041	0.010	J	mg/L	10	1/8/2018 7:19:22 PM	35487
Lead	0.00093	0.00023	0.00050		mg/L	1	12/15/2017 10:51:08 PM	35487
Selenium	ND	0.0098	0.010		mg/L	10	1/4/2018 9:07:25 PM	35487
Uranium	ND	0.0015	0.0050		mg/L	10	1/4/2018 9:07:25 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Acenaphthylene	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Aniline	ND	15	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Anthracene	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Azobenzene	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Benz(a)anthracene	ND	19	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Benzo(a)pyrene	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Benzoic acid	60	20	100	JD	µg/L	1	12/11/2017 9:26:05 PM	35321
Benzyl alcohol	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Bis(2-ethylhexyl)phthalate	1000	24	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Carbazole	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
4-Chloroaniline	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2-Chloronaphthalene	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2-Chlorophenol	ND	38	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Chrysene	ND	19	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Dibenzofuran	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Diethyl phthalate	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321

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Client Sample ID: MKTF-10
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 3:30:00 PM
Lab ID: 1712043-012
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2,4-Dimethylphenol	16	14	50	JD	µg/L	1	12/11/2017 9:26:05 PM	35321
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Fluoranthene	ND	21	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Fluorene	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Hexachlorobenzene	ND	19	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Hexachloroethane	ND	6.0	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Isophorone	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
1-Methylnaphthalene	47	17	50	JD	µg/L	1	12/11/2017 9:26:05 PM	35321
2-Methylnaphthalene	79	16	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2-Methylphenol	24	17	50	JD	µg/L	1	12/11/2017 9:26:05 PM	35321
3+4-Methylphenol	28	16	50	JD	µg/L	1	12/11/2017 9:26:05 PM	35321
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Naphthalene	140	14	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2-Nitroaniline	ND	25	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
3-Nitroaniline	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
4-Nitroaniline	ND	20	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Nitrobenzene	ND	18	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2-Nitrophenol	ND	26	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
4-Nitrophenol	ND	27	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Pentachlorophenol	ND	25	100	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Phenanthrene	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Phenol	31	16	50	JD	µg/L	1	12/11/2017 9:26:05 PM	35321
Pyrene	ND	22	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Pyridine	ND	11	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	12/11/2017 9:26:05 PM	35321
Surr: 2-Fluorophenol	52.4	0	15-114	D	%Rec	1	12/11/2017 9:26:05 PM	35321
Surr: Phenol-d5	39.1	0	15-97.9	D	%Rec	1	12/11/2017 9:26:05 PM	35321

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	84.9	0	15-161	D	%Rec	1	12/11/2017 9:26:05 PM	35321
Surr: Nitrobenzene-d5	72.0	0	29.3-120	D	%Rec	1	12/11/2017 9:26:05 PM	35321
Surr: 2-Fluorobiphenyl	71.4	0	17.5-116	D	%Rec	1	12/11/2017 9:26:05 PM	35321
Surr: 4-Terphenyl-d14	51.4	0	21-92.2	D	%Rec	1	12/11/2017 9:26:05 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	9800	6.2	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Toluene	4700	6.4	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Ethylbenzene	1800	9.3	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Methyl tert-butyl ether (MTBE)	35	24	100	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2,4-Trimethylbenzene	1000	11	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,3,5-Trimethylbenzene	250	8.7	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Naphthalene	240	11	200		µg/L	100	12/7/2017 1:05:00 AM	R47586
1-Methylnaphthalene	110	16	400	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
2-Methylnaphthalene	130	15	400	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
Acetone	ND	82	1000		µg/L	100	12/7/2017 1:05:00 AM	R47586
Bromobenzene	ND	14	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Bromodichloromethane	ND	18	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Bromoform	ND	21	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Bromomethane	ND	26	300		µg/L	100	12/7/2017 1:05:00 AM	R47586
2-Butanone	ND	110	1000		µg/L	100	12/7/2017 1:05:00 AM	R47586
Carbon disulfide	ND	40	1000		µg/L	100	12/7/2017 1:05:00 AM	R47586
Carbon Tetrachloride	ND	11	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Chlorobenzene	ND	11	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Chloroethane	67	23	200	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
Chloroform	ND	40	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Chloromethane	ND	29	300		µg/L	100	12/7/2017 1:05:00 AM	R47586
2-Chlorotoluene	ND	40	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
4-Chlorotoluene	ND	40	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
cis-1,2-DCE	51	20	100	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/7/2017 1:05:00 AM	R47586
Dibromochloromethane	ND	7.2	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Dibromomethane	ND	9.1	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/7/2017 1:05:00 AM	R47586

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-10
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 3:30:00 PM
Lab ID: 1712043-012
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	ND	40	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2-Dichloropropane	ND	10	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,3-Dichloropropane	ND	17	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
2,2-Dichloropropane	ND	16	200		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Hexachlorobutadiene	ND	80	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
2-Hexanone	ND	66	1000		µg/L	100	12/7/2017 1:05:00 AM	R47586
Isopropylbenzene	68	5.1	100	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
4-Isopropyltoluene	24	9.6	100	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/7/2017 1:05:00 AM	R47586
Methylene Chloride	ND	11	300		µg/L	100	12/7/2017 1:05:00 AM	R47586
n-Butylbenzene	34	13	300	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
n-Propylbenzene	140	7.4	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
sec-Butylbenzene	23	11	100	J	µg/L	100	12/7/2017 1:05:00 AM	R47586
Styrene	ND	16	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
tert-Butylbenzene	ND	10	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/7/2017 1:05:00 AM	R47586
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
trans-1,2-DCE	ND	18	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Trichlorofluoromethane	ND	18	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/7/2017 1:05:00 AM	R47586
Vinyl chloride	ND	18	100		µg/L	100	12/7/2017 1:05:00 AM	R47586
Xylenes, Total	8300	32	150		µg/L	100	12/7/2017 1:05:00 AM	R47586
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	100	12/7/2017 1:05:00 AM	R47586
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	100	12/7/2017 1:05:00 AM	R47586
Surr: Dibromofluoromethane	100	0	70-130		%Rec	100	12/7/2017 1:05:00 AM	R47586
Surr: Toluene-d8	99.5	0	70-130		%Rec	100	12/7/2017 1:05:00 AM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	83	1.9	10		mg/L	200	12/6/2017 10:26:06 PM	R47561
Surr: BFB	98.1	0	70-130		%Rec	200	12/6/2017 10:26:06 PM	R47561

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 4:05:00 PM
Lab ID: 1712043-013
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.6	0.36	1.0		mg/L	1	12/6/2017 3:22:11 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 3:22:11 AM	35300
Surr: DNOP	116	0	77.5-161		%Rec	1	12/6/2017 3:22:11 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.45	0.22	0.50	J	mg/L	5	12/11/2017 5:05:35 AM	R47699
Chloride	220	5.0	10		mg/L	20	12/14/2017 6:17:21 AM	A47741
Bromide	1.7	0.073	0.50		mg/L	5	12/11/2017 5:05:35 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 5:05:35 AM	R47699
Sulfate	27	0.48	2.5		mg/L	5	12/11/2017 5:05:35 AM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/14/2017 12:49:10 PM	R47809
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.61	0.00099	0.0020		mg/L	1	12/19/2017 7:24:28 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:24:28 PM	B47895
Calcium	140	0.39	5.0		mg/L	5	12/19/2017 9:59:20 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:24:28 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:24:28 PM	B47895
Iron	1.5	0.082	0.10	*	mg/L	5	12/19/2017 9:59:20 PM	B47895
Magnesium	30	0.25	1.0		mg/L	1	12/19/2017 7:24:28 PM	B47895
Manganese	3.9	0.0020	0.010	*	mg/L	5	12/19/2017 9:59:20 PM	B47895
Potassium	0.51	0.11	1.0	J	mg/L	1	12/19/2017 7:24:28 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:24:28 PM	B47895
Sodium	250	0.82	5.0		mg/L	5	12/19/2017 9:59:20 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:24:28 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.65	0.0010	0.0020		mg/L	1	12/18/2017 7:33:47 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:33:47 PM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:33:47 PM	35487
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:09:24 PM	35487
Iron	2.4	0.051	0.10	*	mg/L	5	12/18/2017 7:35:24 PM	35487
Manganese	3.8	0.0055	0.010	*	mg/L	5	12/18/2017 7:35:24 PM	35487
Silver	0.0025	0.0012	0.0050	J	mg/L	1	12/18/2017 7:33:47 PM	35487
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:33:47 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0023	0.0021	0.0050	J	mg/L	5	12/21/2017 7:49:28 PM	B47988
Lead	ND	0.00087	0.0025		mg/L	5	12/20/2017 10:14:43 PM	C47943
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 7:49:28 PM	B47988
Uranium	0.0046	0.00048	0.0025		mg/L	5	12/20/2017 10:14:43 PM	C47943

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 4:05:00 PM
Lab ID: 1712043-013
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.0067	0.0041	0.010	J	mg/L	10	1/8/2018 7:22:58 PM	35487
Lead	0.0014	0.00023	0.00050		mg/L	1	12/15/2017 10:56:04 PM	35487
Selenium	ND	0.0098	0.010		mg/L	10	1/4/2018 9:12:20 PM	35487
Uranium	0.0050	0.0015	0.0050	J	mg/L	10	1/4/2018 9:12:20 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	5.9	3.6	10	J	µg/L	1	12/11/2017 9:53:21 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Aniline	ND	3.1	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Benzoic acid	14	3.9	20	J	µg/L	1	12/11/2017 9:53:21 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/11/2017 9:53:21 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Carbazole	15	4.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 9:53:21 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 9:53:21 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 9:53:21 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 4:05:00 PM
Lab ID: 1712043-013
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 9:53:21 PM	35321
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/11/2017 9:53:21 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 9:53:21 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 9:53:21 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Fluorene	8.0	4.0	10	J	µg/L	1	12/11/2017 9:53:21 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 9:53:21 PM	35321
1-Methylnaphthalene	77	3.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2-Methylnaphthalene	12	3.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2-Methylphenol	ND	3.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/11/2017 9:53:21 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Naphthalene	42	2.9	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 9:53:21 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 9:53:21 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 9:53:21 PM	35321
Phenanthrene	8.8	4.3	10	J	µg/L	1	12/11/2017 9:53:21 PM	35321
Phenol	18	3.1	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 9:53:21 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 9:53:21 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 9:53:21 PM	35321
Surr: 2-Fluorophenol	60.4	0	15-114		%Rec	1	12/11/2017 9:53:21 PM	35321
Surr: Phenol-d5	45.4	0	15-97.9		%Rec	1	12/11/2017 9:53:21 PM	35321

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 4:05:00 PM
Lab ID: 1712043-013
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	100	0	15-161		%Rec	1	12/11/2017 9:53:21 PM	35321
Surr: Nitrobenzene-d5	84.9	0	29.3-120		%Rec	1	12/11/2017 9:53:21 PM	35321
Surr: 2-Fluorobiphenyl	80.7	0	17.5-116		%Rec	1	12/11/2017 9:53:21 PM	35321
Surr: 4-Terphenyl-d14	57.2	0	21-92.2		%Rec	1	12/11/2017 9:53:21 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	3200	6.2	100		µg/L	100	12/7/2017 2:59:00 AM	R47586
Toluene	27	0.64	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Ethylbenzene	260	0.93	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Methyl tert-butyl ether (MTBE)	510	2.4	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2,4-Trimethylbenzene	93	1.1	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,3,5-Trimethylbenzene	2.8	0.87	10	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Naphthalene	57	1.1	20		µg/L	10	12/7/2017 3:21:00 AM	R47586
1-Methylnaphthalene	80	1.6	40		µg/L	10	12/7/2017 3:21:00 AM	R47586
2-Methylnaphthalene	16	1.5	40	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
Acetone	ND	8.2	100		µg/L	10	12/7/2017 3:21:00 AM	R47586
Bromobenzene	ND	1.4	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Bromodichloromethane	ND	1.8	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Bromoform	ND	2.1	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Bromomethane	ND	2.6	30		µg/L	10	12/7/2017 3:21:00 AM	R47586
2-Butanone	ND	11	100		µg/L	10	12/7/2017 3:21:00 AM	R47586
Carbon disulfide	ND	4.0	100		µg/L	10	12/7/2017 3:21:00 AM	R47586
Carbon Tetrachloride	ND	1.1	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Chlorobenzene	ND	1.1	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Chloroethane	ND	2.3	20		µg/L	10	12/7/2017 3:21:00 AM	R47586
Chloroform	ND	4.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Chloromethane	ND	2.9	30		µg/L	10	12/7/2017 3:21:00 AM	R47586
2-Chlorotoluene	ND	4.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
4-Chlorotoluene	ND	4.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
cis-1,2-DCE	17	2.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	12/7/2017 3:21:00 AM	R47586
Dibromochloromethane	ND	0.72	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Dibromomethane	ND	0.91	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Dichlorodifluoromethane	ND	10	10		µg/L	10	12/7/2017 3:21:00 AM	R47586

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-09
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017 4:05:00 PM
Lab ID: 1712043-013
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	19	4.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,1-Dichloroethene	30	0.81	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2-Dichloropropane	ND	1.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,3-Dichloropropane	ND	1.7	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
2,2-Dichloropropane	ND	1.6	20		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,1-Dichloropropene	ND	0.93	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Hexachlorobutadiene	ND	8.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
2-Hexanone	ND	6.6	100		µg/L	10	12/7/2017 3:21:00 AM	R47586
Isopropylbenzene	17	0.51	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
4-Isopropyltoluene	4.3	0.96	10	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	12/7/2017 3:21:00 AM	R47586
Methylene Chloride	ND	1.1	30		µg/L	10	12/7/2017 3:21:00 AM	R47586
n-Butylbenzene	9.5	1.3	30	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
n-Propylbenzene	34	0.74	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
sec-Butylbenzene	5.8	1.1	10	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
Styrene	2.2	1.6	10	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
tert-Butylbenzene	ND	1.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	12/7/2017 3:21:00 AM	R47586
Tetrachloroethene (PCE)	2.6	1.3	10	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
trans-1,2-DCE	ND	1.8	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,1,1-Trichloroethane	29	0.73	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Trichloroethene (TCE)	4.4	1.1	10	J	µg/L	10	12/7/2017 3:21:00 AM	R47586
Trichlorofluoromethane	ND	1.8	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	12/7/2017 3:21:00 AM	R47586
Vinyl chloride	ND	1.8	10		µg/L	10	12/7/2017 3:21:00 AM	R47586
Xylenes, Total	86	3.2	15		µg/L	10	12/7/2017 3:21:00 AM	R47586
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	10	12/7/2017 3:21:00 AM	R47586
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	10	12/7/2017 3:21:00 AM	R47586
Surr: Dibromofluoromethane	99.1	0	70-130		%Rec	10	12/7/2017 3:21:00 AM	R47586
Surr: Toluene-d8	101	0	70-130		%Rec	10	12/7/2017 3:21:00 AM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	11	0.19	1.0		mg/L	20	12/6/2017 10:48:47 PM	R47561
Surr: BFB	95.9	0	70-130		%Rec	20	12/6/2017 10:48:47 PM	R47561

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP05
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-014
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.1	0.36	1.0		mg/L	1	12/6/2017 3:44:25 AM	35300
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/6/2017 3:44:25 AM	35300
Surr: DNOP	115	0	77.5-161		%Rec	1	12/6/2017 3:44:25 AM	35300
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	12/11/2017 5:30:25 AM	R47699
Chloride	890	25	50		mg/L	100	12/14/2017 6:29:46 AM	A47741
Bromide	1.1	0.073	0.50		mg/L	5	12/11/2017 5:30:25 AM	R47699
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 5:30:25 AM	R47699
Sulfate	1.1	0.48	2.5	J	mg/L	5	12/11/2017 5:30:25 AM	R47699
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/14/2017 1:01:35 PM	R47809
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.9	0.0049	0.010	*	mg/L	5	12/19/2017 10:01:30 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:26:16 PM	B47895
Calcium	140	0.39	5.0		mg/L	5	12/19/2017 10:01:30 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:26:16 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:26:16 PM	B47895
Iron	5.9	0.16	0.20	*	mg/L	10	12/19/2017 10:03:28 PM	B47895
Magnesium	43	0.25	1.0		mg/L	1	12/19/2017 7:26:16 PM	B47895
Manganese	3.1	0.0020	0.010	*	mg/L	5	12/19/2017 10:01:30 PM	B47895
Potassium	1.1	0.11	1.0		mg/L	1	12/19/2017 7:26:16 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:26:16 PM	B47895
Sodium	800	1.6	10		mg/L	10	12/19/2017 10:03:28 PM	B47895
Zinc	0.0078	0.0021	0.010	J	mg/L	1	12/19/2017 7:26:16 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.1	0.0050	0.010	*	mg/L	5	12/18/2017 7:47:00 PM	35487
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:37:09 PM	35487
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:37:09 PM	35487
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:11:10 PM	35487
Iron	7.5	0.10	0.20	*	mg/L	10	12/18/2017 7:48:37 PM	35487
Manganese	3.1	0.0055	0.010	*	mg/L	5	12/18/2017 7:47:00 PM	35487
Silver	0.0019	0.0012	0.0050	J	mg/L	1	12/18/2017 7:37:09 PM	35487
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:37:09 PM	35487
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.013	0.0021	0.0050	*	mg/L	5	12/21/2017 7:54:22 PM	B47988
Lead	ND	0.00017	0.00050		mg/L	1	12/20/2017 10:19:37 PM	C47943
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 7:54:22 PM	B47988
Uranium	0.0055	0.000096	0.00050		mg/L	1	12/20/2017 10:19:37 PM	C47943

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP05
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-014
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.017	0.0021	0.0050	*	mg/L	5	1/8/2018 7:26:34 PM	35487
Lead	ND	0.0011	0.0025		mg/L	5	1/4/2018 9:17:16 PM	35487
Selenium	ND	0.0049	0.0050		mg/L	5	1/4/2018 9:17:16 PM	35487
Uranium	0.0054	0.00077	0.0025		mg/L	5	1/4/2018 9:17:16 PM	35487
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Acenaphthylene	ND	3.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Aniline	21	3.1	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Anthracene	ND	3.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Azobenzene	ND	4.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Benzoic acid	ND	3.9	20		µg/L	1	12/11/2017 10:20:33 PM	35321
Benzyl alcohol	ND	4.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/11/2017 10:20:33 PM	35321
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Carbazole	ND	4.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
4-Chloroaniline	ND	3.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2-Chlorophenol	ND	7.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Chrysene	ND	3.8	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Dibenzofuran	ND	4.1	10		µg/L	1	12/11/2017 10:20:33 PM	35321
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/11/2017 10:20:33 PM	35321
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 10:20:33 PM	35321
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Diethyl phthalate	ND	4.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP05
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-014
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/11/2017 10:20:33 PM	35321
2,4-Dimethylphenol	33	2.8	10		µg/L	1	12/11/2017 10:20:33 PM	35321
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/11/2017 10:20:33 PM	35321
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/11/2017 10:20:33 PM	35321
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Fluoranthene	ND	4.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Fluorene	ND	4.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Hexachloroethane	ND	1.2	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Isophorone	ND	4.4	10		µg/L	1	12/11/2017 10:20:33 PM	35321
1-Methylnaphthalene	13	3.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2-Methylnaphthalene	13	3.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2-Methylphenol	250	17	50		µg/L	5	12/12/2017 3:28:45 PM	35321
3+4-Methylphenol	270	16	50		µg/L	5	12/12/2017 3:28:45 PM	35321
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Naphthalene	51	2.9	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2-Nitroaniline	ND	4.9	10		µg/L	1	12/11/2017 10:20:33 PM	35321
3-Nitroaniline	ND	4.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
4-Nitroaniline	ND	4.0	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Nitrobenzene	ND	3.6	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2-Nitrophenol	ND	5.2	10		µg/L	1	12/11/2017 10:20:33 PM	35321
4-Nitrophenol	ND	5.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Pentachlorophenol	ND	4.9	20		µg/L	1	12/11/2017 10:20:33 PM	35321
Phenanthrene	ND	4.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Phenol	100	3.1	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Pyrene	ND	4.4	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Pyridine	ND	2.3	10		µg/L	1	12/11/2017 10:20:33 PM	35321
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/11/2017 10:20:33 PM	35321
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/11/2017 10:20:33 PM	35321
Surr: 2-Fluorophenol	66.8	0	15-114		%Rec	1	12/11/2017 10:20:33 PM	35321
Surr: Phenol-d5	48.8	0	15-97.9		%Rec	1	12/11/2017 10:20:33 PM	35321

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP05
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-014
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Surr: 2,4,6-Tribromophenol	109	0	15-161		%Rec	1	12/11/2017 10:20:33 PM	35321
Surr: Nitrobenzene-d5	88.7	0	29.3-120		%Rec	1	12/11/2017 10:20:33 PM	35321
Surr: 2-Fluorobiphenyl	85.7	0	17.5-116		%Rec	1	12/11/2017 10:20:33 PM	35321
Surr: 4-Terphenyl-d14	61.0	0	21-92.2		%Rec	1	12/11/2017 10:20:33 PM	35321
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	10000	62	1000		µg/L	1000	12/7/2017 10:39:00 AM	R47586
Toluene	9300	6.4	100		µg/L	100	12/7/2017 3:44:00 AM	R47586
Ethylbenzene	810	0.93	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Methyl tert-butyl ether (MTBE)	59	2.4	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2,4-Trimethylbenzene	340	1.1	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,3,5-Trimethylbenzene	63	0.87	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Naphthalene	62	1.1	20		µg/L	10	12/7/2017 4:07:00 AM	R47586
1-Methylnaphthalene	16	1.6	40	J	µg/L	10	12/7/2017 4:07:00 AM	R47586
2-Methylnaphthalene	14	1.5	40	J	µg/L	10	12/7/2017 4:07:00 AM	R47586
Acetone	82	8.2	100	J	µg/L	10	12/7/2017 4:07:00 AM	R47586
Bromobenzene	ND	1.4	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Bromodichloromethane	ND	1.8	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Bromoform	ND	2.1	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Bromomethane	ND	2.6	30		µg/L	10	12/7/2017 4:07:00 AM	R47586
2-Butanone	120	11	100		µg/L	10	12/7/2017 4:07:00 AM	R47586
Carbon disulfide	ND	4.0	100		µg/L	10	12/7/2017 4:07:00 AM	R47586
Carbon Tetrachloride	ND	1.1	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Chlorobenzene	ND	1.1	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Chloroethane	20	2.3	20		µg/L	10	12/7/2017 4:07:00 AM	R47586
Chloroform	ND	4.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Chloromethane	ND	2.9	30		µg/L	10	12/7/2017 4:07:00 AM	R47586
2-Chlorotoluene	ND	4.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
4-Chlorotoluene	ND	4.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
cis-1,2-DCE	ND	2.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	12/7/2017 4:07:00 AM	R47586
Dibromochloromethane	ND	0.72	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Dibromomethane	ND	0.91	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Dichlorodifluoromethane	ND	10	10		µg/L	10	12/7/2017 4:07:00 AM	R47586

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP05
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date: 11/28/2017
Lab ID: 1712043-014
Matrix: AQUEOUS
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloroethane	37	4.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,1-Dichloroethene	ND	0.81	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2-Dichloropropane	ND	1.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,3-Dichloropropane	ND	1.7	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
2,2-Dichloropropane	ND	1.6	20		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,1-Dichloropropene	ND	0.93	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Hexachlorobutadiene	ND	8.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
2-Hexanone	ND	6.6	100		µg/L	10	12/7/2017 4:07:00 AM	R47586
Isopropylbenzene	26	0.51	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
4-Isopropyltoluene	4.2	0.96	10	J	µg/L	10	12/7/2017 4:07:00 AM	R47586
4-Methyl-2-pentanone	24	7.1	100	J	µg/L	10	12/7/2017 4:07:00 AM	R47586
Methylene Chloride	ND	1.1	30		µg/L	10	12/7/2017 4:07:00 AM	R47586
n-Butylbenzene	8.2	1.3	30	J	µg/L	10	12/7/2017 4:07:00 AM	R47586
n-Propylbenzene	68	0.74	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
sec-Butylbenzene	10	1.1	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Styrene	ND	1.6	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
tert-Butylbenzene	1.3	1.0	10	J	µg/L	10	12/7/2017 4:07:00 AM	R47586
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	12/7/2017 4:07:00 AM	R47586
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
trans-1,2-DCE	ND	1.8	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Trichlorofluoromethane	ND	1.8	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	12/7/2017 4:07:00 AM	R47586
Vinyl chloride	31	1.8	10		µg/L	10	12/7/2017 4:07:00 AM	R47586
Xylenes, Total	2500	3.2	15		µg/L	10	12/7/2017 4:07:00 AM	R47586
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	10	12/7/2017 4:07:00 AM	R47586
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	10	12/7/2017 4:07:00 AM	R47586
Surr: Dibromofluoromethane	99.2	0	70-130		%Rec	10	12/7/2017 4:07:00 AM	R47586
Surr: Toluene-d8	101	0	70-130		%Rec	10	12/7/2017 4:07:00 AM	R47586
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	61	0.48	2.5		mg/L	50	12/6/2017 11:11:34 PM	R47561
Surr: BFB	96.8	0	70-130		%Rec	50	12/6/2017 11:11:34 PM	R47561

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date:
Lab ID: 1712043-015
Matrix: TRIP BLANK
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.77	0.062	1.0	J	µg/L	1	12/7/2017 4:29:00 AM	R47586
Toluene	0.91	0.064	1.0	J	µg/L	1	12/7/2017 4:29:00 AM	R47586
Ethylbenzene	0.18	0.093	1.0	J	µg/L	1	12/7/2017 4:29:00 AM	R47586
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2,4-Trimethylbenzene	0.22	0.11	1.0	J	µg/L	1	12/7/2017 4:29:00 AM	R47586
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Naphthalene	ND	0.11	2.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Acetone	ND	0.82	10		µg/L	1	12/7/2017 4:29:00 AM	R47586
Bromobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Bromoform	ND	0.21	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Bromomethane	ND	0.26	3.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
2-Butanone	ND	1.1	10		µg/L	1	12/7/2017 4:29:00 AM	R47586
Carbon disulfide	ND	0.40	10		µg/L	1	12/7/2017 4:29:00 AM	R47586
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Chloroethane	ND	0.23	2.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Chloroform	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Chloromethane	ND	0.29	3.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Dibromomethane	ND	0.091	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/7/2017 4:29:00 AM	R47586

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Sampling MKTF
Collection Date:
Lab ID: 1712043-015
Matrix: TRIP BLANK
Received Date: 12/1/2017 9:30:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
2-Hexanone	ND	0.66	10		µg/L	1	12/7/2017 4:29:00 AM	R47586
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/7/2017 4:29:00 AM	R47586
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Styrene	ND	0.16	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 AM	R47586
Xylenes, Total	0.62	0.32	1.5	J	µg/L	1	12/7/2017 4:29:00 AM	R47586
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	12/7/2017 4:29:00 AM	R47586
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	12/7/2017 4:29:00 AM	R47586
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/7/2017 4:29:00 AM	R47586
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	12/7/2017 4:29:00 AM	R47586

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533296** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533297** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	91.0	50	150			J
Cadmium	0.0023	0.0020	0.002000	0	116	50	150			
Calcium	0.52	1.0	0.5000	0	104	50	150			J
Chromium	0.0059	0.0060	0.006000	0	99.0	50	150			J
Copper	0.0058	0.0060	0.006000	0	96.7	50	150			J
Iron	0.021	0.020	0.02000	0	104	50	150			
Magnesium	0.51	1.0	0.5000	0	101	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Potassium	0.49	1.0	0.5000	0	99.0	50	150			J
Silver	0.0049	0.0050	0.005000	0	98.8	50	150			J
Sodium	0.51	1.0	0.5000	0	101	50	150			J
Zinc	0.0064	0.010	0.005000	0	128	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533298** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	103	85	115			
Cadmium	0.52	0.0020	0.5000	0	104	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.49	0.0060	0.5000	0	98.3	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533298** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	101	85	115			
Iron	0.52	0.020	0.5000	0	103	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	101	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.11	0.0050	0.1000	0	106	85	115			
Sodium	51	1.0	50.00	0	103	85	115			
Zinc	0.48	0.010	0.5000	0	95.9	85	115			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533299** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533300** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.0	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	105	50	150			
Calcium	0.48	1.0	0.5000	0	96.8	50	150			J
Chromium	0.0056	0.0060	0.006000	0	92.7	50	150			J
Copper	0.0066	0.0060	0.006000	0	110	50	150			
Iron	0.020	0.020	0.02000	0	97.7	50	150			J
Magnesium	0.50	1.0	0.5000	0	100	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533300** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Silver	0.0052	0.0050	0.005000	0	104	50	150			
Sodium	0.33	1.0	0.5000	0	65.0	50	150			J
Zinc	0.0048	0.010	0.005000	0	96.2	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533301** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	105	85	115			
Cadmium	0.53	0.0020	0.5000	0	105	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	101	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.11	0.0050	0.1000	0	108	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.49	0.010	0.5000	0	97.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**MB-35487**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PBW**	Batch ID:	**35487**		RunNo:	**47837**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/17/2017**		SeqNo:	**1530276**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								

Sample ID	**LLLCS-35487**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**35487**		RunNo:	**47837**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/17/2017**		SeqNo:	**1530314**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0026	0.0020	0.002000	0	131	50	150			
Chromium	0.0060	0.0060	0.006000	0	99.5	50	150			J
Copper	0.0051	0.0060	0.006000	0	84.8	50	150			J
Iron	0.022	0.020	0.02000	0	108	50	150			

Sample ID	**LCS-35487**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**35487**		RunNo:	**47837**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/17/2017**		SeqNo:	**1530315**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Chromium	0.51	0.0060	0.5000	0	103	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			

Sample ID	**1712043-001FMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-44**	Batch ID:	**35487**		RunNo:	**47837**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/17/2017**		SeqNo:	**1530663**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.53	0.0060	0.5000	0.005160	104	70	130			

Sample ID	**1712043-001FMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-44**	Batch ID:	**35487**		RunNo:	**47837**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/17/2017**		SeqNo:	**1530664**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.53	0.0060	0.5000	0.005160	106	70	130	1.61	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**1712043-007FMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47837**					
Prep Date:	**12/13/2017**	Analysis Date: **12/17/2017**			SeqNo: **1530671**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.55	0.0060	0.5000	0	110	70	130			

Sample ID	**1712043-007FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47837**					
Prep Date:	**12/13/2017**	Analysis Date: **12/17/2017**			SeqNo: **1530672**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.55	0.0060	0.5000	0	111	70	130	0.987	20	

Sample ID	**1712043-001FMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-44**	Batch ID: **35487**			RunNo: **47872**					
Prep Date:	**12/13/2017**	Analysis Date: **12/18/2017**			SeqNo: **1532117**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.0020	0.5000	0.1346	101	70	130			
Chromium	0.44	0.0060	0.5000	0.009780	87.0	70	130			

Sample ID	**1712043-001FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-44**	Batch ID: **35487**			RunNo: **47872**					
Prep Date:	**12/13/2017**	Analysis Date: **12/18/2017**			SeqNo: **1532118**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.65	0.0020	0.5000	0.1346	102	70	130	1.18	20	
Chromium	0.45	0.0060	0.5000	0.009780	88.6	70	130	1.83	20	

Sample ID	**1712043-007FMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47872**					
Prep Date:	**12/13/2017**	Analysis Date: **12/18/2017**			SeqNo: **1532142**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.48	0.0060	0.5000	0	95.6	70	130			
Silver	0.11	0.0050	0.1000	0.001510	104	70	130			

Sample ID	**1712043-007FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47872**					
Prep Date:	**12/13/2017**	Analysis Date: **12/18/2017**			SeqNo: **1532143**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.48	0.0060	0.5000	0	95.8	70	130	0.211	20	
Silver	0.10	0.0050	0.1000	0.001510	102	70	130	1.46	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**1712043-007FMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-16**	Batch ID:	**35487**		RunNo:	**47872**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/18/2017**		SeqNo:	**1532149**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	3.4	0.010	0.5000	2.921	93.0	70	130	0.948	20	

Sample ID	**MB-35487**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**PBW**	Batch ID:	**35487**		RunNo:	**47872**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/18/2017**		SeqNo:	**1532318**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LLLCS-35487**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**BatchQC**	Batch ID:	**35487**		RunNo:	**47872**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/18/2017**		SeqNo:	**1532319**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.0023	0.0020	0.002000	0	116	50	150			
Manganese	0.0024	0.0020	0.002000	0	120	50	150			
Silver	0.0049	0.0050	0.005000	0	98.8	50	150			J
Zinc	0.0051	0.010	0.005000	0	101	50	150			J

Sample ID	**LCS-35487**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**LCSW**	Batch ID:	**35487**		RunNo:	**47872**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/18/2017**		SeqNo:	**1532320**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Manganese	0.48	0.0020	0.5000	0	95.5	85	115			
Silver	0.11	0.0050	0.1000	0	105	85	115			
Zinc	0.47	0.010	0.5000	0	94.9	85	115			

Sample ID	**1712043-001FMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Total Metals**				
Client ID:	**MKTF-44**	Batch ID:	**35487**		RunNo:	**47895**				
Prep Date:	**12/13/2017**	Analysis Date:	**12/20/2017**		SeqNo:	**1534961**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.43	0.0020	0.5000	0	86.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**1712043-001FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-44**	Batch ID: **35487**			RunNo: **47895**					
Prep Date:	**12/13/2017**	Analysis Date: **12/20/2017**			SeqNo: **1534962**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.45	0.0020	0.5000	0	89.6	70	130	2.98	20	

Sample ID	**1712043-007FMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47895**					
Prep Date:	**12/13/2017**	Analysis Date: **12/20/2017**			SeqNo: **1534973**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.45	0.0020	0.5000	0	89.5	70	130			

Sample ID	**1712043-007FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47895**					
Prep Date:	**12/13/2017**	Analysis Date: **12/20/2017**			SeqNo: **1534974**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.45	0.0020	0.5000	0	90.8	70	130	1.46	20	

Sample ID	**1712043-001FMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-44**	Batch ID: **35487**			RunNo: **47938**					
Prep Date:	**12/13/2017**	Analysis Date: **12/20/2017**			SeqNo: **1535488**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.57	0.0020	0.5000	0.09219	96.1	70	130			
Zinc	0.50	0.010	0.5000	0.01992	96.0	70	130			

Sample ID	**1712043-001FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-44**	Batch ID: **35487**			RunNo: **47938**					
Prep Date:	**12/13/2017**	Analysis Date: **12/20/2017**			SeqNo: **1535489**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.58	0.0020	0.5000	0.09219	96.8	70	130	0.604	20	
Zinc	0.50	0.010	0.5000	0.01992	95.7	70	130	0.353	20	

Sample ID	**1712043-007FMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47938**					
Prep Date:	**12/13/2017**	Analysis Date: **12/20/2017**			SeqNo: **1535498**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.47	0.010	0.5000	0.007890	92.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**1712043-007FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47938**					
Prep Date:	**12/13/2017**	Analysis Date: **12/20/2017**			SeqNo: **1535499**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.48	0.010	0.5000	0.007890	93.9	70	130	1.44	20	

Sample ID	**1712043-007FMS**	SampType: **MS**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47970**					
Prep Date:	**12/13/2017**	Analysis Date: **12/21/2017**			SeqNo: **1536809**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	2.8	0.010	0.5000	2.320	88.6	70	130			

Sample ID	**1712043-007FMSD**	SampType: **MSD**			TestCode: **EPA Method 200.7: Total Metals**					
Client ID:	**MKTF-16**	Batch ID: **35487**			RunNo: **47970**					
Prep Date:	**12/13/2017**	Analysis Date: **12/21/2017**			SeqNo: **1536810**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	2.8	0.010	0.5000	2.320	95.2	70	130	1.19	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533979** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533982** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	97.5	50	150			J
Lead	0.00040	0.00050	0.0005000	0	80.1	50	150			J
Selenium	0.00098	0.0010	0.001000	0	98.1	50	150			J
Uranium	0.00039	0.00050	0.0005000	0	78.4	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533985** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.6	85	115			
Lead	0.011	0.00050	0.01250	0	91.9	85	115			
Selenium	0.023	0.0010	0.02500	0	93.4	85	115			
Uranium	0.012	0.00050	0.01250	0	92.3	85	115			

Sample ID **1712043-001EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-44**	Batch ID: **B47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1534025** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.027	0.0010	0.02500	0.005357	87.4	70	130			
Lead	0.013	0.00050	0.01250	0	103	70	130			
Selenium	0.028	0.0010	0.02500	0.009688	74.0	70	130			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535699** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535699** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535700** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00095	0.0010	0.001000	0	95.2	50	150			J
Lead	0.00047	0.00050	0.0005000	0	94.1	50	150			J
Uranium	0.00044	0.00050	0.0005000	0	88.6	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535701** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	90.4	85	115			
Lead	0.012	0.00050	0.01250	0	94.0	85	115			
Uranium	0.011	0.00050	0.01250	0	89.0	85	115			

Sample ID **1712043-005EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-39**	Batch ID: **B47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535710** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.11	0.0050	0.1250	0.002722	86.4	70	130			
Lead	0.060	0.0025	0.06250	0	96.5	70	130			
Uranium	0.061	0.0025	0.06250	0	97.0	70	130			

Sample ID **1712043-005EMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **MKTF-39**	Batch ID: **B47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535711** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.11	0.0050	0.1250	0.002722	88.1	70	130	1.87	20	
Lead	0.063	0.0025	0.06250	0	100	70	130	3.56	20	
Uranium	0.063	0.0025	0.06250	0	101	70	130	3.80	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**1712043-012EMSLL**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**MKTF-10**	Batch ID:	**B47943**		RunNo:	**47943**					
Prep Date:		Analysis Date:	**12/20/2017**		SeqNo:	**1535725**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.060	0.0025	0.06250	0	96.0	70	130				
Uranium	0.060	0.0025	0.06250	0	95.7	70	130				

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**C47943**		RunNo:	**47943**					
Prep Date:		Analysis Date:	**12/20/2017**		SeqNo:	**1535728**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	ND	0.00050									
Uranium	ND	0.00050									

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**C47943**		RunNo:	**47943**					
Prep Date:		Analysis Date:	**12/20/2017**		SeqNo:	**1535730**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.00049	0.00050	0.0005000	0	98.1	50	150			J	
Uranium	0.00044	0.00050	0.0005000	0	88.2	50	150			J	

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**C47943**		RunNo:	**47943**					
Prep Date:		Analysis Date:	**12/20/2017**		SeqNo:	**1535732**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.012	0.00050	0.01250	0	92.5	85	115				
Uranium	0.011	0.00050	0.01250	0	88.2	85	115				

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B47988**		RunNo:	**47988**					
Prep Date:		Analysis Date:	**12/21/2017**		SeqNo:	**1537334**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	ND	0.0010									
Selenium	ND	0.0010									

Sample ID	**LLLCS**	SampType:	**LCSLL**		TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B47988**		RunNo:	**47988**					
Prep Date:		Analysis Date:	**12/21/2017**		SeqNo:	**1537335**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B47988**	RunNo:	**47988**					
Prep Date:		Analysis Date:	**12/21/2017**	SeqNo:	**1537335**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	108	50	150			
Selenium	0.00097	0.0010	0.001000	0	97.2	50	150			J

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B47988**	RunNo:	**47988**					
Prep Date:		Analysis Date:	**12/21/2017**	SeqNo:	**1537336**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.1	85	115			
Selenium	0.024	0.0010	0.02500	0	96.9	85	115			

Sample ID	**1712043-012EMSLL**	SampType:	**MS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**MKTF-10**	Batch ID:	**B47988**	RunNo:	**47988**					
Prep Date:		Analysis Date:	**12/21/2017**	SeqNo:	**1537343**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.006319	95.6	70	130			
Selenium	0.12	0.0050	0.1250	0	96.6	70	130			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**A48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1542927**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1542928**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	114	50	150			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**A48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1542929**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.3	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549286** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549287** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	105	50	150			
Selenium	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.9	85	115			
Selenium	0.023	0.0010	0.02500	0	93.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**MB-35487**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35487**	RunNo:	**47836**					
Prep Date:	**12/13/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530222**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35487**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35487**	RunNo:	**47836**					
Prep Date:	**12/13/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530223**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00047	0.00050	0.0005000	0	94.5	50	150			J
Selenium	0.00092	0.0010	0.001000	0	92.1	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.3	50	150			J

Sample ID	**MSLCS-35487**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35487**	RunNo:	**47836**					
Prep Date:	**12/13/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530224**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	94.7	85	115			
Selenium	0.023	0.0010	0.02500	0	92.4	85	115			
Uranium	0.012	0.00050	0.01250	0	93.9	85	115			

Sample ID	**1712043-002FLLMS**	SampType:	**MSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**MKTF-22**	Batch ID:	**35487**	RunNo:	**47836**					
Prep Date:	**12/13/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530238**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.018	0.00050	0.01250	0.004753	102	70	130			
Uranium	0.016	0.00050	0.01250	0.002605	104	70	130			

Sample ID	**1712043-002FLLMS**	SampType:	**MSDLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**MKTF-22**	Batch ID:	**35487**	RunNo:	**47836**					
Prep Date:	**12/13/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530239**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.017	0.00050	0.01250	0.004753	98.8	70	130	2.37	20	
Uranium	0.015	0.00050	0.01250	0.002605	101	70	130	1.84	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **MB-35487**	SampType: **MBLK**	TestCode: **200.8 ICPMS Metals:Total**
Client ID: **PBW**	Batch ID: **35487**	RunNo: **48033**
Prep Date: **12/13/2017**	Analysis Date: **12/22/2017**	SeqNo: **1539325** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Sample ID **MSLLLCS-35487**	SampType: **LCSLL**	TestCode: **200.8 ICPMS Metals:Total**
Client ID: **BatchQC**	Batch ID: **35487**	RunNo: **48033**
Prep Date: **12/13/2017**	Analysis Date: **12/22/2017**	SeqNo: **1539326** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00092	0.0010	0.001000	0	92.5	50	150			J

Sample ID **MSLCS-35487**	SampType: **LCS**	TestCode: **200.8 ICPMS Metals:Total**
Client ID: **LCSW**	Batch ID: **35487**	RunNo: **48033**
Prep Date: **12/13/2017**	Analysis Date: **12/22/2017**	SeqNo: **1539327** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			

Sample ID **1712043-002FLLMS**	SampType: **MSLL**	TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-22**	Batch ID: **35487**	RunNo: **48204**
Prep Date: **12/13/2017**	Analysis Date: **1/4/2018**	SeqNo: **1548135** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0050	0.02500	0	96.4	70	130			

Sample ID **1712043-002FLLMS**	SampType: **MSDLL**	TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-22**	Batch ID: **35487**	RunNo: **48204**
Prep Date: **12/13/2017**	Analysis Date: **1/4/2018**	SeqNo: **1548136** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.025	0.0050	0.02500	0	98.1	70	130	1.80	20	

Sample ID **1712043-010FLLMS**	SampType: **MSLL**	TestCode: **200.8 ICPMS Metals:Total**
Client ID: **MKTF-11**	Batch ID: **35487**	RunNo: **48204**
Prep Date: **12/13/2017**	Analysis Date: **1/4/2018**	SeqNo: **1548145** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.0025	0.01250	0	104	70	130			
Selenium	0.024	0.0050	0.02500	0	94.4	70	130			
Uranium	0.018	0.0025	0.01250	0.005425	102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID	**1712043-010FLLMS**	SampType:	**MSLL**		TestCode:	**200.8 ICPMS Metals:Total**				
Client ID:	**MKTF-11**	Batch ID:	**35487**		RunNo:	**48289**				
Prep Date:	**12/13/2017**	Analysis Date:	**1/8/2018**		SeqNo:	**1550914**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.040	0.0050	0.02500	0.01590	95.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47699**	RunNo: **47699**
Prep Date:	Analysis Date: **12/10/2017**	SeqNo: **1524613** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47699**	RunNo: **47699**
Prep Date:	Analysis Date: **12/10/2017**	SeqNo: **1524614** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.1	90	110			
Bromide	2.3	0.10	2.500	0	90.7	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	96.6	90	110			
Sulfate	9.6	0.50	10.00	0	95.5	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.0	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A47741**	RunNo: **47741**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528152** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A47741**	RunNo: **47741**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528153** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.0	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47809**	RunNo: **47809**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1529258** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **LCS-b**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R47809**	RunNo: **47809**							
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1529260**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.7	0.20	3.500	0	106	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **LCS-35300**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35300**	RunNo: **47491**
Prep Date: **12/4/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518569** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	110	92.3	135			
Surr: DNOP	0.49		0.5000		97.5	77.5	161			

Sample ID **MB-35300**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35300**	RunNo: **47491**
Prep Date: **12/4/2017**	Analysis Date: **12/5/2017**	SeqNo: **1518570** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.99		1.000		99.3	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47586**	RunNo: **47586**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1519970** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	109	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47586**	RunNo: **47586**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1519971** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	0.12	1.0								J
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47586**	RunNo: **47586**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1519971** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47586**	RunNo: **47586**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1519971** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		104	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.9	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **1712043-003cms** SampType: **MS** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **MKTF-33** Batch ID: **35321** RunNo: **47670**

Prep Date: **12/5/2017** Analysis Date: **12/11/2017** SeqNo: **1524020** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	69.9	18.1	108			
4-Chloro-3-methylphenol	150	10	200.0	0	73.8	15	111			
2-Chlorophenol	160	10	200.0	0	77.7	15	113			
1,4-Dichlorobenzene	64	10	100.0	0	63.7	21	81.3			
2,4-Dinitrotoluene	65	10	100.0	0	64.8	27.4	101			
N-Nitrosodi-n-propylamine	74	10	100.0	0	74.0	24.9	107			
4-Nitrophenol	65	10	200.0	0	32.6	15	62.2			
Pentachlorophenol	120	20	200.0	0	62.4	15	96.9			
Phenol	81	10	200.0	0	40.3	15	64.7			
Pyrene	77	10	100.0	0	76.9	29.2	111			
1,2,4-Trichlorobenzene	72	10	100.0	0	71.7	22.9	94.8			
Surr: 2-Fluorophenol	100		200.0		51.8	15	114			
Surr: Phenol-d5	80		200.0		40.1	15	97.9			
Surr: 2,4,6-Tribromophenol	150		200.0		77.5	15	161			
Surr: Nitrobenzene-d5	75		100.0		75.4	29.3	120			
Surr: 2-Fluorobiphenyl	71		100.0		71.5	17.5	116			
Surr: 4-Terphenyl-d14	44		100.0		44.5	21	92.2			

Sample ID **1712043-003cmsd** SampType: **MSD** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **MKTF-33** Batch ID: **35321** RunNo: **47670**

Prep Date: **12/5/2017** Analysis Date: **12/11/2017** SeqNo: **1524021** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	83	10	100.0	0	82.8	18.1	108	16.8	30.5	
4-Chloro-3-methylphenol	150	10	200.0	0	74.5	15	111	0.931	50	
2-Chlorophenol	170	10	200.0	0	82.9	15	113	6.55	36.3	
1,4-Dichlorobenzene	67	10	100.0	0	67.3	21	81.3	5.53	42.1	
2,4-Dinitrotoluene	75	10	100.0	0	75.2	27.4	101	14.8	28.5	
N-Nitrosodi-n-propylamine	82	10	100.0	0	81.9	24.9	107	10.2	25.4	
4-Nitrophenol	68	10	200.0	0	33.8	15	62.2	3.62	50	
Pentachlorophenol	140	20	200.0	0	68.2	15	96.9	8.97	50	
Phenol	86	10	200.0	0	43.1	15	64.7	6.67	46.1	
Pyrene	82	10	100.0	0	82.2	29.2	111	6.66	34.3	
1,2,4-Trichlorobenzene	76	10	100.0	0	75.8	22.9	94.8	5.56	43.6	
Surr: 2-Fluorophenol	100		200.0		52.4	15	114	0	0	
Surr: Phenol-d5	87		200.0		43.4	15	97.9	0	0	
Surr: 2,4,6-Tribromophenol	180		200.0		90.3	15	161	0	0	
Surr: Nitrobenzene-d5	81		100.0		81.3	29.3	120	0	0	
Surr: 2-Fluorobiphenyl	83		100.0		83.3	17.5	116	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **1712043-003cmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MKTF-33**	Batch ID: **35321**	RunNo: **47670**
Prep Date: **12/5/2017**	Analysis Date: **12/11/2017**	SeqNo: **1524021** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	50		100.0		49.7	21	92.2	0	0	

Sample ID **lcs-35321**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35321**	RunNo: **47670**
Prep Date: **12/5/2017**	Analysis Date: **12/11/2017**	SeqNo: **1524034** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	88	10	100.0	0	87.6	39.7	103			
4-Chloro-3-methylphenol	200	10	200.0	0	101	40.5	108			
2-Chlorophenol	190	10	200.0	0	97.2	35	103			
1,4-Dichlorobenzene	78	10	100.0	0	78.5	24.7	93.7			
2,4-Dinitrotoluene	84	10	100.0	0	84.0	35.6	91.4			
N-Nitrosodi-n-propylamine	95	10	100.0	0	94.8	41.6	114			
4-Nitrophenol	72	10	200.0	0	36.1	20.7	74.3			
Pentachlorophenol	130	20	200.0	0	62.5	25.3	98.5			
Phenol	140	10	200.0	0	68.5	20.9	75.1			
Pyrene	97	10	100.0	0	96.7	45.6	108			
1,2,4-Trichlorobenzene	88	10	100.0	0	87.7	30.3	106			
Surr: 2-Fluorophenol	160		200.0		78.3	15	114			
Surr: Phenol-d5	140		200.0		69.0	15	97.9			
Surr: 2,4,6-Tribromophenol	210		200.0		106	15	161			
Surr: Nitrobenzene-d5	100		100.0		101	29.3	120			
Surr: 2-Fluorobiphenyl	88		100.0		87.9	17.5	116			
Surr: 4-Terphenyl-d14	63		100.0		63.2	21	92.2			

Sample ID **mb-35321**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35321**	RunNo: **47670**
Prep Date: **12/5/2017**	Analysis Date: **12/11/2017**	SeqNo: **1524035** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **mb-35321**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35321**	RunNo: **47670**
Prep Date: **12/5/2017**	Analysis Date: **12/11/2017**	SeqNo: **1524035** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	5.9	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **mb-35321**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35321**	RunNo: **47670**
Prep Date: **12/5/2017**	Analysis Date: **12/11/2017**	SeqNo: **1524035** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	49		200.0		24.5	15	114			
Surr: Phenol-d5	74		200.0		37.0	15	97.9			
Surr: 2,4,6-Tribromophenol	66		200.0		33.1	15	161			
Surr: Nitrobenzene-d5	71		100.0		71.0	29.3	120			
Surr: 2-Fluorobiphenyl	66		100.0		65.6	17.5	116			
Surr: 4-Terphenyl-d14	44		100.0		44.3	21	92.2			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712043**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling MKTF

Sample ID **2.5ug grodoc1-ag**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R47561**	RunNo: **47561**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1519698** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.49	0.050	0.5000	0	97.1	70	130			
Surr: BFB	10		10.00		102	70	130			

Sample ID **rb2**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R47561**	RunNo: **47561**
Prep Date:	Analysis Date: **12/6/2017**	SeqNo: **1519699** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.013	0.050								J
Surr: BFB	10		10.00		105	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1712043** RcptNo: **1**

Received By: **Erin Melendrez** **12/1/2017 9:30:00 AM**

Completed By: **Ashley Gallegos** **12/1/2017 11:57:28 AM**

Reviewed By: SRL 12/04/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 4 2 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? ND
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: ALM/ JMO

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(cf)=0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Major Cations/Anions	WQCC Metals (Total & Dissolved)			Air Bubbles (Y or N)
1/29/17	0825	WATER	MKTF-44	40 ML VOA-5	HCL	-001			✓							✓						
				1L AMBER-1	NEAT												✓						
				250 ML AMBER-1	NEAT				✓														
				250 ML PLASTIC-1	HNO_3														✓				
				125 ML PLASTIC-1	HNO_3													✓	✓				
				125 ML PLASTIC-1	H_2SO_4													✓					
				125 ML PLASTIC-1	NEAT														✓				
	0910		MKTF-22	40 ML VOA-5	HCL	-002			✓							✓						
				1L AMBER-1	NEAT												✓						
				250 ML AMBER-1	NEAT				✓														
				250 ML PLASTIC-1	HNO_3														✓				
				125 ML PLASTIC-1	HNO_3													✓	✓				

Date: 1/30/17 Time: 0800 Relinquished by:
Received by: Date: 1/31/17 Time: 0930
Date: Time: Relinquished by:
Received by: Date: Time:

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(-f) = 0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Major Cations/Anions	WQCC Metals (Total & Dissolved)			Air Bubbles (Y or N)
12/28/17	0910	WATER	MKTF-22	125 mL PLASTIC-1	H_2SO_4	-002												✓				
	↓		↓	125 mL PLASTIC-1	NEAT														✓			
	0950		MKTF-33	40 mL VOA-5	HCL	-003			✓							✓						
				1 L AMBER-2	NEAT												✓					
				250 mL AMBER-1	NEAT				✓													
				250 mL PLASTIC-1	HNO_3														✓			
				125 mL PLASTIC-1	HNO_3													✓	✓			
				125 mL PLASTIC-1	H_2SO_4													✓				
				125 mL PLASTIC-1	NEAT														✓			
	—		DUP04	40 mL VOA-5	HCL	-004			✓							✓						
				1 L AMBER-1	NEAT												✓					
↓	↓	↓	↓	250 mL AMBER-1	NEAT				✓													

Date	Time	Relinquished by:	Received by:	Date	Time
12/30/17	0800			12/1/17	0830

Remarks:

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Client: ANDEAVOR
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☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(CF)=0.1

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Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8032 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS / ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/28/17	—	WATER	DUP04	250 mL PLASTIC-1	HNO_3	-004													✓		
				125 mL PLASTIC-1	HNO_3													✓	✓		
				125 mL PLASTIC-1	H_2SO_4													✓			
				125 mL PLASTIC-1	NEAT														✓		
11/28/17	1410	WATER	MKTF-39	40 mL VOA-5	HCL	-005			✓							✓					
			[redacted]	1 L AMBER-1	NEAT												✓				
				250mL AMBER-1	NEAT				✓												
				250mL PLASTIC-1	HNO_3														✓		
				125mL PLASTIC-1	HNO_3													✓	✓		
				125mL PLASTIC-1	H_2SO_4													✓			
				125mL PLASTIC	NEAT														✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/30/17	0800			12/1/17	0930
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
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Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(CF)=0.1

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	TOTAL & DISSOLVED		Air Bubbles (Y or N)
11/29/17	1050	WATER	MKTF-20	40 mL VOA-5	HCL	-006			✓							✓						
				1 L AMBER-1	NEAT												✓					
				250 mL AMBER-1	NEAT				✓													
				250 mL PLASTIC-1	HNO_3														✓			
				125 mL PLASTIC-1	HNO_3													✓	✓			
				125 mL PLASTIC-1	H_2SO_4													✓				
				125 mL PLASTIC-1	NEAT														✓			
	1125		MKTF-16	40 mL VOA-5	HCL	-007			✓							✓						
				1 L AMBER-1	NEAT												✓					
				250 mL AMBER-1	NEAT				✓													
				250 mL PLASTIC-1	HNO_3														✓			
				125 mL PLASTIC-1	HNO_3													✓	✓			

Date	Time:	Relinquished by:	Received by:	Date	Time
11/30/17	0800			12/1/17	0930
Date	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation:
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL A. JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(CF)=0.1

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043
11/29/17	1125	WATER	MKTF-16	125 ML PLASTIC	H_2SO_4	-007
				125 ML PLASTIC	NEAT	
	1225		MKTF-21	40 ML VOA-5	HCL	-008
				1 L AMBER-1	NEAT	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	H_2SO_4	
				125 ML PLASTIC-1	NEAT	
	1330		MKTF-15	40 ML VOA-5	HCL	-009
				1 L AMBER-1	NEAT	
				250 ML AMBER-1	NEAT	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Major Cations/Anions	WQCC Metals	(Total & Dissolved)		Air Bubbles (Y or N)
											✓				
												✓			
		✓							✓						
										✓					
		✓													
											✓	✓			
											✓	✓			
											✓				
												✓			
		✓							✓						
										✓					
		✓													

Remarks:

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/30/17	0800			12/1/17	0930
Date:	Time:	Relinquished by	Received by	Date	Time

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Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(CF)=0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/29/17	1330	WATER	MKTF-15	250 ML PLASTIC-1	HNO_3	-009													✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	H_2SO_4													✓			
				125 ML PLASTIC-1	NEAT														✓		
	1420		MKTF-11	40 ML VOA-5	HCL	-010			✓							✓					
				1 L AMBER-2	NEAT												✓				
				250 ML AMBER-1	NEAT				✓												
				250 ML PLASTIC-1	HNO_3														✓		
				125 ML PLASTIC-1	HNO_3													✓	✓		
				125 ML PLASTIC-1	H_2SO_4													✓			
				125 ML PLASTIC-1	NEAT														✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/30/17	0800			12/1/17	0930
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QA/QC Package:
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Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP(MKTF)
Project #:
Project Manager: CHERYL.A. JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(CF)=0.1

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043
11/29/17	1500	WATER	MKTF-04	40 ML VOA-5	HCL	-011
				1 L AMBER-1	NEAT	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	H_2SO_4	
				125 ML PLASTIC-1	NEAT	
	1530		MKTF-10	40 ML VOA-5	HCL	-012
				1 L AMBER-1	NEAT	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Major Cations/Anions	WQCC Metals (Total & Dissolved)		Air Bubbles (Y or N)
		✓							✓					
										✓				
		✓								(TT)		(TT)		
											✓	✓		
											✓	✓		
											✓			
												✓		
		✓							✓					
										✓				
		✓												
												✓		
											✓	✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/30/17	0800			12/1/17	0930
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☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(CF)=0.1

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Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/29/17	1530	WATER	MKTF-10	125 ML PLASTIC-1	H_2SO_4	-012												✓				
	↓		↓	125 ML PLASTIC-1	NEAT														✓			
	1605		MKTF-09	40 ML VOA-5	HCL	-013			✓							✓						
				1 L AMBER-1	NEAT												✓					
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
	↓		↓	125 ML PLASTIC-1	NEAT														✓			
	—		DUP05	40 ML VOA-5	HCL	-014																
				1 L AMBER-1	NEAT																	
↓	↓	↓	↓	250 ML AMBER-1	NEAT																	

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/30/17	0800			12/1/17	0930
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GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
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Phone #: 505-722-0231
email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.9-1.8(CF)=0.1

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4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712043
11/29/17	—	WATER	DUP05	250ML PLASTIC-1	HNO_3	-014
↓	↓	↓	↓	125 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	H_2SO_4	
				125 ML PLASTIC-1	NEAT	
11/29/17	—	WATER	TRIP BLANK	40 ML VOA-3	HCL	-015

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)	Air Bubbles (Y or N)
											✓	✓	
											✓		
												✓	
									✓				

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/30/17	0800			12/1/17	0930
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 11, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th Qtr 2017 GW SAMP MKTF OrderNo.: 1712100

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 9 sample(s) on 12/2/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 9:50:00 AM
Lab ID: 1712100-001 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/5/2017 3:55:25 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 3:55:25 PM	35301
Surr: DNOP	110	0	77.5-161		%Rec	1	12/5/2017 3:55:25 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.90	0.22	0.50		mg/L	5	12/5/2017 7:38:43 PM	R47552
Chloride	210	5.0	10		mg/L	20	12/5/2017 7:51:03 PM	R47552
Bromide	1.2	0.073	0.50		mg/L	5	12/5/2017 7:38:43 PM	R47552
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/5/2017 7:38:43 PM	R47552
Sulfate	250	1.9	10		mg/L	20	12/5/2017 7:51:03 PM	R47552
Nitrate+Nitrite as N	1.2	0.13	1.0		mg/L	5	12/5/2017 11:22:03 PM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.031	0.00099	0.0020		mg/L	1	12/19/2017 7:30:22 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:30:22 PM	B47895
Calcium	120	0.39	5.0		mg/L	5	12/19/2017 10:05:38 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:30:22 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:30:22 PM	B47895
Iron	ND	0.016	0.020		mg/L	1	12/19/2017 7:30:22 PM	B47895
Magnesium	26	0.25	1.0		mg/L	1	12/19/2017 7:30:22 PM	B47895
Manganese	1.8	0.0020	0.010	*	mg/L	5	12/19/2017 10:05:38 PM	B47895
Potassium	0.51	0.11	1.0	J	mg/L	1	12/19/2017 7:30:22 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:30:22 PM	B47895
Sodium	290	0.82	5.0		mg/L	5	12/19/2017 10:05:38 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:30:22 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.10	0.0010	0.0020		mg/L	1	12/18/2017 7:52:06 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:52:06 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:52:06 PM	35527
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:12:58 PM	35527
Iron	1.7	0.051	0.10	*	mg/L	5	12/18/2017 7:53:42 PM	35527
Manganese	1.9	0.0055	0.010	*	mg/L	5	12/18/2017 7:53:42 PM	35527
Silver	0.0021	0.0012	0.0050	J	mg/L	1	12/18/2017 7:52:06 PM	35527
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:52:06 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/21/2017 8:09:06 PM	B47988
Lead	ND	0.00087	0.0025		mg/L	5	12/20/2017 10:49:10 PM	C47943
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 8:09:06 PM	B47988
Uranium	0.026	0.00048	0.0025		mg/L	5	12/20/2017 10:49:10 PM	C47943

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 9:50:00 AM
Lab ID: 1712100-001
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.00069	0.00041	0.0010	J	mg/L	1	12/15/2017 11:05:55 PM	35527
Lead	0.0019	0.00023	0.00050		mg/L	1	12/15/2017 11:05:55 PM	35527
Selenium	0.0030	0.00098	0.0010		mg/L	1	12/15/2017 11:05:55 PM	35527
Uranium	0.027	0.0015	0.0050		mg/L	10	1/4/2018 9:32:02 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/19/2017 10:04:16 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Acenaphthylene	ND	3.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Aniline	ND	3.1	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Anthracene	ND	3.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Azobenzene	ND	4.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Benzoic acid	ND	3.9	20		µg/L	1	12/8/2017 1:00:51 PM	35305
Benzyl alcohol	ND	4.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/8/2017 1:00:51 PM	35305
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Carbazole	ND	4.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
4-Chloroaniline	ND	3.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2-Chlorophenol	ND	7.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Chrysene	ND	3.8	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Dibenzofuran	ND	4.1	10		µg/L	1	12/8/2017 1:00:51 PM	35305
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/8/2017 1:00:51 PM	35305

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 9:50:00 AM
Lab ID: 1712100-001 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 1:00:51 PM	35305
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Diethyl phthalate	ND	4.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/8/2017 1:00:51 PM	35305
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/8/2017 1:00:51 PM	35305
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/8/2017 1:00:51 PM	35305
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/8/2017 1:00:51 PM	35305
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Fluoranthene	ND	4.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Fluorene	ND	4.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Hexachloroethane	ND	1.2	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Isophorone	ND	4.4	10		µg/L	1	12/8/2017 1:00:51 PM	35305
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2-Methylphenol	ND	3.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/8/2017 1:00:51 PM	35305
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Naphthalene	ND	2.9	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2-Nitroaniline	ND	4.9	10		µg/L	1	12/8/2017 1:00:51 PM	35305
3-Nitroaniline	ND	4.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
4-Nitroaniline	ND	4.0	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Nitrobenzene	ND	3.6	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2-Nitrophenol	ND	5.2	10		µg/L	1	12/8/2017 1:00:51 PM	35305
4-Nitrophenol	ND	5.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Pentachlorophenol	ND	4.9	20		µg/L	1	12/8/2017 1:00:51 PM	35305
Phenanthrene	ND	4.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Phenol	ND	3.1	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Pyrene	ND	4.4	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Pyridine	ND	2.3	10		µg/L	1	12/8/2017 1:00:51 PM	35305
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 1:00:51 PM	35305
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/8/2017 1:00:51 PM	35305

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 9:50:00 AM
Lab ID: 1712100-001 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/8/2017 1:00:51 PM	35305
Surr: 2-Fluorophenol	63.1	0	15-114		%Rec	1	12/8/2017 1:00:51 PM	35305
Surr: Phenol-d5	48.2	0	15-97.9		%Rec	1	12/8/2017 1:00:51 PM	35305
Surr: 2,4,6-Tribromophenol	95.4	0	15-161		%Rec	1	12/8/2017 1:00:51 PM	35305
Surr: Nitrobenzene-d5	90.7	0	29.3-120		%Rec	1	12/8/2017 1:00:51 PM	35305
Surr: 2-Fluorobiphenyl	88.6	0	17.5-116		%Rec	1	12/8/2017 1:00:51 PM	35305
Surr: 4-Terphenyl-d14	46.2	0	21-92.2		%Rec	1	12/8/2017 1:00:51 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1.2	0.062	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Toluene	0.074	0.064	1.0	J	µg/L	1	12/7/2017 2:09:00 PM	R47668
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Methyl tert-butyl ether (MTBE)	1.0	0.24	1.0	J	µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Naphthalene	ND	0.11	2.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Acetone	ND	0.82	10		µg/L	1	12/7/2017 2:09:00 PM	R47668
Bromobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Bromoform	ND	0.21	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Bromomethane	ND	0.26	3.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
2-Butanone	ND	1.1	10		µg/L	1	12/7/2017 2:09:00 PM	R47668
Carbon disulfide	ND	0.40	10		µg/L	1	12/7/2017 2:09:00 PM	R47668
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Chloroethane	ND	0.23	2.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Chloroform	ND	0.40	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Chloromethane	ND	0.29	3.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Dibromomethane	ND	0.091	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 9:50:00 AM
Lab ID: 1712100-001 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
2-Hexanone	ND	0.66	10		µg/L	1	12/7/2017 2:09:00 PM	R47668
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/7/2017 2:09:00 PM	R47668
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Styrene	ND	0.16	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
tert-Butylbenzene	0.16	0.10	1.0	J	µg/L	1	12/7/2017 2:09:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Tetrachloroethene (PCE)	0.19	0.13	1.0	J	µg/L	1	12/7/2017 2:09:00 PM	R47668
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/7/2017 2:09:00 PM	R47668
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/7/2017 2:09:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	109	0	70-130		%Rec	1	12/7/2017 2:09:00 PM	R47668
Surr: 4-Bromofluorobenzene	99.8	0	70-130		%Rec	1	12/7/2017 2:09:00 PM	R47668
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/7/2017 2:09:00 PM	R47668
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	12/7/2017 2:09:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-38
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 9:50:00 AM
Lab ID: 1712100-001 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.026	0.0097	0.050	J	mg/L	1	12/8/2017 3:08:39 PM	R47635
Surr: BFB	101	0	70-130		%Rec	1	12/8/2017 3:08:39 PM	R47635

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 12:30:00 PM
Lab ID: 1712100-002
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	12/12/2017 8:47:20 PM	35426
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	12	0.36	1.0		mg/L	1	12/5/2017 4:19:26 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 4:19:26 PM	35301
Surr: DNOP	112	0	77.5-161		%Rec	1	12/5/2017 4:19:26 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.79	0.22	0.50		mg/L	5	12/5/2017 8:03:28 PM	R47552
Chloride	170	5.0	10		mg/L	20	12/5/2017 8:15:53 PM	R47552
Bromide	1.9	0.073	0.50		mg/L	5	12/5/2017 8:03:28 PM	R47552
Phosphorus, Orthophosphate (As P)	1.6	1.2	2.5	JH	mg/L	5	12/5/2017 8:03:28 PM	R47552
Sulfate	0.51	0.48	2.5	J	mg/L	5	12/5/2017 8:03:28 PM	R47552
Nitrate+Nitrite as N	0.29	0.13	1.0	J	mg/L	5	12/5/2017 11:34:28 PM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	5.7	0.0099	0.020	*	mg/L	10	12/19/2017 10:09:45 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:32:17 PM	B47895
Calcium	110	0.39	5.0		mg/L	5	12/19/2017 10:07:46 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:32:17 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:32:17 PM	B47895
Iron	13	0.33	0.40	*	mg/L	20	12/19/2017 10:11:37 PM	B47895
Magnesium	36	0.25	1.0		mg/L	1	12/19/2017 7:32:17 PM	B47895
Manganese	1.7	0.0020	0.010	*	mg/L	5	12/19/2017 10:07:46 PM	B47895
Potassium	0.77	0.11	1.0	J	mg/L	1	12/19/2017 7:32:17 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:32:17 PM	B47895
Sodium	200	0.82	5.0		mg/L	5	12/19/2017 10:07:46 PM	B47895
Zinc	0.0063	0.0021	0.010	J	mg/L	1	12/19/2017 7:32:17 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	6.6	0.020	0.040	*	mg/L	20	12/18/2017 7:58:29 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:55:29 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:55:29 PM	35527
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:14:46 PM	35527
Iron	17	0.20	0.40	*	mg/L	20	12/18/2017 7:58:29 PM	35527
Manganese	1.7	0.0055	0.010	*	mg/L	5	12/18/2017 7:56:59 PM	35527
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 7:55:29 PM	35527
Zinc	0.052	0.0033	0.010		mg/L	1	12/18/2017 7:55:29 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.011	0.0021	0.0050	*	mg/L	5	12/21/2017 8:14:01 PM	B47988
Lead	0.0020	0.00017	0.00050		mg/L	1	12/20/2017 2:02:02 AM	C47906

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 12:30:00 PM
Lab ID: 1712100-002 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 8:14:01 PM	B47988
Uranium	0.00047	0.000096	0.00050	J	mg/L	1	12/20/2017 2:02:02 AM	C47906
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0097	0.00041	0.0010		mg/L	1	12/15/2017 11:10:50 PM	35527
Lead	0.0055	0.00023	0.00050		mg/L	1	12/15/2017 11:10:50 PM	35527
Selenium	ND	0.0098	0.010		mg/L	10	1/4/2018 9:36:56 PM	35527
Uranium	ND	0.0015	0.0050		mg/L	10	1/4/2018 9:36:56 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/19/2017 10:06:14 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	36	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Acenaphthylene	ND	35	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Aniline	ND	31	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Anthracene	ND	35	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Azobenzene	ND	45	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Benz(a)anthracene	ND	39	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Benzo(a)pyrene	ND	40	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Benzo(b)fluoranthene	ND	40	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Benzo(g,h,i)perylene	ND	40	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Benzo(k)fluoranthene	ND	44	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Benzoic acid	ND	39	200	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Benzyl alcohol	ND	46	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Bis(2-chloroethoxy)methane	ND	43	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Bis(2-chloroethyl)ether	ND	43	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Bis(2-chloroisopropyl)ether	ND	39	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Bis(2-ethylhexyl)phthalate	ND	48	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
4-Bromophenyl phenyl ether	ND	46	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Butyl benzyl phthalate	ND	46	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Carbazole	ND	46	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
4-Chloro-3-methylphenol	ND	63	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
4-Chloroaniline	ND	35	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2-Chloronaphthalene	ND	37	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2-Chlorophenol	ND	75	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
4-Chlorophenyl phenyl ether	ND	36	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Chrysene	ND	38	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Di-n-butyl phthalate	ND	50	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Di-n-octyl phthalate	ND	47	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Dibenz(a,h)anthracene	ND	46	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 12:30:00 PM
Lab ID: 1712100-002 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	41	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
1,2-Dichlorobenzene	ND	20	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
1,3-Dichlorobenzene	ND	18	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
1,4-Dichlorobenzene	ND	21	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
3,3´-Dichlorobenzidine	ND	39	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Diethyl phthalate	ND	40	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Dimethyl phthalate	ND	36	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2,4-Dichlorophenol	ND	57	200	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2,4-Dimethylphenol	ND	28	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
4,6-Dinitro-2-methylphenol	ND	39	200	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2,4-Dinitrophenol	ND	26	200	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2,4-Dinitrotoluene	ND	40	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2,6-Dinitrotoluene	ND	45	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Fluoranthene	ND	43	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Fluorene	ND	40	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Hexachlorobenzene	ND	38	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Hexachlorobutadiene	ND	13	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Hexachlorocyclopentadiene	ND	13	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Hexachloroethane	ND	12	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Indeno(1,2,3-cd)pyrene	ND	42	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Isophorone	ND	44	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
1-Methylnaphthalene	290	33	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2-Methylnaphthalene	440	33	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2-Methylphenol	ND	33	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
3+4-Methylphenol	ND	32	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
N-Nitrosodi-n-propylamine	ND	46	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
N-Nitrosodimethylamine	ND	35	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
N-Nitrosodiphenylamine	ND	39	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Naphthalene	420	29	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2-Nitroaniline	ND	49	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
3-Nitroaniline	ND	43	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
4-Nitroaniline	ND	40	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Nitrobenzene	ND	36	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2-Nitrophenol	ND	52	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
4-Nitrophenol	ND	55	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Pentachlorophenol	ND	49	200	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Phenanthrene	ND	43	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Phenol	62	31	100	JD	µg/L	1	12/8/2017 2:23:54 PM	35305
Pyrene	ND	44	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 12:30:00 PM
Lab ID: 1712100-002 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	23	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
1,2,4-Trichlorobenzene	ND	21	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2,4,5-Trichlorophenol	ND	51	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
2,4,6-Trichlorophenol	ND	55	100	D	µg/L	1	12/8/2017 2:23:54 PM	35305
Surr: 2-Fluorophenol	55.2	0	15-114	D	%Rec	1	12/8/2017 2:23:54 PM	35305
Surr: Phenol-d5	43.9	0	15-97.9	D	%Rec	1	12/8/2017 2:23:54 PM	35305
Surr: 2,4,6-Tribromophenol	80.8	0	15-161	D	%Rec	1	12/8/2017 2:23:54 PM	35305
Surr: Nitrobenzene-d5	74.4	0	29.3-120	D	%Rec	1	12/8/2017 2:23:54 PM	35305
Surr: 2-Fluorobiphenyl	66.9	0	17.5-116	D	%Rec	1	12/8/2017 2:23:54 PM	35305
Surr: 4-Terphenyl-d14	39.5	0	21-92.2	D	%Rec	1	12/8/2017 2:23:54 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	9500	31	500		µg/L	500	12/7/2017 3:19:00 PM	R47668
Toluene	30	3.2	50	J	µg/L	50	12/7/2017 3:42:00 PM	R47668
Ethylbenzene	1700	4.7	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Methyl tert-butyl ether (MTBE)	2900	12	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2,4-Trimethylbenzene	64	5.6	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,3,5-Trimethylbenzene	14	4.4	50	J	µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	20	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	6.5	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Naphthalene	690	5.7	100		µg/L	50	12/7/2017 3:42:00 PM	R47668
1-Methylnaphthalene	440	8.0	200		µg/L	50	12/7/2017 3:42:00 PM	R47668
2-Methylnaphthalene	550	7.6	200		µg/L	50	12/7/2017 3:42:00 PM	R47668
Acetone	ND	41	500		µg/L	50	12/7/2017 3:42:00 PM	R47668
Bromobenzene	ND	7.0	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Bromodichloromethane	ND	8.8	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Bromoform	ND	11	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Bromomethane	ND	13	150		µg/L	50	12/7/2017 3:42:00 PM	R47668
2-Butanone	ND	57	500		µg/L	50	12/7/2017 3:42:00 PM	R47668
Carbon disulfide	ND	20	500		µg/L	50	12/7/2017 3:42:00 PM	R47668
Carbon Tetrachloride	ND	5.5	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Chlorobenzene	ND	5.3	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Chloroethane	ND	12	100		µg/L	50	12/7/2017 3:42:00 PM	R47668
Chloroform	ND	20	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Chloromethane	ND	15	150		µg/L	50	12/7/2017 3:42:00 PM	R47668
2-Chlorotoluene	ND	20	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
4-Chlorotoluene	ND	20	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
cis-1,2-DCE	ND	10	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
cis-1,3-Dichloropropene	ND	4.1	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	69	100		µg/L	50	12/7/2017 3:42:00 PM	R47668

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 12:30:00 PM
Lab ID: 1712100-002
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	3.6	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Dibromomethane	ND	4.5	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2-Dichlorobenzene	ND	4.5	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,3-Dichlorobenzene	ND	7.6	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,4-Dichlorobenzene	ND	20	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Dichlorodifluoromethane	ND	50	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,1-Dichloroethane	ND	20	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,1-Dichloroethene	ND	4.0	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2-Dichloropropane	ND	5.1	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,3-Dichloropropane	ND	8.4	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
2,2-Dichloropropane	ND	7.9	100		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,1-Dichloropropene	ND	4.6	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Hexachlorobutadiene	ND	40	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
2-Hexanone	ND	33	500		µg/L	50	12/7/2017 3:42:00 PM	R47668
Isopropylbenzene	40	2.6	50	J	µg/L	50	12/7/2017 3:42:00 PM	R47668
4-Isopropyltoluene	ND	4.8	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
4-Methyl-2-pentanone	ND	35	500		µg/L	50	12/7/2017 3:42:00 PM	R47668
Methylene Chloride	ND	5.4	150		µg/L	50	12/7/2017 3:42:00 PM	R47668
n-Butylbenzene	18	6.5	150	J	µg/L	50	12/7/2017 3:42:00 PM	R47668
n-Propylbenzene	83	3.7	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
sec-Butylbenzene	11	5.5	50	J	µg/L	50	12/7/2017 3:42:00 PM	R47668
Styrene	ND	7.8	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
tert-Butylbenzene	ND	5.2	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	5.2	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	6.8	100		µg/L	50	12/7/2017 3:42:00 PM	R47668
Tetrachloroethene (PCE)	ND	6.5	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
trans-1,2-DCE	ND	9.2	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
trans-1,3-Dichloropropene	ND	11	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2,3-Trichlorobenzene	ND	5.9	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2,4-Trichlorobenzene	ND	7.1	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,1,1-Trichloroethane	ND	3.6	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,1,2-Trichloroethane	ND	7.0	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Trichloroethene (TCE)	ND	5.6	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Trichlorofluoromethane	ND	9.1	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
1,2,3-Trichloropropane	ND	19	100		µg/L	50	12/7/2017 3:42:00 PM	R47668
Vinyl chloride	ND	8.9	50		µg/L	50	12/7/2017 3:42:00 PM	R47668
Xylenes, Total	220	16	75		µg/L	50	12/7/2017 3:42:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	50	12/7/2017 3:42:00 PM	R47668
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	50	12/7/2017 3:42:00 PM	R47668

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-36
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 12:30:00 PM
Lab ID: 1712100-002 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	102	0	70-130		%Rec	50	12/7/2017 3:42:00 PM	R47668
Surr: Toluene-d8	98.6	0	70-130		%Rec	50	12/7/2017 3:42:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	31	0.48	2.5		mg/L	50	12/8/2017 3:31:42 PM	R47635
Surr: BFB	101	0	70-130		%Rec	50	12/8/2017 3:31:42 PM	R47635

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 1:45:00 PM
Lab ID: 1712100-003 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	12/12/2017 9:32:44 PM	35426
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.92	0.36	1.0	J	mg/L	1	12/5/2017 4:41:29 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 4:41:29 PM	35301
Surr: DNOP	114	0	77.5-161		%Rec	1	12/5/2017 4:41:29 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.90	0.22	0.50		mg/L	5	12/5/2017 8:28:17 PM	R47552
Chloride	190	5.0	10		mg/L	20	12/5/2017 8:40:42 PM	R47552
Bromide	2.6	0.073	0.50		mg/L	5	12/5/2017 8:28:17 PM	R47552
Phosphorus, Orthophosphate (As P)	1.4	1.2	2.5	JH	mg/L	5	12/5/2017 8:28:17 PM	R47552
Sulfate	34	0.48	2.5		mg/L	5	12/5/2017 8:28:17 PM	R47552
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/5/2017 11:46:52 PM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.29	0.00099	0.0020		mg/L	1	12/19/2017 7:34:05 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:34:05 PM	B47895
Calcium	130	0.39	5.0		mg/L	5	12/19/2017 10:19:24 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:34:05 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:34:05 PM	B47895
Iron	2.9	0.082	0.10	*	mg/L	5	12/19/2017 10:19:24 PM	B47895
Magnesium	40	0.25	1.0		mg/L	1	12/19/2017 7:34:05 PM	B47895
Manganese	3.1	0.0020	0.010	*	mg/L	5	12/19/2017 10:19:24 PM	B47895
Potassium	0.50	0.11	1.0	J	mg/L	1	12/19/2017 7:34:05 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:34:05 PM	B47895
Sodium	170	0.82	5.0		mg/L	5	12/19/2017 10:19:24 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:34:05 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.6	0.010	0.020		mg/L	10	12/18/2017 8:01:32 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 7:59:57 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 7:59:57 PM	35527
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:16:33 PM	35527
Iron	6.9	0.10	0.20	*	mg/L	10	12/18/2017 8:01:32 PM	35527
Manganese	3.6	0.011	0.020	*	mg/L	10	12/18/2017 8:01:32 PM	35527
Silver	0.0018	0.0012	0.0050	J	mg/L	1	12/18/2017 7:59:57 PM	35527
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 7:59:57 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/21/2017 8:18:55 PM	B47988
Lead	ND	0.00017	0.00050		mg/L	1	12/20/2017 2:08:34 AM	C47906

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 1:45:00 PM
Lab ID: 1712100-003
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 8:18:55 PM	B47988
Uranium	0.0024	0.000096	0.00050		mg/L	1	12/20/2017 2:08:34 AM	C47906
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.00075	0.00041	0.0010	J	mg/L	1	12/15/2017 11:15:45 PM	35527
Lead	0.0050	0.00023	0.00050		mg/L	1	12/15/2017 11:15:45 PM	35527
Selenium	ND	0.0049	0.0050		mg/L	5	1/4/2018 9:41:51 PM	35527
Uranium	0.0028	0.00077	0.0025		mg/L	5	1/4/2018 9:41:51 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000040	0.000037	0.00020	J	mg/L	1	12/19/2017 10:08:12 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Acenaphthylene	ND	3.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Aniline	ND	3.1	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Anthracene	ND	3.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Azobenzene	ND	4.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Benzoic acid	8.3	3.9	20	J	µg/L	1	12/8/2017 2:51:31 PM	35305
Benzyl alcohol	ND	4.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Bis(2-ethylhexyl)phthalate	11	4.8	10		µg/L	1	12/8/2017 2:51:31 PM	35305
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Carbazole	ND	4.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
4-Chloroaniline	ND	3.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2-Chlorophenol	ND	7.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Chrysene	ND	3.8	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 1:45:00 PM
Lab ID: 1712100-003 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	12/8/2017 2:51:31 PM	35305
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/8/2017 2:51:31 PM	35305
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 2:51:31 PM	35305
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Diethyl phthalate	ND	4.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/8/2017 2:51:31 PM	35305
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/8/2017 2:51:31 PM	35305
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/8/2017 2:51:31 PM	35305
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/8/2017 2:51:31 PM	35305
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Fluoranthene	ND	4.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Fluorene	ND	4.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Hexachloroethane	ND	1.2	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Isophorone	ND	4.4	10		µg/L	1	12/8/2017 2:51:31 PM	35305
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2-Methylphenol	ND	3.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/8/2017 2:51:31 PM	35305
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Naphthalene	ND	2.9	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2-Nitroaniline	ND	4.9	10		µg/L	1	12/8/2017 2:51:31 PM	35305
3-Nitroaniline	ND	4.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
4-Nitroaniline	ND	4.0	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Nitrobenzene	ND	3.6	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2-Nitrophenol	ND	5.2	10		µg/L	1	12/8/2017 2:51:31 PM	35305
4-Nitrophenol	ND	5.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Pentachlorophenol	ND	4.9	20		µg/L	1	12/8/2017 2:51:31 PM	35305
Phenanthrene	ND	4.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Phenol	ND	3.1	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Pyrene	ND	4.4	10		µg/L	1	12/8/2017 2:51:31 PM	35305

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 1:45:00 PM
Lab ID: 1712100-003 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	12/8/2017 2:51:31 PM	35305
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/8/2017 2:51:31 PM	35305
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/8/2017 2:51:31 PM	35305
Surr: 2-Fluorophenol	56.4	0	15-114		%Rec	1	12/8/2017 2:51:31 PM	35305
Surr: Phenol-d5	43.7	0	15-97.9		%Rec	1	12/8/2017 2:51:31 PM	35305
Surr: 2,4,6-Tribromophenol	90.8	0	15-161		%Rec	1	12/8/2017 2:51:31 PM	35305
Surr: Nitrobenzene-d5	85.5	0	29.3-120		%Rec	1	12/8/2017 2:51:31 PM	35305
Surr: 2-Fluorobiphenyl	77.2	0	17.5-116		%Rec	1	12/8/2017 2:51:31 PM	35305
Surr: 4-Terphenyl-d14	42.6	0	21-92.2		%Rec	1	12/8/2017 2:51:31 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1.5	0.062	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Toluene	0.10	0.064	1.0	J	µg/L	1	12/7/2017 4:06:00 PM	R47668
Ethylbenzene	0.29	0.093	1.0	J	µg/L	1	12/7/2017 4:06:00 PM	R47668
Methyl tert-butyl ether (MTBE)	110	0.24	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Naphthalene	ND	0.11	2.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Acetone	ND	0.82	10		µg/L	1	12/7/2017 4:06:00 PM	R47668
Bromobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Bromoform	ND	0.21	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Bromomethane	ND	0.26	3.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
2-Butanone	ND	1.1	10		µg/L	1	12/7/2017 4:06:00 PM	R47668
Carbon disulfide	ND	0.40	10		µg/L	1	12/7/2017 4:06:00 PM	R47668
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Chlorobenzene	0.52	0.11	1.0	J	µg/L	1	12/7/2017 4:06:00 PM	R47668
Chloroethane	ND	0.23	2.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Chloroform	ND	0.40	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Chloromethane	ND	0.29	3.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/7/2017 4:06:00 PM	R47668

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 1:45:00 PM
Lab ID: 1712100-003 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Dibromomethane	ND	0.091	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,4-Dichlorobenzene	3.8	0.40	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,1-Dichloroethane	0.86	0.40	1.0	J	µg/L	1	12/7/2017 4:06:00 PM	R47668
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
2-Hexanone	ND	0.66	10		µg/L	1	12/7/2017 4:06:00 PM	R47668
Isopropylbenzene	0.48	0.051	1.0	J	µg/L	1	12/7/2017 4:06:00 PM	R47668
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/7/2017 4:06:00 PM	R47668
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
n-Propylbenzene	0.26	0.074	1.0	J	µg/L	1	12/7/2017 4:06:00 PM	R47668
sec-Butylbenzene	1.5	0.11	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Styrene	ND	0.16	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
tert-Butylbenzene	0.24	0.10	1.0	J	µg/L	1	12/7/2017 4:06:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/7/2017 4:06:00 PM	R47668
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/7/2017 4:06:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	110	0	70-130		%Rec	1	12/7/2017 4:06:00 PM	R47668
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	12/7/2017 4:06:00 PM	R47668

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-35
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017 1:45:00 PM
Lab ID: 1712100-003 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/7/2017 4:06:00 PM	R47668
Surr: Toluene-d8	99.8	0	70-130		%Rec	1	12/7/2017 4:06:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.47	0.0097	0.050		mg/L	1	12/8/2017 3:54:40 PM	R47635
Surr: BFB	107	0	70-130		%Rec	1	12/8/2017 3:54:40 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP06
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017
Lab ID: 1712100-004
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	12/12/2017 10:02:52 PM	35426
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.91	0.36	1.0	J	mg/L	1	12/5/2017 5:06:42 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 5:06:42 PM	35301
Surr: DNOP	113	0	77.5-161		%Rec	1	12/5/2017 5:06:42 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.93	0.22	0.50		mg/L	5	12/5/2017 8:53:06 PM	R47552
Chloride	200	5.0	10		mg/L	20	12/5/2017 9:05:30 PM	R47552
Bromide	3.0	0.073	0.50		mg/L	5	12/5/2017 8:53:06 PM	R47552
Phosphorus, Orthophosphate (As P)	1.5	1.2	2.5	JH	mg/L	5	12/5/2017 8:53:06 PM	R47552
Sulfate	35	0.48	2.5		mg/L	5	12/5/2017 8:53:06 PM	R47552
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/6/2017 12:36:29 AM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.30	0.00099	0.0020		mg/L	1	12/19/2017 7:35:54 PM	B47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:35:54 PM	B47895
Calcium	140	0.39	5.0		mg/L	5	12/19/2017 10:21:34 PM	B47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:35:54 PM	B47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:35:54 PM	B47895
Iron	3.0	0.082	0.10	*	mg/L	5	12/19/2017 10:21:34 PM	B47895
Magnesium	40	0.25	1.0		mg/L	1	12/19/2017 7:35:54 PM	B47895
Manganese	3.1	0.0020	0.010	*	mg/L	5	12/19/2017 10:21:34 PM	B47895
Potassium	0.49	0.11	1.0	J	mg/L	1	12/19/2017 7:35:54 PM	B47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:35:54 PM	B47895
Sodium	170	0.82	5.0		mg/L	5	12/19/2017 10:21:34 PM	B47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:35:54 PM	B47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.4	0.0050	0.010		mg/L	5	12/18/2017 8:11:37 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 8:10:02 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 8:10:02 PM	35527
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:28:01 PM	35527
Iron	6.1	0.10	0.20	*	mg/L	10	12/18/2017 8:13:10 PM	35527
Manganese	3.2	0.0055	0.010	*	mg/L	5	12/18/2017 8:11:37 PM	35527
Silver	0.0017	0.0012	0.0050	J	mg/L	1	12/18/2017 8:10:02 PM	35527
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 8:10:02 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/21/2017 8:28:46 PM	B47988
Lead	0.00018	0.00017	0.00050	J	mg/L	1	12/20/2017 2:28:20 AM	C47906

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Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 8:28:46 PM	B47988
Uranium	0.0024	0.000096	0.00050		mg/L	1	12/20/2017 2:28:20 AM	C47906
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.00098	0.00041	0.0010	J	mg/L	1	12/15/2017 11:20:40 PM	35527
Lead	0.0046	0.00023	0.00050		mg/L	1	12/15/2017 11:20:40 PM	35527
Selenium	ND	0.0049	0.0050		mg/L	5	1/4/2018 9:46:46 PM	35527
Uranium	0.0028	0.00077	0.0025		mg/L	5	1/4/2018 9:46:46 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/19/2017 10:14:13 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Acenaphthylene	ND	3.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Aniline	ND	3.1	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Anthracene	ND	3.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Azobenzene	ND	4.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Benzoic acid	7.3	3.9	20	J	µg/L	1	12/8/2017 3:19:14 PM	35305
Benzyl alcohol	ND	4.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/8/2017 3:19:14 PM	35305
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Carbazole	ND	4.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
4-Chloroaniline	ND	3.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2-Chlorophenol	ND	7.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Chrysene	ND	3.8	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305

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Lab ID: 1712100-004
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Dibenzofuran	ND	4.1	10		µg/L	1	12/8/2017 3:19:14 PM	35305
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/8/2017 3:19:14 PM	35305
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 3:19:14 PM	35305
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Diethyl phthalate	ND	4.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/8/2017 3:19:14 PM	35305
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/8/2017 3:19:14 PM	35305
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/8/2017 3:19:14 PM	35305
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/8/2017 3:19:14 PM	35305
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Fluoranthene	ND	4.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Fluorene	ND	4.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Hexachloroethane	ND	1.2	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Isophorone	ND	4.4	10		µg/L	1	12/8/2017 3:19:14 PM	35305
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2-Methylphenol	ND	3.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/8/2017 3:19:14 PM	35305
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Naphthalene	ND	2.9	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2-Nitroaniline	ND	4.9	10		µg/L	1	12/8/2017 3:19:14 PM	35305
3-Nitroaniline	ND	4.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
4-Nitroaniline	ND	4.0	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Nitrobenzene	ND	3.6	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2-Nitrophenol	ND	5.2	10		µg/L	1	12/8/2017 3:19:14 PM	35305
4-Nitrophenol	ND	5.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Pentachlorophenol	ND	4.9	20		µg/L	1	12/8/2017 3:19:14 PM	35305
Phenanthrene	ND	4.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Phenol	ND	3.1	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Pyrene	ND	4.4	10		µg/L	1	12/8/2017 3:19:14 PM	35305

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Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017
Lab ID: 1712100-004
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Pyridine	ND	2.3	10		µg/L	1	12/8/2017 3:19:14 PM	35305
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/8/2017 3:19:14 PM	35305
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/8/2017 3:19:14 PM	35305
Surr: 2-Fluorophenol	56.3	0	15-114		%Rec	1	12/8/2017 3:19:14 PM	35305
Surr: Phenol-d5	43.8	0	15-97.9		%Rec	1	12/8/2017 3:19:14 PM	35305
Surr: 2,4,6-Tribromophenol	85.7	0	15-161		%Rec	1	12/8/2017 3:19:14 PM	35305
Surr: Nitrobenzene-d5	79.9	0	29.3-120		%Rec	1	12/8/2017 3:19:14 PM	35305
Surr: 2-Fluorobiphenyl	71.8	0	17.5-116		%Rec	1	12/8/2017 3:19:14 PM	35305
Surr: 4-Terphenyl-d14	40.5	0	21-92.2		%Rec	1	12/8/2017 3:19:14 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.81	0.062	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
Toluene	0.070	0.064	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
Ethylbenzene	0.14	0.093	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
Methyl tert-butyl ether (MTBE)	110	0.24	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Naphthalene	ND	0.11	2.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Acetone	ND	0.82	10		µg/L	1	12/7/2017 4:29:00 PM	R47668
Bromobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Bromoform	ND	0.21	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Bromomethane	ND	0.26	3.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
2-Butanone	ND	1.1	10		µg/L	1	12/7/2017 4:29:00 PM	R47668
Carbon disulfide	ND	0.40	10		µg/L	1	12/7/2017 4:29:00 PM	R47668
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Chlorobenzene	0.32	0.11	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
Chloroethane	ND	0.23	2.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Chloroform	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Chloromethane	ND	0.29	3.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/7/2017 4:29:00 PM	R47668

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Dibromomethane	ND	0.091	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,4-Dichlorobenzene	3.5	0.40	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,1-Dichloroethane	0.86	0.40	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
2-Hexanone	ND	0.66	10		µg/L	1	12/7/2017 4:29:00 PM	R47668
Isopropylbenzene	0.26	0.051	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/7/2017 4:29:00 PM	R47668
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
n-Propylbenzene	0.14	0.074	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
sec-Butylbenzene	0.55	0.11	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
Styrene	ND	0.16	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
tert-Butylbenzene	0.21	0.10	1.0	J	µg/L	1	12/7/2017 4:29:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/7/2017 4:29:00 PM	R47668
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/7/2017 4:29:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	12/7/2017 4:29:00 PM	R47668
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	12/7/2017 4:29:00 PM	R47668

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP06
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 11/30/2017
Lab ID: 1712100-004
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/7/2017 4:29:00 PM	R47668
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	12/7/2017 4:29:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.45	0.0097	0.050		mg/L	1	12/8/2017 4:17:35 PM	R47635
Surr: BFB	101	0	70-130		%Rec	1	12/8/2017 4:17:35 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 12:15:00 PM
Lab ID: 1712100-005 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/5/2017 5:28:56 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 5:28:56 PM	35301
Surr: DNOP	112	0	77.5-161		%Rec	1	12/5/2017 5:28:56 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.54	0.22	0.50		mg/L	5	12/5/2017 9:17:55 PM	R47552
Chloride	270	5.0	10		mg/L	20	12/5/2017 9:30:20 PM	R47552
Bromide	1.5	0.073	0.50		mg/L	5	12/5/2017 9:17:55 PM	R47552
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/5/2017 9:17:55 PM	R47552
Sulfate	230	1.9	10		mg/L	20	12/5/2017 9:30:20 PM	R47552
Nitrate+Nitrite as N	8.0	0.13	1.0		mg/L	5	12/6/2017 12:48:54 AM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.063	0.00099	0.0020		mg/L	1	12/19/2017 7:37:43 PM	C47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:37:43 PM	C47895
Calcium	61	0.078	1.0		mg/L	1	12/19/2017 7:37:43 PM	C47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:37:43 PM	C47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:37:43 PM	C47895
Iron	ND	0.016	0.020		mg/L	1	12/19/2017 7:37:43 PM	C47895
Magnesium	15	0.25	1.0		mg/L	1	12/19/2017 7:37:43 PM	C47895
Manganese	ND	0.00039	0.0020		mg/L	1	12/19/2017 7:37:43 PM	C47895
Potassium	1.3	0.11	1.0		mg/L	1	12/19/2017 7:37:43 PM	C47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:37:43 PM	C47895
Sodium	390	0.82	5.0		mg/L	5	12/19/2017 10:23:47 PM	C47895
Zinc	0.0082	0.0021	0.010	J	mg/L	1	12/19/2017 7:37:43 PM	C47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.093	0.0010	0.0020		mg/L	1	12/18/2017 8:14:54 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 8:14:54 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 8:14:54 PM	35527
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:29:48 PM	35527
Iron	2.2	0.051	0.10	*	mg/L	5	12/18/2017 8:16:27 PM	35527
Manganese	0.039	0.0011	0.0020		mg/L	1	12/18/2017 8:14:54 PM	35527
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 8:14:54 PM	35527
Zinc	0.012	0.0033	0.010		mg/L	1	12/18/2017 8:14:54 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/21/2017 8:58:20 PM	B47988
Lead	ND	0.00087	0.0025		mg/L	5	12/21/2017 8:58:20 PM	B47988
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 8:58:20 PM	B47988
Uranium	0.036	0.00048	0.0025	*	mg/L	5	12/20/2017 11:08:45 PM	C47943

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 12:15:00 PM
Lab ID: 1712100-005
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0016	0.00041	0.0010		mg/L	1	12/15/2017 11:25:35 PM	35527
Lead	0.0022	0.00023	0.00050		mg/L	1	12/15/2017 11:25:35 PM	35527
Selenium	0.0063	0.0049	0.0050		mg/L	5	1/4/2018 9:51:41 PM	35527
Uranium	0.038	0.00077	0.0025	*	mg/L	5	1/4/2018 9:51:41 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000041	0.000037	0.00020	J	mg/L	1	12/19/2017 10:16:12 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Acenaphthylene	ND	3.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Aniline	ND	3.1	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Anthracene	ND	3.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Azobenzene	ND	4.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Benzoic acid	6.5	3.9	20	J	µg/L	1	12/8/2017 3:46:56 PM	35305
Benzyl alcohol	ND	4.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/8/2017 3:46:56 PM	35305
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Carbazole	ND	4.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
4-Chloroaniline	ND	3.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2-Chlorophenol	ND	7.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Chrysene	ND	3.8	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Dibenzofuran	ND	4.1	10		µg/L	1	12/8/2017 3:46:56 PM	35305
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/8/2017 3:46:56 PM	35305

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 12:15:00 PM
Lab ID: 1712100-005 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 3:46:56 PM	35305
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Diethyl phthalate	ND	4.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/8/2017 3:46:56 PM	35305
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/8/2017 3:46:56 PM	35305
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/8/2017 3:46:56 PM	35305
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/8/2017 3:46:56 PM	35305
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Fluoranthene	ND	4.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Fluorene	ND	4.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Hexachloroethane	ND	1.2	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Isophorone	ND	4.4	10		µg/L	1	12/8/2017 3:46:56 PM	35305
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2-Methylphenol	ND	3.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/8/2017 3:46:56 PM	35305
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Naphthalene	ND	2.9	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2-Nitroaniline	ND	4.9	10		µg/L	1	12/8/2017 3:46:56 PM	35305
3-Nitroaniline	ND	4.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
4-Nitroaniline	ND	4.0	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Nitrobenzene	ND	3.6	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2-Nitrophenol	ND	5.2	10		µg/L	1	12/8/2017 3:46:56 PM	35305
4-Nitrophenol	ND	5.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Pentachlorophenol	ND	4.9	20		µg/L	1	12/8/2017 3:46:56 PM	35305
Phenanthrene	ND	4.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Phenol	ND	3.1	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Pyrene	ND	4.4	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Pyridine	ND	2.3	10		µg/L	1	12/8/2017 3:46:56 PM	35305
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 3:46:56 PM	35305
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/8/2017 3:46:56 PM	35305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 12:15:00 PM
Lab ID: 1712100-005 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/8/2017 3:46:56 PM	35305
Surr: 2-Fluorophenol	59.2	0	15-114		%Rec	1	12/8/2017 3:46:56 PM	35305
Surr: Phenol-d5	45.6	0	15-97.9		%Rec	1	12/8/2017 3:46:56 PM	35305
Surr: 2,4,6-Tribromophenol	88.3	0	15-161		%Rec	1	12/8/2017 3:46:56 PM	35305
Surr: Nitrobenzene-d5	81.1	0	29.3-120		%Rec	1	12/8/2017 3:46:56 PM	35305
Surr: 2-Fluorobiphenyl	75.6	0	17.5-116		%Rec	1	12/8/2017 3:46:56 PM	35305
Surr: 4-Terphenyl-d14	44.6	0	21-92.2		%Rec	1	12/8/2017 3:46:56 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	0.096	0.062	1.0	J	µg/L	1	12/7/2017 4:53:00 PM	R47668
Toluene	ND	0.064	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Methyl tert-butyl ether (MTBE)	0.75	0.24	1.0	J	µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Naphthalene	ND	0.11	2.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Acetone	ND	0.82	10		µg/L	1	12/7/2017 4:53:00 PM	R47668
Bromobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Bromoform	ND	0.21	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Bromomethane	ND	0.26	3.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
2-Butanone	ND	1.1	10		µg/L	1	12/7/2017 4:53:00 PM	R47668
Carbon disulfide	ND	0.40	10		µg/L	1	12/7/2017 4:53:00 PM	R47668
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Chloroethane	ND	0.23	2.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Chloroform	ND	0.40	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Chloromethane	ND	0.29	3.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Dibromomethane	ND	0.091	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 12:15:00 PM
Lab ID: 1712100-005 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,1-Dichloroethene	1.2	0.081	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
2-Hexanone	ND	0.66	10		µg/L	1	12/7/2017 4:53:00 PM	R47668
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/7/2017 4:53:00 PM	R47668
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Styrene	ND	0.16	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Tetrachloroethene (PCE)	0.14	0.13	1.0	J	µg/L	1	12/7/2017 4:53:00 PM	R47668
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Trichloroethene (TCE)	2.6	0.11	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/7/2017 4:53:00 PM	R47668
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/7/2017 4:53:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	12/7/2017 4:53:00 PM	R47668
Surr: 4-Bromofluorobenzene	99.2	0	70-130		%Rec	1	12/7/2017 4:53:00 PM	R47668
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/7/2017 4:53:00 PM	R47668
Surr: Toluene-d8	98.2	0	70-130		%Rec	1	12/7/2017 4:53:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-34
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 12:15:00 PM
Lab ID: 1712100-005
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.027	0.0097	0.050	J	mg/L	1	12/8/2017 4:40:32 PM	R47635
Surr: BFB	100	0	70-130		%Rec	1	12/8/2017 4:40:32 PM	R47635

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:10:00 PM
Lab ID: 1712100-006
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.1	0.36	1.0		mg/L	1	12/5/2017 5:50:49 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 5:50:49 PM	35301
Surr: DNOP	117	0	77.5-161		%Rec	1	12/5/2017 5:50:49 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.91	0.22	0.50		mg/L	5	12/5/2017 10:07:34 PM	R47552
Chloride	92	1.2	2.5		mg/L	5	12/5/2017 10:07:34 PM	R47552
Bromide	1.3	0.073	0.50		mg/L	5	12/5/2017 10:07:34 PM	R47552
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/5/2017 10:07:34 PM	R47552
Sulfate	97	0.48	2.5		mg/L	5	12/5/2017 10:07:34 PM	R47552
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/6/2017 1:01:19 AM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.42	0.00099	0.0020		mg/L	1	12/19/2017 7:39:40 PM	C47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:39:40 PM	C47895
Calcium	92	0.078	1.0		mg/L	1	12/19/2017 7:39:40 PM	C47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:39:40 PM	C47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:39:40 PM	C47895
Iron	0.14	0.016	0.020		mg/L	1	12/19/2017 7:39:40 PM	C47895
Magnesium	18	0.25	1.0		mg/L	1	12/19/2017 7:39:40 PM	C47895
Manganese	2.2	0.0020	0.010	*	mg/L	5	12/19/2017 10:25:55 PM	C47895
Potassium	0.70	0.11	1.0	J	mg/L	1	12/19/2017 7:39:40 PM	C47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:39:40 PM	C47895
Sodium	240	0.82	5.0		mg/L	5	12/19/2017 10:25:55 PM	C47895
Zinc	0.0032	0.0021	0.010	J	mg/L	1	12/19/2017 7:39:40 PM	C47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.62	0.0010	0.0020		mg/L	1	12/18/2017 8:18:13 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 8:18:13 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 8:18:13 PM	35527
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:31:38 PM	35527
Iron	1.9	0.051	0.10	*	mg/L	5	12/18/2017 8:19:47 PM	35527
Manganese	2.3	0.0055	0.010	*	mg/L	5	12/18/2017 8:19:47 PM	35527
Silver	0.0013	0.0012	0.0050	J	mg/L	1	12/18/2017 8:18:13 PM	35527
Zinc	ND	0.0033	0.010		mg/L	1	12/18/2017 8:18:13 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.0021	0.0050	J	mg/L	5	12/21/2017 9:03:15 PM	B47988
Lead	ND	0.00017	0.00050		mg/L	1	12/20/2017 2:41:26 AM	C47906
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 9:03:15 PM	B47988
Uranium	0.0062	0.000096	0.00050		mg/L	1	12/20/2017 2:41:26 AM	C47906

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:10:00 PM
Lab ID: 1712100-006
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0041	0.00041	0.0010		mg/L	1	12/15/2017 11:30:29 PM	35527
Lead	0.00065	0.00023	0.00050		mg/L	1	12/15/2017 11:30:29 PM	35527
Selenium	ND	0.0098	0.010		mg/L	10	1/4/2018 9:56:36 PM	35527
Uranium	0.0046	0.0015	0.0050	J	mg/L	10	1/4/2018 9:56:36 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/19/2017 10:18:11 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Acenaphthylene	ND	3.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Aniline	ND	3.1	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Anthracene	ND	3.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Azobenzene	ND	4.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Benzoic acid	ND	3.9	20		µg/L	1	12/8/2017 4:14:40 PM	35305
Benzyl alcohol	ND	4.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/8/2017 4:14:40 PM	35305
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Carbazole	ND	4.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
4-Chloroaniline	ND	3.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2-Chlorophenol	ND	7.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Chrysene	ND	3.8	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Dibenzofuran	ND	4.1	10		µg/L	1	12/8/2017 4:14:40 PM	35305
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/8/2017 4:14:40 PM	35305

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:10:00 PM
Lab ID: 1712100-006 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 4:14:40 PM	35305
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Diethyl phthalate	ND	4.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/8/2017 4:14:40 PM	35305
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/8/2017 4:14:40 PM	35305
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/8/2017 4:14:40 PM	35305
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/8/2017 4:14:40 PM	35305
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Fluoranthene	ND	4.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Fluorene	ND	4.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Hexachloroethane	ND	1.2	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Isophorone	ND	4.4	10		µg/L	1	12/8/2017 4:14:40 PM	35305
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2-Methylphenol	ND	3.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/8/2017 4:14:40 PM	35305
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Naphthalene	3.3	2.9	10	J	µg/L	1	12/8/2017 4:14:40 PM	35305
2-Nitroaniline	ND	4.9	10		µg/L	1	12/8/2017 4:14:40 PM	35305
3-Nitroaniline	ND	4.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
4-Nitroaniline	ND	4.0	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Nitrobenzene	ND	3.6	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2-Nitrophenol	ND	5.2	10		µg/L	1	12/8/2017 4:14:40 PM	35305
4-Nitrophenol	ND	5.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Pentachlorophenol	ND	4.9	20		µg/L	1	12/8/2017 4:14:40 PM	35305
Phenanthrene	ND	4.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Phenol	ND	3.1	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Pyrene	ND	4.4	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Pyridine	ND	2.3	10		µg/L	1	12/8/2017 4:14:40 PM	35305
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 4:14:40 PM	35305
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/8/2017 4:14:40 PM	35305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:10:00 PM
Lab ID: 1712100-006 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/8/2017 4:14:40 PM	35305
Surr: 2-Fluorophenol	64.7	0	15-114		%Rec	1	12/8/2017 4:14:40 PM	35305
Surr: Phenol-d5	51.6	0	15-97.9		%Rec	1	12/8/2017 4:14:40 PM	35305
Surr: 2,4,6-Tribromophenol	92.3	0	15-161		%Rec	1	12/8/2017 4:14:40 PM	35305
Surr: Nitrobenzene-d5	81.5	0	29.3-120		%Rec	1	12/8/2017 4:14:40 PM	35305
Surr: 2-Fluorobiphenyl	79.5	0	17.5-116		%Rec	1	12/8/2017 4:14:40 PM	35305
Surr: 4-Terphenyl-d14	50.0	0	21-92.2		%Rec	1	12/8/2017 4:14:40 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	140	0.31	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Toluene	0.80	0.32	5.0	J	µg/L	5	12/7/2017 5:39:00 PM	R47668
Ethylbenzene	170	0.47	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Methyl tert-butyl ether (MTBE)	1500	12	50		µg/L	50	12/7/2017 5:16:00 PM	R47668
1,2,4-Trimethylbenzene	ND	0.56	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Naphthalene	3.5	0.57	10	J	µg/L	5	12/7/2017 5:39:00 PM	R47668
1-Methylnaphthalene	ND	0.80	20		µg/L	5	12/7/2017 5:39:00 PM	R47668
2-Methylnaphthalene	ND	0.76	20		µg/L	5	12/7/2017 5:39:00 PM	R47668
Acetone	ND	4.1	50		µg/L	5	12/7/2017 5:39:00 PM	R47668
Bromobenzene	ND	0.70	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Bromodichloromethane	ND	0.88	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Bromoform	ND	1.1	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Bromomethane	ND	1.3	15		µg/L	5	12/7/2017 5:39:00 PM	R47668
2-Butanone	ND	5.7	50		µg/L	5	12/7/2017 5:39:00 PM	R47668
Carbon disulfide	ND	2.0	50		µg/L	5	12/7/2017 5:39:00 PM	R47668
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Chlorobenzene	ND	0.53	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Chloroethane	ND	1.2	10		µg/L	5	12/7/2017 5:39:00 PM	R47668
Chloroform	ND	2.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Chloromethane	ND	1.5	15		µg/L	5	12/7/2017 5:39:00 PM	R47668
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	12/7/2017 5:39:00 PM	R47668
Dibromochloromethane	ND	0.36	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Dibromomethane	ND	0.45	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:10:00 PM
Lab ID: 1712100-006 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
2,2-Dichloropropane	ND	0.79	10		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
2-Hexanone	ND	3.3	50		µg/L	5	12/7/2017 5:39:00 PM	R47668
Isopropylbenzene	9.7	0.26	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
4-Isopropyltoluene	1.5	0.48	5.0	J	µg/L	5	12/7/2017 5:39:00 PM	R47668
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	12/7/2017 5:39:00 PM	R47668
Methylene Chloride	ND	0.54	15		µg/L	5	12/7/2017 5:39:00 PM	R47668
n-Butylbenzene	1.6	0.65	15	J	µg/L	5	12/7/2017 5:39:00 PM	R47668
n-Propylbenzene	16	0.37	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
sec-Butylbenzene	2.5	0.55	5.0	J	µg/L	5	12/7/2017 5:39:00 PM	R47668
Styrene	ND	0.78	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	12/7/2017 5:39:00 PM	R47668
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	12/7/2017 5:39:00 PM	R47668
Vinyl chloride	ND	0.89	5.0		µg/L	5	12/7/2017 5:39:00 PM	R47668
Xylenes, Total	ND	1.6	7.5		µg/L	5	12/7/2017 5:39:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	5	12/7/2017 5:39:00 PM	R47668
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	5	12/7/2017 5:39:00 PM	R47668
Surr: Dibromofluoromethane	103	0	70-130		%Rec	5	12/7/2017 5:39:00 PM	R47668
Surr: Toluene-d8	100	0	70-130		%Rec	5	12/7/2017 5:39:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-17
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:10:00 PM
Lab ID: 1712100-006
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	2.5	0.097	0.50		mg/L	10	12/8/2017 5:03:32 PM	R47635
Surr: BFB	105	0	70-130		%Rec	10	12/8/2017 5:03:32 PM	R47635

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:50:00 PM
Lab ID: 1712100-007
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	13	0.36	1.0		mg/L	1	12/5/2017 6:12:50 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 6:12:50 PM	35301
Surr: DNOP	121	0	77.5-161		%Rec	1	12/5/2017 6:12:50 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	12/5/2017 10:32:24 PM	R47552
Chloride	120	5.0	10		mg/L	20	12/5/2017 10:44:48 PM	R47552
Bromide	1.7	0.073	0.50		mg/L	5	12/5/2017 10:32:24 PM	R47552
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/5/2017 10:32:24 PM	R47552
Sulfate	0.67	0.48	2.5	J	mg/L	5	12/5/2017 10:32:24 PM	R47552
Nitrate+Nitrite as N	0.14	0.13	1.0	J	mg/L	5	12/6/2017 1:13:44 AM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.5	0.0049	0.010		mg/L	5	12/19/2017 10:28:01 PM	C47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:47:26 PM	C47895
Calcium	120	0.39	5.0		mg/L	5	12/19/2017 10:28:01 PM	C47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:47:26 PM	C47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:47:26 PM	C47895
Iron	9.2	0.16	0.20	*	mg/L	10	12/19/2017 10:30:00 PM	C47895
Magnesium	29	0.25	1.0		mg/L	1	12/19/2017 7:47:26 PM	C47895
Manganese	2.1	0.0020	0.010	*	mg/L	5	12/19/2017 10:28:01 PM	C47895
Potassium	0.83	0.11	1.0	J	mg/L	1	12/19/2017 7:47:26 PM	C47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:47:26 PM	C47895
Sodium	290	0.82	5.0		mg/L	5	12/19/2017 10:28:01 PM	C47895
Zinc	ND	0.0021	0.010		mg/L	1	12/19/2017 7:47:26 PM	C47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.0	0.0050	0.010	*	mg/L	5	12/18/2017 8:23:02 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 8:21:33 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 8:21:33 PM	35527
Copper	0.0056	0.0041	0.0060	J	mg/L	1	12/17/2017 9:33:24 PM	35527
Iron	14	0.20	0.40	*	mg/L	20	12/18/2017 8:24:30 PM	35527
Manganese	2.3	0.0055	0.010	*	mg/L	5	12/18/2017 8:23:02 PM	35527
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 8:21:33 PM	35527
Zinc	0.011	0.0033	0.010		mg/L	1	12/18/2017 8:21:33 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0091	0.0021	0.0050		mg/L	5	12/21/2017 9:13:06 PM	B47988
Lead	0.0017	0.00017	0.00050		mg/L	1	12/20/2017 2:47:59 AM	C47906
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 9:13:06 PM	B47988
Uranium	0.00089	0.000096	0.00050		mg/L	1	12/20/2017 2:47:59 AM	C47906

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:50:00 PM
Lab ID: 1712100-007
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0077	0.00041	0.0010		mg/L	1	12/15/2017 11:45:16 PM	35527
Lead	0.010	0.00023	0.00050		mg/L	1	12/15/2017 11:45:16 PM	35527
Selenium	ND	0.0098	0.010		mg/L	10	1/4/2018 10:01:30 PM	35527
Uranium	0.0016	0.0015	0.0050	J	mg/L	10	1/4/2018 10:01:30 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/19/2017 10:20:13 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Acenaphthylene	ND	3.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Aniline	ND	3.1	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Anthracene	ND	3.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Azobenzene	ND	4.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Benzoic acid	ND	3.9	20		µg/L	1	12/8/2017 4:42:19 PM	35305
Benzyl alcohol	ND	4.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/8/2017 4:42:19 PM	35305
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Carbazole	ND	4.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
4-Chloroaniline	ND	3.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2-Chlorophenol	ND	7.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Chrysene	ND	3.8	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Dibenzofuran	ND	4.1	10		µg/L	1	12/8/2017 4:42:19 PM	35305
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/8/2017 4:42:19 PM	35305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:50:00 PM
Lab ID: 1712100-007
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 4:42:19 PM	35305
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Diethyl phthalate	ND	4.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/8/2017 4:42:19 PM	35305
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/8/2017 4:42:19 PM	35305
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/8/2017 4:42:19 PM	35305
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/8/2017 4:42:19 PM	35305
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Fluoranthene	ND	4.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Fluorene	ND	4.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Hexachloroethane	ND	1.2	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Isophorone	ND	4.4	10		µg/L	1	12/8/2017 4:42:19 PM	35305
1-Methylnaphthalene	18	3.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2-Methylnaphthalene	27	3.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2-Methylphenol	ND	3.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/8/2017 4:42:19 PM	35305
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Naphthalene	34	2.9	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2-Nitroaniline	ND	4.9	10		µg/L	1	12/8/2017 4:42:19 PM	35305
3-Nitroaniline	ND	4.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
4-Nitroaniline	ND	4.0	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Nitrobenzene	ND	3.6	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2-Nitrophenol	ND	5.2	10		µg/L	1	12/8/2017 4:42:19 PM	35305
4-Nitrophenol	ND	5.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Pentachlorophenol	ND	4.9	20		µg/L	1	12/8/2017 4:42:19 PM	35305
Phenanthrene	ND	4.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Phenol	ND	3.1	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Pyrene	ND	4.4	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Pyridine	ND	2.3	10		µg/L	1	12/8/2017 4:42:19 PM	35305
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 4:42:19 PM	35305
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/8/2017 4:42:19 PM	35305

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:50:00 PM
Lab ID: 1712100-007
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/8/2017 4:42:19 PM	35305
Surr: 2-Fluorophenol	62.2	0	15-114		%Rec	1	12/8/2017 4:42:19 PM	35305
Surr: Phenol-d5	48.1	0	15-97.9		%Rec	1	12/8/2017 4:42:19 PM	35305
Surr: 2,4,6-Tribromophenol	82.4	0	15-161		%Rec	1	12/8/2017 4:42:19 PM	35305
Surr: Nitrobenzene-d5	81.2	0	29.3-120		%Rec	1	12/8/2017 4:42:19 PM	35305
Surr: 2-Fluorobiphenyl	74.3	0	17.5-116		%Rec	1	12/8/2017 4:42:19 PM	35305
Surr: 4-Terphenyl-d14	40.4	0	21-92.2		%Rec	1	12/8/2017 4:42:19 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	1900	6.2	100		µg/L	100	12/7/2017 6:02:00 PM	R47668
Toluene	5.9	0.64	10	J	µg/L	10	12/7/2017 6:25:00 PM	R47668
Ethylbenzene	750	0.93	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Methyl tert-butyl ether (MTBE)	11000	24	100		µg/L	100	12/7/2017 6:02:00 PM	R47668
1,2,4-Trimethylbenzene	720	1.1	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,3,5-Trimethylbenzene	100	0.87	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Naphthalene	600	1.1	20		µg/L	10	12/7/2017 6:25:00 PM	R47668
1-Methylnaphthalene	270	1.6	40		µg/L	10	12/7/2017 6:25:00 PM	R47668
2-Methylnaphthalene	340	1.5	40		µg/L	10	12/7/2017 6:25:00 PM	R47668
Acetone	ND	8.2	100		µg/L	10	12/7/2017 6:25:00 PM	R47668
Bromobenzene	ND	1.4	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Bromodichloromethane	ND	1.8	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Bromoform	ND	2.1	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Bromomethane	ND	2.6	30		µg/L	10	12/7/2017 6:25:00 PM	R47668
2-Butanone	ND	11	100		µg/L	10	12/7/2017 6:25:00 PM	R47668
Carbon disulfide	ND	4.0	100		µg/L	10	12/7/2017 6:25:00 PM	R47668
Carbon Tetrachloride	ND	1.1	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Chlorobenzene	ND	1.1	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Chloroethane	ND	2.3	20		µg/L	10	12/7/2017 6:25:00 PM	R47668
Chloroform	ND	4.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Chloromethane	ND	2.9	30		µg/L	10	12/7/2017 6:25:00 PM	R47668
2-Chlorotoluene	ND	4.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
4-Chlorotoluene	ND	4.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
cis-1,2-DCE	ND	2.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	12/7/2017 6:25:00 PM	R47668
Dibromochloromethane	ND	0.72	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Dibromomethane	ND	0.91	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	12/7/2017 6:25:00 PM	R47668

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:50:00 PM
Lab ID: 1712100-007
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Dichlorodifluoromethane	ND	10	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,1-Dichloroethane	ND	4.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,1-Dichloroethene	ND	0.81	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2-Dichloropropane	ND	1.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,3-Dichloropropane	ND	1.7	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
2,2-Dichloropropane	ND	1.6	20		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,1-Dichloropropene	ND	0.93	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Hexachlorobutadiene	ND	8.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
2-Hexanone	ND	6.6	100		µg/L	10	12/7/2017 6:25:00 PM	R47668
Isopropylbenzene	34	0.51	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
4-Isopropyltoluene	6.3	0.96	10	J	µg/L	10	12/7/2017 6:25:00 PM	R47668
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	12/7/2017 6:25:00 PM	R47668
Methylene Chloride	ND	1.1	30		µg/L	10	12/7/2017 6:25:00 PM	R47668
n-Butylbenzene	14	1.3	30	J	µg/L	10	12/7/2017 6:25:00 PM	R47668
n-Propylbenzene	100	0.74	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
sec-Butylbenzene	7.4	1.1	10	J	µg/L	10	12/7/2017 6:25:00 PM	R47668
Styrene	ND	1.6	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
tert-Butylbenzene	ND	1.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	12/7/2017 6:25:00 PM	R47668
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
trans-1,2-DCE	ND	1.8	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Trichlorofluoromethane	ND	1.8	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	12/7/2017 6:25:00 PM	R47668
Vinyl chloride	ND	1.8	10		µg/L	10	12/7/2017 6:25:00 PM	R47668
Xylenes, Total	750	3.2	15		µg/L	10	12/7/2017 6:25:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	10	12/7/2017 6:25:00 PM	R47668
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	10	12/7/2017 6:25:00 PM	R47668
Surr: Dibromofluoromethane	100	0	70-130		%Rec	10	12/7/2017 6:25:00 PM	R47668
Surr: Toluene-d8	101	0	70-130		%Rec	10	12/7/2017 6:25:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: MKTF-19
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017 1:50:00 PM
Lab ID: 1712100-007
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	24	0.48	2.5		mg/L	50	12/8/2017 5:26:32 PM	R47635
Surr: BFB	101	0	70-130		%Rec	50	12/8/2017 5:26:32 PM	R47635

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP07
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017
Lab ID: 1712100-008
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/5/2017 6:34:46 PM	35301
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/5/2017 6:34:46 PM	35301
Surr: DNOP	116	0	77.5-161		%Rec	1	12/5/2017 6:34:46 PM	35301
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.54	0.22	0.50		mg/L	5	12/5/2017 10:57:13 PM	R47552
Chloride	270	5.0	10		mg/L	20	12/5/2017 11:09:38 PM	R47552
Bromide	2.1	0.073	0.50		mg/L	5	12/5/2017 10:57:13 PM	R47552
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/5/2017 10:57:13 PM	R47552
Sulfate	220	1.9	10		mg/L	20	12/5/2017 11:09:38 PM	R47552
Nitrate+Nitrite as N	7.9	0.13	1.0		mg/L	5	12/6/2017 1:26:09 AM	R47552
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.061	0.00099	0.0020		mg/L	1	12/19/2017 7:49:13 PM	C47895
Cadmium	ND	0.0010	0.0020		mg/L	1	12/19/2017 7:49:13 PM	C47895
Calcium	61	0.078	1.0		mg/L	1	12/19/2017 7:49:13 PM	C47895
Chromium	ND	0.0013	0.0060		mg/L	1	12/19/2017 7:49:13 PM	C47895
Copper	ND	0.0032	0.0060		mg/L	1	12/19/2017 7:49:13 PM	C47895
Iron	ND	0.016	0.020		mg/L	1	12/19/2017 7:49:13 PM	C47895
Magnesium	15	0.25	1.0		mg/L	1	12/19/2017 7:49:13 PM	C47895
Manganese	ND	0.00039	0.0020		mg/L	1	12/19/2017 7:49:13 PM	C47895
Potassium	1.3	0.11	1.0		mg/L	1	12/19/2017 7:49:13 PM	C47895
Silver	ND	0.0018	0.0050		mg/L	1	12/19/2017 7:49:13 PM	C47895
Sodium	400	0.82	5.0		mg/L	5	12/19/2017 10:31:54 PM	C47895
Zinc	0.0061	0.0021	0.010	J	mg/L	1	12/19/2017 7:49:13 PM	C47895
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.089	0.0010	0.0020		mg/L	1	12/18/2017 8:31:34 PM	35527
Cadmium	ND	0.00058	0.0020		mg/L	1	12/18/2017 8:31:34 PM	35527
Chromium	ND	0.0018	0.0060		mg/L	1	12/18/2017 8:31:34 PM	35527
Copper	ND	0.0041	0.0060		mg/L	1	12/17/2017 9:35:13 PM	35527
Iron	2.2	0.051	0.10	*	mg/L	5	12/18/2017 8:33:08 PM	35527
Manganese	0.046	0.0011	0.0020		mg/L	1	12/18/2017 8:31:34 PM	35527
Silver	ND	0.0012	0.0050		mg/L	1	12/18/2017 8:31:34 PM	35527
Zinc	0.014	0.0033	0.010		mg/L	1	12/18/2017 8:31:34 PM	35527
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	12/21/2017 9:32:47 PM	C47988
Lead	ND	0.00017	0.00050		mg/L	1	12/20/2017 2:54:32 AM	C47906
Selenium	ND	0.0038	0.0050		mg/L	5	12/21/2017 9:32:47 PM	C47988
Uranium	0.036	0.00048	0.0025	*	mg/L	5	12/20/2017 11:28:23 PM	C47943

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP07
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017
Lab ID: 1712100-008
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0021	0.00041	0.0010		mg/L	1	12/15/2017 11:50:11 PM	35527
Lead	0.0022	0.00023	0.00050		mg/L	1	12/15/2017 11:50:11 PM	35527
Selenium	0.0065	0.0049	0.0050		mg/L	5	1/4/2018 10:06:24 PM	35527
Uranium	0.038	0.00077	0.0025	*	mg/L	5	1/4/2018 10:06:24 PM	35527
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000052	0.000037	0.00020	J	mg/L	1	12/19/2017 10:22:14 AM	35573
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Acenaphthylene	ND	3.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Aniline	ND	3.1	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Anthracene	ND	3.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Azobenzene	ND	4.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Benzoic acid	4.7	3.9	20	J	µg/L	1	12/8/2017 5:09:57 PM	35305
Benzyl alcohol	ND	4.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Bis(2-ethylhexyl)phthalate	19	4.8	10		µg/L	1	12/8/2017 5:09:57 PM	35305
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Carbazole	ND	4.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
4-Chloroaniline	ND	3.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2-Chlorophenol	ND	7.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Chrysene	ND	3.8	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Dibenzofuran	ND	4.1	10		µg/L	1	12/8/2017 5:09:57 PM	35305
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/8/2017 5:09:57 PM	35305

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP07
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017
Lab ID: 1712100-008
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 5:09:57 PM	35305
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Diethyl phthalate	ND	4.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/8/2017 5:09:57 PM	35305
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/8/2017 5:09:57 PM	35305
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/8/2017 5:09:57 PM	35305
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/8/2017 5:09:57 PM	35305
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Fluoranthene	ND	4.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Fluorene	ND	4.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Hexachloroethane	ND	1.2	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Isophorone	ND	4.4	10		µg/L	1	12/8/2017 5:09:57 PM	35305
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2-Methylphenol	ND	3.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/8/2017 5:09:57 PM	35305
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Naphthalene	ND	2.9	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2-Nitroaniline	ND	4.9	10		µg/L	1	12/8/2017 5:09:57 PM	35305
3-Nitroaniline	ND	4.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
4-Nitroaniline	ND	4.0	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Nitrobenzene	ND	3.6	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2-Nitrophenol	ND	5.2	10		µg/L	1	12/8/2017 5:09:57 PM	35305
4-Nitrophenol	ND	5.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Pentachlorophenol	ND	4.9	20		µg/L	1	12/8/2017 5:09:57 PM	35305
Phenanthrene	ND	4.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Phenol	ND	3.1	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Pyrene	ND	4.4	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Pyridine	ND	2.3	10		µg/L	1	12/8/2017 5:09:57 PM	35305
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/8/2017 5:09:57 PM	35305
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/8/2017 5:09:57 PM	35305

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP07
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017
Lab ID: 1712100-008
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/8/2017 5:09:57 PM	35305
Surr: 2-Fluorophenol	66.4	0	15-114		%Rec	1	12/8/2017 5:09:57 PM	35305
Surr: Phenol-d5	50.5	0	15-97.9		%Rec	1	12/8/2017 5:09:57 PM	35305
Surr: 2,4,6-Tribromophenol	89.2	0	15-161		%Rec	1	12/8/2017 5:09:57 PM	35305
Surr: Nitrobenzene-d5	90.8	0	29.3-120		%Rec	1	12/8/2017 5:09:57 PM	35305
Surr: 2-Fluorobiphenyl	83.8	0	17.5-116		%Rec	1	12/8/2017 5:09:57 PM	35305
Surr: 4-Terphenyl-d14	47.1	0	21-92.2		%Rec	1	12/8/2017 5:09:57 PM	35305
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Toluene	ND	0.064	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Methyl tert-butyl ether (MTBE)	0.81	0.24	1.0	J	µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Naphthalene	ND	0.11	2.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Acetone	ND	0.82	10		µg/L	1	12/11/2017 4:22:00 PM	R47690
Bromobenzene	ND	0.14	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Bromoform	ND	0.21	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Bromomethane	ND	0.26	3.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
2-Butanone	ND	1.1	10		µg/L	1	12/11/2017 4:22:00 PM	R47690
Carbon disulfide	ND	0.40	10		µg/L	1	12/11/2017 4:22:00 PM	R47690
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Chloroethane	ND	0.23	2.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Chloroform	ND	0.40	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Chloromethane	ND	0.29	3.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Dibromomethane	ND	0.091	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP07
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017
Lab ID: 1712100-008
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,1-Dichloroethene	1.4	0.081	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
2-Hexanone	ND	0.66	10		µg/L	1	12/11/2017 4:22:00 PM	R47690
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/11/2017 4:22:00 PM	R47690
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Styrene	ND	0.16	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Tetrachloroethene (PCE)	0.17	0.13	1.0	J	µg/L	1	12/11/2017 4:22:00 PM	R47690
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Trichloroethene (TCE)	2.9	0.11	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/11/2017 4:22:00 PM	R47690
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/11/2017 4:22:00 PM	R47690
Surr: 1,2-Dichloroethane-d4	111	0	70-130		%Rec	1	12/11/2017 4:22:00 PM	R47690
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	12/11/2017 4:22:00 PM	R47690
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	12/11/2017 4:22:00 PM	R47690
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	12/11/2017 4:22:00 PM	R47690
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP07
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date: 12/1/2017
Lab ID: 1712100-008
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.10	0.097	0.50	J	mg/L	10	12/8/2017 5:49:22 PM	R47635
Surr: BFB	101	0	70-130		%Rec	10	12/8/2017 5:49:22 PM	R47635

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date:
Lab ID: 1712100-009 **Matrix:** AQUEOUS **Received Date:** 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Toluene	ND	0.064	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Naphthalene	ND	0.11	2.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Acetone	2.3	0.82	10	J	µg/L	1	12/7/2017 7:34:00 PM	R47668
Bromobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Bromoform	ND	0.21	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Bromomethane	ND	0.26	3.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
2-Butanone	ND	1.1	10		µg/L	1	12/7/2017 7:34:00 PM	R47668
Carbon disulfide	ND	0.40	10		µg/L	1	12/7/2017 7:34:00 PM	R47668
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Chloroethane	ND	0.23	2.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Chloroform	ND	0.40	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Chloromethane	ND	0.29	3.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Dibromomethane	ND	0.091	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/7/2017 7:34:00 PM	R47668

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 4th Qtr 2017 GW SAMP MKTF
Collection Date:
Lab ID: 1712100-009
Matrix: AQUEOUS
Received Date: 12/2/2017 8:53:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
2-Hexanone	ND	0.66	10		µg/L	1	12/7/2017 7:34:00 PM	R47668
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/7/2017 7:34:00 PM	R47668
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Styrene	ND	0.16	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/7/2017 7:34:00 PM	R47668
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/7/2017 7:34:00 PM	R47668
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	12/7/2017 7:34:00 PM	R47668
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	12/7/2017 7:34:00 PM	R47668
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/7/2017 7:34:00 PM	R47668
Surr: Toluene-d8	98.6	0	70-130		%Rec	1	12/7/2017 7:34:00 PM	R47668
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.011	0.0097	0.050	J	mg/L	1	12/8/2017 2:45:45 PM	R47635
Surr: BFB	102	0	70-130		%Rec	1	12/8/2017 2:45:45 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533299** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533300** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.0	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	105	50	150			
Calcium	0.48	1.0	0.5000	0	96.8	50	150			J
Chromium	0.0056	0.0060	0.006000	0	92.7	50	150			J
Copper	0.0066	0.0060	0.006000	0	110	50	150			
Iron	0.020	0.020	0.02000	0	97.7	50	150			J
Magnesium	0.50	1.0	0.5000	0	100	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Silver	0.0052	0.0050	0.005000	0	104	50	150			
Sodium	0.33	1.0	0.5000	0	65.0	50	150			J
Zinc	0.0048	0.010	0.005000	0	96.2	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533301** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	105	85	115			
Cadmium	0.53	0.0020	0.5000	0	105	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533301** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	101	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.11	0.0050	0.1000	0	108	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.49	0.010	0.5000	0	97.4	85	115			

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533302** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533306** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Cadmium	0.0019	0.0020	0.002000	0	93.0	50	150			J
Calcium	0.52	1.0	0.5000	0	104	50	150			J
Chromium	0.0064	0.0060	0.006000	0	107	50	150			
Copper	0.0059	0.0060	0.006000	0	98.3	50	150			J
Iron	0.023	0.020	0.02000	0	113	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0020	0.0020	0.002000	0	101	50	150			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533306** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	0.54	1.0	0.5000	0	107	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.2	50	150			J
Sodium	0.50	1.0	0.5000	0	101	50	150			J
Zinc	0.0050	0.010	0.005000	0	101	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47895**	RunNo: **47895**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533307** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.53	0.0020	0.5000	0	105	85	115			
Cadmium	0.53	0.0020	0.5000	0	106	85	115			
Calcium	51	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	99.5	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.52	0.020	0.5000	0	103	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	100	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.11	0.0050	0.1000	0	109	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.49	0.010	0.5000	0	97.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **MB-35527**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **35527**	RunNo: **47837**
Prep Date: **12/14/2017**	Analysis Date: **12/17/2017**	SeqNo: **1530283** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	0.0014	0.0020								J
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-35527**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **35527**	RunNo: **47837**
Prep Date: **12/14/2017**	Analysis Date: **12/17/2017**	SeqNo: **1530284** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0026	0.0020	0.002000	0	130	50	150			
Cadmium	0.0024	0.0020	0.002000	0	118	50	150			
Chromium	0.0056	0.0060	0.006000	0	94.0	50	150			J
Copper	0.0056	0.0060	0.006000	0	94.0	50	150			J
Iron	0.025	0.020	0.02000	0	123	50	150			
Manganese	0.0024	0.0020	0.002000	0	122	50	150			
Silver	0.0052	0.0050	0.005000	0	103	50	150			
Zinc	0.0045	0.010	0.005000	0	89.8	50	150			J

Sample ID **LCS-35527**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **35527**	RunNo: **47837**
Prep Date: **12/14/2017**	Analysis Date: **12/17/2017**	SeqNo: **1530285** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.51	0.0020	0.5000	0	102	85	115			
Silver	0.11	0.0050	0.1000	0	106	85	115			
Zinc	0.50	0.010	0.5000	0	99.1	85	115			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1534059** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1534062** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00043	0.00050	0.0005000	0	85.4	50	150			J
Uranium	0.00038	0.00050	0.0005000	0	76.8	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47906**	RunNo: **47906**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1534065** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	95.3	85	115			
Uranium	0.011	0.00050	0.01250	0	88.7	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535728** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535730** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	98.1	50	150			J
Uranium	0.00044	0.00050	0.0005000	0	88.2	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535732** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/20/2017**	SeqNo: **1535732** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	92.5	85	115			
Uranium	0.011	0.00050	0.01250	0	88.2	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537334** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537335** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	108	50	150			
Lead	0.00050	0.00050	0.0005000	0	99.3	50	150			J
Selenium	0.00097	0.0010	0.001000	0	97.2	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537336** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.1	85	115			
Lead	0.012	0.00050	0.01250	0	92.1	85	115			
Selenium	0.024	0.0010	0.02500	0	96.9	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537360** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**C47988**	RunNo:	**47988**					
Prep Date:		Analysis Date:	**12/21/2017**	SeqNo:	**1537361**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	103	50	150			
Selenium	0.00086	0.0010	0.001000	0	85.9	50	150			J

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**C47988**	RunNo:	**47988**					
Prep Date:		Analysis Date:	**12/21/2017**	SeqNo:	**1537362**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.024	0.0010	0.02500	0	97.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID	**MB-35527**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35527**	RunNo:	**47836**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530225**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35527**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35527**	RunNo:	**47836**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530226**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0013	0.0010	0.001000	0	132	50	150			
Lead	0.00046	0.00050	0.0005000	0	91.0	50	150			J
Selenium	0.00096	0.0010	0.001000	0	96.1	50	150			J
Uranium	0.00044	0.00050	0.0005000	0	88.8	50	150			J

Sample ID	**MSLCS-35527**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35527**	RunNo:	**47836**					
Prep Date:	**12/14/2017**	Analysis Date:	**12/15/2017**	SeqNo:	**1530227**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.5	85	115			
Lead	0.012	0.00050	0.01250	0	93.5	85	115			
Selenium	0.023	0.0010	0.02500	0	92.2	85	115			
Uranium	0.012	0.00050	0.01250	0	92.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID	**MB-35573**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**35573**	RunNo:	**47869**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1531896**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-35573**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**35573**	RunNo:	**47869**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1531897**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.6	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47552**	RunNo: **47552**
Prep Date:	Analysis Date: **12/5/2017**	SeqNo: **1518605** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	0.10	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS-b**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47552**	RunNo: **47552**
Prep Date:	Analysis Date: **12/5/2017**	SeqNo: **1518607** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0	110	90	110			
Chloride	4.7	0.50	5.000	0	94.1	90	110			
Bromide	2.3	0.10	2.500	0	93.2	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	93.2	90	110			
Sulfate	9.7	0.50	10.00	0	96.7	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.2	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID	**MB-35426**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**35426**	RunNo:	**47721**					
Prep Date:	**12/11/2017**	Analysis Date:	**12/12/2017**	SeqNo:	**1525552**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-35426**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**35426**	RunNo:	**47721**					
Prep Date:	**12/11/2017**	Analysis Date:	**12/12/2017**	SeqNo:	**1525553**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.095	0.010	0.1000	0	95.0	70	130			

Sample ID	**1712100-002HMS**	SampType:	**MS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**MKTF-36**	Batch ID:	**35426**	RunNo:	**47721**					
Prep Date:	**12/11/2017**	Analysis Date:	**12/12/2017**	SeqNo:	**1525616**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.063	0.0093	0.09333	0	68.0	57.7	132			

Sample ID	**1712100-002HMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**MKTF-36**	Batch ID:	**35426**	RunNo:	**47721**					
Prep Date:	**12/11/2017**	Analysis Date:	**12/12/2017**	SeqNo:	**1525617**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.076	0.0093	0.09284	0	81.9	57.7	132	18.1	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **LCS-35301**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35301**	RunNo: **47491**
Prep Date: **12/4/2017**	Analysis Date: **12/5/2017**	SeqNo: **1517943** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	112	92.3	135			
Surr: DNOP	0.41		0.5000		82.5	77.5	161			

Sample ID **MB-35301**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35301**	RunNo: **47491**
Prep Date: **12/4/2017**	Analysis Date: **12/5/2017**	SeqNo: **1517944** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.97		1.000		97.2	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47668**	RunNo: **47668**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1523261** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47668**	RunNo: **47668**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1523264** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47668**	RunNo: **47668**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1523264** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47668**	RunNo: **47668**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1523264** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.9		10.00		98.8	70	130			

Sample ID **1712100-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-38**	Batch ID: **R47668**	RunNo: **47668**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1523267** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	1.232	106	70	130			
Toluene	21	1.0	20.00	0.07400	104	70	130			
Chlorobenzene	21	1.0	20.00	0	105	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Sample ID **1712100-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **MKTF-38**	Batch ID: **R47668**	RunNo: **47668**
Prep Date:	Analysis Date: **12/7/2017**	SeqNo: **1523268** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	1.232	102	70	130	4.00	20	
Toluene	20	1.0	20.00	0.07400	99.9	70	130	3.64	20	
Chlorobenzene	20	1.0	20.00	0	101	70	130	4.07	20	
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130	6.06	20	
Trichloroethene (TCE)	20	1.0	20.00	0	99.1	70	130	5.60	20	
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.9		10.00		99.4	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		103	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		97.6	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47690**	RunNo: **47690**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524037** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	70	130			
Toluene	21	1.0	20.00	0	104	70	130			
Chlorobenzene	21	1.0	20.00	0	107	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	112	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47690**	RunNo: **47690**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524065** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.064	1.0								J
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47690**	RunNo: **47690**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524065** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.7	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47690**	RunNo: **47690**
Prep Date:	Analysis Date: **12/11/2017**	SeqNo: **1524065** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		107	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.6	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.8		10.00		97.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **1712100-001dms** SampType: **MS** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **MKTF-38** Batch ID: **35305** RunNo: **47639**

Prep Date: **12/4/2017** Analysis Date: **12/8/2017** SeqNo: **1522858** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.1	18.1	108			
4-Chloro-3-methylphenol	150	10	200.0	0	74.4	15	111			
2-Chlorophenol	140	10	200.0	0	71.4	15	113			
1,4-Dichlorobenzene	60	10	100.0	0	60.1	21	81.3			
2,4-Dinitrotoluene	63	10	100.0	0	63.3	27.4	101			
N-Nitrosodi-n-propylamine	71	10	100.0	0	70.7	24.9	107			
4-Nitrophenol	73	10	200.0	0	36.7	15	62.2			
Pentachlorophenol	130	20	200.0	0	62.6	15	96.9			
Phenol	76	10	200.0	0	37.8	15	64.7			
Pyrene	71	10	100.0	0	71.0	29.2	111			
1,2,4-Trichlorobenzene	68	10	100.0	0	67.9	22.9	94.8			
Surr: 2-Fluorophenol	96		200.0		47.9	15	114			
Surr: Phenol-d5	79		200.0		39.6	15	97.9			
Surr: 2,4,6-Tribromophenol	150		200.0		76.8	15	161			
Surr: Nitrobenzene-d5	72		100.0		71.9	29.3	120			
Surr: 2-Fluorobiphenyl	62		100.0		62.0	17.5	116			
Surr: 4-Terphenyl-d14	41		100.0		40.8	21	92.2			

Sample ID **1712100-001dmsd** SampType: **MSD** TestCode: **EPA Method 8270C: Semivolatiles**

Client ID: **MKTF-38** Batch ID: **35305** RunNo: **47639**

Prep Date: **12/4/2017** Analysis Date: **12/8/2017** SeqNo: **1522859** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	92	10	100.0	0	92.4	18.1	108	33.3	30.5	R
4-Chloro-3-methylphenol	210	10	200.0	0	103	15	111	32.5	50	
2-Chlorophenol	190	10	200.0	0	96.9	15	113	30.2	36.3	
1,4-Dichlorobenzene	81	10	100.0	0	80.7	21	81.3	29.2	42.1	
2,4-Dinitrotoluene	86	10	100.0	0	85.9	27.4	101	30.3	28.5	R
N-Nitrosodi-n-propylamine	96	10	100.0	0	96.3	24.9	107	30.7	25.4	R
4-Nitrophenol	100	10	200.0	0	50.5	15	62.2	31.7	50	
Pentachlorophenol	160	20	200.0	0	79.0	15	96.9	23.2	50	
Phenol	100	10	200.0	0	51.1	15	64.7	29.9	46.1	
Pyrene	95	10	100.0	0	94.9	29.2	111	28.7	34.3	
1,2,4-Trichlorobenzene	94	10	100.0	0	93.9	22.9	94.8	32.0	43.6	
Surr: 2-Fluorophenol	130		200.0		66.7	15	114	0	0	
Surr: Phenol-d5	110		200.0		52.6	15	97.9	0	0	
Surr: 2,4,6-Tribromophenol	200		200.0		100	15	161	0	0	
Surr: Nitrobenzene-d5	100		100.0		99.5	29.3	120	0	0	
Surr: 2-Fluorobiphenyl	92		100.0		91.9	17.5	116	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **1712100-001dmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **MKTF-38**	Batch ID: **35305**	RunNo: **47639**
Prep Date: **12/4/2017**	Analysis Date: **12/8/2017**	SeqNo: **1522859** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	53		100.0		52.8	21	92.2	0	0	

Sample ID **lcs-35305**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35305**	RunNo: **47639**
Prep Date: **12/4/2017**	Analysis Date: **12/8/2017**	SeqNo: **1522868** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	80	10	100.0	0	80.4	39.7	103			
4-Chloro-3-methylphenol	170	10	200.0	0	83.0	40.5	108			
2-Chlorophenol	100	10	200.0	0	51.2	35	103			
1,4-Dichlorobenzene	70	10	100.0	0	70.5	24.7	93.7			
2,4-Dinitrotoluene	75	10	100.0	0	74.7	35.6	91.4			
N-Nitrosodi-n-propylamine	86	10	100.0	0	86.2	41.6	114			
4-Nitrophenol	74	10	200.0	0	37.1	20.7	74.3			
Pentachlorophenol	73	20	200.0	0	36.7	25.3	98.5			
Phenol	91	10	200.0	0	45.4	20.9	75.1			
Pyrene	82	10	100.0	0	81.8	45.6	108			
1,2,4-Trichlorobenzene	80	10	100.0	0	80.0	30.3	106			
Surr: 2-Fluorophenol	77		200.0		38.5	15	114			
Surr: Phenol-d5	94		200.0		47.0	15	97.9			
Surr: 2,4,6-Tribromophenol	98		200.0		49.0	15	161			
Surr: Nitrobenzene-d5	83		100.0		83.4	29.3	120			
Surr: 2-Fluorobiphenyl	78		100.0		78.3	17.5	116			
Surr: 4-Terphenyl-d14	49		100.0		49.2	21	92.2			

Sample ID **mb-35305**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35305**	RunNo: **47639**
Prep Date: **12/4/2017**	Analysis Date: **12/8/2017**	SeqNo: **1522869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **mb-35305**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35305**	RunNo: **47639**
Prep Date: **12/4/2017**	Analysis Date: **12/8/2017**	SeqNo: **1522869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	5.6	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID **mb-35305**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35305**	RunNo: **47639**
Prep Date: **12/4/2017**	Analysis Date: **12/8/2017**	SeqNo: **1522869** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	130		200.0		65.4	15	114			
Surr: Phenol-d5	120		200.0		57.9	15	97.9			
Surr: 2,4,6-Tribromophenol	170		200.0		86.4	15	161			
Surr: Nitrobenzene-d5	86		100.0		85.8	29.3	120			
Surr: 2-Fluorobiphenyl	77		100.0		76.8	17.5	116			
Surr: 4-Terphenyl-d14	77		100.0		77.3	21	92.2			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712100**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW SAMP MKTF

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**R47635**		RunNo:	**47635**				
Prep Date:		Analysis Date:	**12/8/2017**		SeqNo:	**1522856**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	102	70	130			
Surr: BFB	10		10.00		99.6	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**R47635**		RunNo:	**47635**				
Prep Date:		Analysis Date:	**12/8/2017**		SeqNo:	**1522861**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		101	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1712100** RcptNo: **1**

Received By: **Ashley Gallegos** **12/2/2017 8:53:00 AM**

Completed By: **Anne Thorne** **12/4/2017 8:37:00 AM**

Reviewed By: SRe 12/04/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 24 (<2 or >12 unless noted)

Adjusted? NO

Checked by: ENM/MDD

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
3	1.0	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.5+0.5(CF)=1.0

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712100	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)	Air Bubbles (Y or N)
11/30/17	0950	WATER	MKTF-38	40 ML VOA-5	HCL	-001			✓							✓					
				1 L AMBER-2	NEAT	-001											✓				
				250 ML AMBER-1	NEAT	-001			✓												
				~~250~~ 125 ML PLASTIC-1	HNO_3	-001													✓		
				125 ML PLASTIC-1	HNO_3	-001												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	-001												✓			
				125 ML PLASTIC-1	NEAT	-001													✓		
	1230		MKTF-36	40 ML VOA-5	HCL	-002			✓							✓					
				40 ML VOA-3	$NA_2S_2O_3$	-002					✓										
				1 L AMBER-1	NEAT	-002											✓				
				250 ML AMBER-1	NEAT	-002			✓												
				250 ML PLASTIC-1	HNO_3	002													✓		

Remarks:

Date	Time	Relinquished by:	Received by:	Date	Time
12/2/17	0853			12/02/17	0853
Date:	Time:	Relinquished by:	Received by:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM. 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.5+0.5(CF)=1.0

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712100	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/30/17	1230	WATER	MKTF-36	125 ML PLASTIC-1	HNO_3	001												✓	✓			
				125 ML PLASTIC-1	H_2SO_4	002												✓				
				125 ML PLASTIC-1	NEAT	002													✓			
	1345		MKTF-35	40 ML VOA-5	HCL	003			✓							✓						
				40 ML VOA-3	$Na_2S_2O_3$	003			~~✓~~ PAH		✓											
				1 L AMBER-1	NEAT	003											✓					
				250 ML AMBER-1	NEAT	003			✓													
				250 ML PLASTIC-1	HNO_3	003													✓			
				125 ML PLASTIC-1	HNO_3	003												✓	✓			
				125 ML PLASTIC-1	H_2SO_4	003												✓				
				125 ML PLASTIC-1	NEAT	003													✓			

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/2/17	0853			12/02/17	0853
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MRTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.5 + 0.5(CF) = 1.0

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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712100	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
11/30/17	—	WATER	DUP06	40 ML VOA-5	HCL	004			✓							✓					
				40 ML VOA-3	$Na_2S_2O_3$	004					✓										
				1 L AMBER-1	NEAT	004											✓				
				250 ML AMBER-1	NEAT	004			✓												
				250 ML PLASTIC-1	HNO_3	004													✓		
				125 ML PLASTIC-1	HNO_3	004												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	004												✓			
↓	↓	↓	↓	125 ML PLASTIC-1	NEAT	004													✓		

Date	Time	Relinquished by:	Received by:	Date	Time
12/2/17	0853			12/02/17	0853
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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Mailing Address: 92 GIANT CROSSING RD
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Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 2017 4TH QTR GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.5+0.5(CF)=1.0

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712100	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)	Air Bubbles (Y or N)
12/1/17	1215	WATER	MKTF-34	40 ML VOA-5	HCL	001			✓							✓					
				1 L AMBER-2	NEAT	002											✓				
				250 ML AMBER-1	NEAT	003			✓												
				250 ML PLASTIC-1	HNO_3	004													✓		
				125 ML PLASTIC-1	HNO_3	005												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	006												✓			
				125 ML PLASTIC-1	NEAT	007													✓		
	1310	WATER	MKTF-17	40 ML VOA-5	HCL	008			✓							✓					
				1 L AMBER-1	NEAT	009											✓				
				250 ML AMBER-1	NEAT	010			✓												
				250 ML PLASTIC-1	HNO_3	011													✓		
				125 ML PLASTIC-1	HNO_3	012												✓	✓		

Date: 12/2/17 Time: 0853 Relinquished by:
Date: Time: Relinquished by:
Received by: Date: 12/02/17 Time: 0853
Received by: Date: Time:

Remarks:

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Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMP (MKTF)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.5+0.5(CF)=1.0

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712100	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
12/1/17	1310	WATER	MKTF-17	125 ML PLASTIC-1	H_2SO_4	-006											✓				
				125 ML PLASTIC-1	NEAT	-006													✓		
	1350		MKTF-19	40 ML VOA-5	HCL	-007			✓							✓					
				1 L AMBER-1	NEAT	-007											✓				
				250 ML AMBER-1	NEAT	-007			✓												
				250 ML PLASTIC-1	HNO_3	-007													✓		
				125 ML PLASTIC-1	HNO_3	-007												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	-007												✓			
				125 ML PLASTIC-1	NEAT	-007													✓		
	-		DUP07	40 ML VOA-5	HCL	-008			✓							✓					
				1 L AMBER-1	NEAT	-008											✓				
				250 ML AMBER-1	NEAT	-008			✓												

Remarks:

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/3/17	0853			12/02/17	0853
Date:	Time:	Relinquished by:	Received by:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR

GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING RD

GALLUP, NM 87301

Phone #: ~~505~~ 505-722-0231

email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM

QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other

☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: 4TH QTR 2017 GW SAMPLING (MKTF)

Project #:

Project Manager: CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.5+0.5(CF)=1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712100
12/1/17	—	WATER	DUP07	250 ML PLASTIC-1	HNO_3	-008
				125 ML PLASTIC-1	HNO_3	-008
				125 ML PLASTIC-1	H_2SO_4	-008
				125 ML PLASTIC-1	NEAT	-008
			TripBlank			
			@ 12/04/17			

Analysis Request

Sample Request ID	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
DUP07													✓			
												✓	✓			
												✓				
													✓			
TripBlank			X				—		·	X						

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/4/17	0853			12/02/17	0853
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 11, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th QTR 2017 GW Sampling API OrderNo.: 1712305

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 9 sample(s) on 12/6/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: East LDU
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 1:00:00 PM
Lab ID: 1712305-001
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.4	0.36	1.0		mg/L	1	12/11/2017 5:07:07 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 5:07:07 PM	35398
Surr: DNOP	107	0	77.5-161		%Rec	1	12/11/2017 5:07:07 PM	35398
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.41	0.00099	0.0020		mg/L	1	12/26/2017 5:10:21 PM	B48016
Cadmium	ND	0.0010	0.0020		mg/L	1	12/26/2017 5:10:21 PM	B48016
Chromium	0.019	0.0013	0.0060		mg/L	1	12/26/2017 5:10:21 PM	B48016
Copper	ND	0.0032	0.0060		mg/L	1	12/26/2017 5:10:21 PM	B48016
Iron	0.039	0.016	0.020		mg/L	1	12/26/2017 5:10:21 PM	B48016
Manganese	0.25	0.00039	0.0020	*	mg/L	1	12/26/2017 5:10:21 PM	B48016
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 7:47:20 PM	A48091
Zinc	0.011	0.0021	0.010		mg/L	1	12/26/2017 5:10:21 PM	B48016
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.43	0.0010	0.0020		mg/L	1	12/20/2017 8:27:29 PM	35551
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 8:27:29 PM	35551
Chromium	0.069	0.0018	0.0060		mg/L	1	12/20/2017 8:27:29 PM	35551
Copper	ND	0.0041	0.0060		mg/L	1	12/20/2017 8:27:29 PM	35551
Iron	1.3	0.051	0.10	*	mg/L	5	12/21/2017 6:46:13 PM	35551
Manganese	0.25	0.0011	0.0020	*	mg/L	1	12/20/2017 8:27:29 PM	35551
Silver	ND	0.0012	0.0050		mg/L	1	12/21/2017 6:44:24 PM	35551
Zinc	0.041	0.0033	0.010		mg/L	1	12/20/2017 8:27:29 PM	35551
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.00042	0.0010		mg/L	1	12/21/2017 10:22:02 PM	C47988
Lead	ND	0.00017	0.00050		mg/L	1	12/21/2017 12:51:58 AM	D47943
Selenium	ND	0.00076	0.0010		mg/L	1	12/21/2017 10:22:02 PM	C47988
Uranium	ND	0.000096	0.00050		mg/L	1	12/21/2017 12:51:58 AM	D47943
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.00099	0.00041	0.0010	J	mg/L	1	1/2/2018 11:30:35 PM	35551
Lead	0.00048	0.00023	0.00050	J	mg/L	1	1/2/2018 11:30:35 PM	35551
Selenium	ND	0.00098	0.0010		mg/L	1	1/8/2018 4:15:27 PM	35551
Uranium	ND	0.00015	0.00050		mg/L	1	1/2/2018 11:30:35 PM	35551
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/20/2017 9:45:57 AM	35598
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	1700	3.1	50		µg/L	50	12/14/2017 11:30:20 AM	W47802
Toluene	60	0.32	5.0		µg/L	5	12/13/2017 1:39:00 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: East LDU
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 1:00:00 PM
Lab ID: 1712305-001
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Ethylbenzene	180	0.47	5.0		µg/L	5	12/13/2017 1:39:00 PM	A47735
Methyl tert-butyl ether (MTBE)	ND	1.2	5.0		µg/L	5	12/13/2017 1:39:00 PM	A47735
Xylenes, Total	180	1.6	7.5		µg/L	5	12/13/2017 1:39:00 PM	A47735
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	5	12/13/2017 1:39:00 PM	A47735
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	5	12/13/2017 1:39:00 PM	A47735
Surr: Dibromofluoromethane	102	0	70-130		%Rec	5	12/13/2017 1:39:00 PM	A47735
Surr: Toluene-d8	97.2	0	70-130		%Rec	5	12/13/2017 1:39:00 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	7.6	0.097	0.50		mg/L	10	12/8/2017 6:12:17 PM	R47635
Surr: BFB	100	0	70-130		%Rec	10	12/8/2017 6:12:17 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: West LDU
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 1:20:00 PM
Lab ID: 1712305-002
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	7.7	0.36	1.0		mg/L	1	12/11/2017 5:34:23 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 5:34:23 PM	35398
Surr: DNOP	109	0	77.5-161		%Rec	1	12/11/2017 5:34:23 PM	35398
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	63	0.12	1.0	D	µg/L	2	12/13/2017 2:08:50 PM	A47735
Toluene	1.8	0.13	1.0	D	µg/L	2	12/13/2017 2:08:50 PM	A47735
Ethylbenzene	33	0.19	1.0	D	µg/L	2	12/13/2017 2:08:50 PM	A47735
Methyl tert-butyl ether (MTBE)	1.8	0.48	1.0	D	µg/L	2	12/13/2017 2:08:50 PM	A47735
Xylenes, Total	2.6	0.64	1.5	D	µg/L	2	12/13/2017 2:08:50 PM	A47735
Surr: 1,2-Dichloroethane-d4	108	0	70-130	D	%Rec	2	12/13/2017 2:08:50 PM	A47735
Surr: 4-Bromofluorobenzene	106	0	70-130	D	%Rec	2	12/13/2017 2:08:50 PM	A47735
Surr: Dibromofluoromethane	107	0	70-130	D	%Rec	2	12/13/2017 2:08:50 PM	A47735
Surr: Toluene-d8	96.8	0	70-130	D	%Rec	2	12/13/2017 2:08:50 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	1.2	0.097	0.50	D	mg/L	10	12/8/2017 7:43:47 PM	R47635
Surr: BFB	102	0	70-130	D	%Rec	10	12/8/2017 7:43:47 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 1:50:00 PM
Lab ID: 1712305-003
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.1	0.36	1.0		mg/L	1	12/11/2017 6:01:36 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 6:01:36 PM	35398
Surr: DNOP	107	0	77.5-161		%Rec	1	12/11/2017 6:01:36 PM	35398
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.5	0.22	0.50		mg/L	5	12/11/2017 2:49:54 AM	R47681
Chloride	270	5.0	10		mg/L	20	12/11/2017 3:02:18 AM	R47681
Bromide	1.1	0.073	0.50		mg/L	5	12/11/2017 2:49:54 AM	R47681
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 2:49:54 AM	R47681
Sulfate	6.1	0.48	2.5		mg/L	5	12/11/2017 2:49:54 AM	R47681
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 5:43:37 AM	R47681
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.8	0.0049	0.010		mg/L	5	12/26/2017 6:17:20 PM	B48016
Cadmium	ND	0.0010	0.0020		mg/L	1	12/26/2017 5:19:38 PM	B48016
Calcium	78	0.078	1.0		mg/L	1	12/26/2017 5:19:38 PM	B48016
Chromium	ND	0.0013	0.0060		mg/L	1	12/26/2017 5:19:38 PM	B48016
Copper	ND	0.0032	0.0060		mg/L	1	12/26/2017 5:19:38 PM	B48016
Iron	1.8	0.082	0.10	*	mg/L	5	12/26/2017 6:17:20 PM	B48016
Magnesium	14	0.25	1.0		mg/L	1	12/26/2017 5:19:38 PM	B48016
Manganese	0.94	0.0020	0.010	*	mg/L	5	12/26/2017 6:17:20 PM	B48016
Potassium	0.34	0.11	1.0	J	mg/L	1	12/26/2017 5:19:38 PM	B48016
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 7:49:20 PM	A48091
Sodium	340	0.82	5.0		mg/L	5	12/26/2017 6:17:20 PM	B48016
Zinc	0.010	0.0021	0.010		mg/L	1	12/26/2017 5:19:38 PM	B48016
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.9	0.0050	0.010		mg/L	5	12/20/2017 8:31:10 PM	35551
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 8:29:21 PM	35551
Chromium	ND	0.0018	0.0060		mg/L	1	12/20/2017 8:29:21 PM	35551
Copper	ND	0.0041	0.0060		mg/L	1	12/20/2017 8:29:21 PM	35551
Iron	2.2	0.051	0.10	*	mg/L	5	12/20/2017 8:31:10 PM	35551
Manganese	1.0	0.0055	0.010	*	mg/L	5	12/20/2017 8:31:10 PM	35551
Silver	ND	0.0012	0.0050		mg/L	1	12/21/2017 6:48:16 PM	35551
Zinc	ND	0.0033	0.010		mg/L	1	12/20/2017 8:29:21 PM	35551
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0049	0.0021	0.0050	J	mg/L	5	12/30/2017 11:10:14 AM	A48118
Lead	ND	0.00017	0.00050		mg/L	1	12/21/2017 1:06:41 AM	D47943
Selenium	0.0045	0.0038	0.0050	J	mg/L	5	12/30/2017 1:46:31 PM	B48118
Uranium	0.00017	0.000096	0.00050	J	mg/L	1	12/21/2017 1:06:41 AM	D47943

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 1:50:00 PM
Lab ID: 1712305-003
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0055	0.00041	0.0010		mg/L	1	1/2/2018 11:35:30 PM	35551
Lead	ND	0.0023	0.0050		mg/L	10	1/8/2018 7:30:11 PM	35551
Selenium	ND	0.0098	0.010		mg/L	10	1/8/2018 7:30:11 PM	35551
Uranium	ND	0.0015	0.0050		mg/L	10	1/8/2018 7:30:11 PM	35551
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/20/2017 9:47:51 AM	35598
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	21	0.062	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Toluene	0.31	0.064	1.0	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
Ethylbenzene	38	0.093	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Methyl tert-butyl ether (MTBE)	160	0.24	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2,4-Trimethylbenzene	0.19	0.11	1.0	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Naphthalene	3.7	0.11	2.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1-Methylnaphthalene	5.1	0.16	4.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
2-Methylnaphthalene	0.34	0.15	4.0	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
Acetone	5.9	0.82	10	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 2:38:46 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 2:38:46 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 1:50:00 PM
Lab ID: 1712305-003
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,1-Dichloroethane	0.53	0.40	1.0	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 2:38:46 PM	A47735
Isopropylbenzene	3.9	0.051	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 2:38:46 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
n-Butylbenzene	0.43	0.13	3.0	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
n-Propylbenzene	3.8	0.074	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
sec-Butylbenzene	1.4	0.11	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
tert-Butylbenzene	0.18	0.10	1.0	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 2:38:46 PM	A47735
Xylenes, Total	0.69	0.32	1.5	J	µg/L	1	12/13/2017 2:38:46 PM	A47735
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	12/13/2017 2:38:46 PM	A47735
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	12/13/2017 2:38:46 PM	A47735
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	12/13/2017 2:38:46 PM	A47735
Surr: Toluene-d8	96.8	0	70-130		%Rec	1	12/13/2017 2:38:46 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-2
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 1:50:00 PM
Lab ID: 1712305-003
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.88	0.0097	0.050		mg/L	1	12/8/2017 8:06:37 PM	R47635
Surr: BFB	102	0	70-130		%Rec	1	12/8/2017 8:06:37 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:10:00 PM
Lab ID: 1712305-004
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.66	0.36	1.0	J	mg/L	1	12/11/2017 6:28:33 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 6:28:33 PM	35398
Surr: DNOP	104	0	77.5-161		%Rec	1	12/11/2017 6:28:33 PM	35398
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.84	0.22	0.50		mg/L	5	12/11/2017 3:14:42 AM	R47681
Chloride	200	5.0	10		mg/L	20	12/11/2017 3:27:06 AM	R47681
Bromide	1.3	0.073	0.50		mg/L	5	12/11/2017 3:14:42 AM	R47681
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 3:14:42 AM	R47681
Sulfate	27	0.48	2.5		mg/L	5	12/11/2017 3:14:42 AM	R47681
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 6:33:17 AM	R47681
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.7	0.0049	0.010		mg/L	5	12/26/2017 6:19:17 PM	B48016
Cadmium	ND	0.0010	0.0020		mg/L	1	12/26/2017 5:21:24 PM	B48016
Calcium	98	0.078	1.0		mg/L	1	12/26/2017 5:21:24 PM	B48016
Chromium	ND	0.0013	0.0060		mg/L	1	12/26/2017 5:21:24 PM	B48016
Copper	ND	0.0032	0.0060		mg/L	1	12/26/2017 5:21:24 PM	B48016
Iron	0.045	0.016	0.020		mg/L	1	12/26/2017 5:21:24 PM	B48016
Magnesium	15	0.25	1.0		mg/L	1	12/26/2017 5:21:24 PM	B48016
Manganese	1.3	0.0020	0.010	*	mg/L	5	12/26/2017 6:19:17 PM	B48016
Potassium	0.44	0.11	1.0	J	mg/L	1	12/26/2017 5:21:24 PM	B48016
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 7:58:20 PM	A48091
Sodium	300	0.82	5.0		mg/L	5	12/26/2017 6:19:17 PM	B48016
Zinc	0.011	0.0021	0.010		mg/L	1	12/26/2017 5:21:24 PM	B48016
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.7	0.0050	0.010		mg/L	5	12/20/2017 8:42:01 PM	35551
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 8:32:55 PM	35551
Chromium	ND	0.0018	0.0060		mg/L	1	12/20/2017 8:32:55 PM	35551
Copper	ND	0.0041	0.0060		mg/L	1	12/20/2017 8:32:55 PM	35551
Iron	0.53	0.010	0.020	*	mg/L	1	12/20/2017 8:32:55 PM	35551
Manganese	1.4	0.0055	0.010	*	mg/L	5	12/20/2017 8:42:01 PM	35551
Silver	0.015	0.0012	0.0050		mg/L	1	1/9/2018 5:20:33 PM	35551
Zinc	0.0040	0.0033	0.010	J	mg/L	1	12/20/2017 8:32:55 PM	35551
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0033	0.0021	0.0050	J	mg/L	5	12/30/2017 11:15:08 AM	A48118
Lead	ND	0.00017	0.00050		mg/L	1	12/21/2017 1:11:36 AM	D47943
Selenium	ND	0.0076	0.010		mg/L	10	1/5/2018 6:16:10 PM	C48247
Uranium	0.0076	0.000096	0.00050		mg/L	1	12/21/2017 1:11:36 AM	D47943

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:10:00 PM
Lab ID: 1712305-004
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0044	0.00041	0.0010		mg/L	1	1/2/2018 11:40:24 PM	35551
Lead	ND	0.0023	0.0050		mg/L	10	1/8/2018 7:33:47 PM	35551
Selenium	ND	0.0098	0.010		mg/L	10	1/8/2018 7:33:47 PM	35551
Uranium	0.0074	0.0015	0.0050		mg/L	10	1/8/2018 7:33:47 PM	35551
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/20/2017 9:49:47 AM	35598
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	4.2	0.062	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Ethylbenzene	2.0	0.093	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Methyl tert-butyl ether (MTBE)	40	0.24	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Naphthalene	1.1	0.11	2.0	J	µg/L	1	12/13/2017 3:08:48 PM	A47735
1-Methylnaphthalene	0.91	0.16	4.0	J	µg/L	1	12/13/2017 3:08:48 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Acetone	3.0	0.82	10	J	µg/L	1	12/13/2017 3:08:48 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 3:08:48 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 3:08:48 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:10:00 PM
Lab ID: 1712305-004 **Matrix:** AQUEOUS **Received Date:** 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 3:08:48 PM	A47735
Isopropylbenzene	0.16	0.051	1.0	J	µg/L	1	12/13/2017 3:08:48 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 3:08:48 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
n-Propylbenzene	0.15	0.074	1.0	J	µg/L	1	12/13/2017 3:08:48 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 3:08:48 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 3:08:48 PM	A47735
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	12/13/2017 3:08:48 PM	A47735
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	12/13/2017 3:08:48 PM	A47735
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	12/13/2017 3:08:48 PM	A47735
Surr: Toluene-d8	95.1	0	70-130		%Rec	1	12/13/2017 3:08:48 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: KA-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:10:00 PM
Lab ID: 1712305-004
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.15	0.0097	0.050		mg/L	1	12/8/2017 8:29:23 PM	R47635
Surr: BFB	105	0	70-130		%Rec	1	12/8/2017 8:29:23 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:25:00 PM
Lab ID: 1712305-005
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/11/2017 6:55:34 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 6:55:34 PM	35398
Surr: DNOP	106	0	77.5-161		%Rec	1	12/11/2017 6:55:34 PM	35398
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.62	0.22	0.50		mg/L	5	12/11/2017 4:04:20 AM	R47681
Chloride	260	5.0	10		mg/L	20	12/11/2017 4:16:45 AM	R47681
Bromide	1.6	0.073	0.50		mg/L	5	12/11/2017 4:04:20 AM	R47681
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 4:04:20 AM	R47681
Sulfate	89	0.48	2.5		mg/L	5	12/11/2017 4:04:20 AM	R47681
Nitrate+Nitrite as N	1.2	0.13	1.0		mg/L	5	12/11/2017 6:45:42 AM	R47681
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.10	0.00099	0.0020		mg/L	1	12/26/2017 5:23:20 PM	B48016
Cadmium	ND	0.0010	0.0020		mg/L	1	12/26/2017 5:23:20 PM	B48016
Calcium	18	0.078	1.0		mg/L	1	12/26/2017 5:23:20 PM	B48016
Chromium	ND	0.0013	0.0060		mg/L	1	12/26/2017 5:23:20 PM	B48016
Copper	0.0048	0.0032	0.0060	J	mg/L	1	12/26/2017 5:23:20 PM	B48016
Iron	ND	0.016	0.020		mg/L	1	12/26/2017 5:23:20 PM	B48016
Magnesium	3.1	0.25	1.0		mg/L	1	12/26/2017 5:23:20 PM	B48016
Manganese	0.13	0.00039	0.0020	*	mg/L	1	12/28/2017 8:00:11 PM	A48091
Potassium	1.8	0.11	1.0		mg/L	1	12/26/2017 5:23:20 PM	B48016
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 8:00:11 PM	A48091
Sodium	500	0.82	5.0		mg/L	5	12/26/2017 6:21:13 PM	B48016
Zinc	0.012	0.0021	0.010		mg/L	1	12/26/2017 5:23:20 PM	B48016
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.099	0.0010	0.0020		mg/L	1	12/20/2017 8:43:56 PM	35551
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 8:43:56 PM	35551
Chromium	ND	0.0018	0.0060		mg/L	1	12/20/2017 8:43:56 PM	35551
Copper	0.0054	0.0041	0.0060	J	mg/L	1	12/20/2017 8:43:56 PM	35551
Iron	0.040	0.010	0.020		mg/L	1	12/20/2017 8:43:56 PM	35551
Manganese	0.13	0.0011	0.0020	*	mg/L	1	12/20/2017 8:43:56 PM	35551
Silver	ND	0.0012	0.0050		mg/L	1	12/21/2017 6:51:57 PM	35551
Zinc	ND	0.0033	0.010		mg/L	1	12/20/2017 8:43:56 PM	35551
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0042	0.010		mg/L	10	1/5/2018 6:21:05 PM	C48247
Lead	0.00024	0.00017	0.00050	J	mg/L	1	12/21/2017 1:16:30 AM	D47943
Selenium	ND	0.0076	0.010		mg/L	10	1/5/2018 6:21:05 PM	C48247
Uranium	0.025	0.00048	0.0025		mg/L	5	12/21/2017 10:56:31 PM	C47988

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:25:00 PM
Lab ID: 1712305-005
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0041	0.010		mg/L	10	1/8/2018 7:44:38 PM	35551
Lead	ND	0.0023	0.0050		mg/L	10	1/8/2018 7:44:38 PM	35551
Selenium	ND	0.0098	0.010		mg/L	10	1/8/2018 7:44:38 PM	35551
Uranium	0.025	0.0015	0.0050		mg/L	10	1/8/2018 7:44:38 PM	35551
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/20/2017 9:51:41 AM	35598
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Methyl tert-butyl ether (MTBE)	42	0.24	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Acetone	2.9	0.82	10	J	µg/L	1	12/13/2017 3:38:42 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
2-Butanone	1.8	1.1	10	J	µg/L	1	12/13/2017 3:38:42 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 3:38:42 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: NAPIS-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:25:00 PM
Lab ID: 1712305-005
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 3:38:42 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 3:38:42 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 3:38:42 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 3:38:42 PM	A47735
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	12/13/2017 3:38:42 PM	A47735
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	12/13/2017 3:38:42 PM	A47735
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/13/2017 3:38:42 PM	A47735
Surr: Toluene-d8	93.6	0	70-130		%Rec	1	12/13/2017 3:38:42 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: NAPIS-3
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 2:25:00 PM
Lab ID: 1712305-005
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.090	0.0097	0.050		mg/L	1	12/8/2017 8:52:07 PM	R47635
Surr: BFB	106	0	70-130		%Rec	1	12/8/2017 8:52:07 PM	R47635

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:00:00 PM
Lab ID: 1712305-006
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	10	0.36	1.0		mg/L	1	12/11/2017 7:22:36 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 7:22:36 PM	35398
Surr: DNOP	106	0	77.5-161		%Rec	1	12/11/2017 7:22:36 PM	35398
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.5	0.22	0.50		mg/L	5	12/11/2017 4:29:10 AM	R47681
Chloride	1800	25	50		mg/L	100	12/20/2017 4:15:36 AM	A47908
Bromide	4.0	0.073	0.50		mg/L	5	12/11/2017 4:29:10 AM	R47681
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 4:29:10 AM	R47681
Sulfate	9.2	0.48	2.5		mg/L	5	12/11/2017 4:29:10 AM	R47681
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 6:58:06 AM	R47681
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	1.1	0.0049	0.010		mg/L	5	12/26/2017 6:23:01 PM	R48016
Cadmium	ND	0.0010	0.0020		mg/L	1	12/26/2017 5:25:17 PM	R48016
Calcium	160	0.39	5.0		mg/L	5	12/26/2017 6:23:01 PM	R48016
Chromium	ND	0.0013	0.0060		mg/L	1	12/26/2017 5:25:17 PM	R48016
Copper	ND	0.0032	0.0060		mg/L	1	12/26/2017 5:25:17 PM	R48016
Iron	3.0	0.082	0.10	*	mg/L	5	12/26/2017 6:23:01 PM	R48016
Magnesium	30	0.25	1.0		mg/L	1	12/26/2017 5:25:17 PM	R48016
Manganese	1.6	0.0020	0.010	*	mg/L	5	12/26/2017 6:23:01 PM	R48016
Potassium	3.8	0.11	1.0		mg/L	1	12/26/2017 5:25:17 PM	R48016
Silver	0.0023	0.0018	0.0050	J	mg/L	1	12/28/2017 8:02:00 PM	A48091
Sodium	1200	3.3	20		mg/L	20	12/27/2017 6:07:32 PM	A48056
Zinc	0.012	0.0021	0.010		mg/L	1	12/26/2017 5:25:17 PM	R48016
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	1.1	0.0050	0.010		mg/L	5	12/20/2017 8:47:42 PM	35551
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 8:45:52 PM	35551
Chromium	0.0026	0.0018	0.0060	J	mg/L	1	12/20/2017 8:45:52 PM	35551
Copper	0.0099	0.0041	0.0060		mg/L	1	12/20/2017 8:45:52 PM	35551
Iron	2.0	0.051	0.10	*	mg/L	5	12/20/2017 8:47:42 PM	35551
Manganese	1.3	0.0055	0.010	*	mg/L	5	12/20/2017 8:47:42 PM	35551
Silver	0.027	0.0012	0.0050		mg/L	1	1/9/2018 5:22:31 PM	35551
Zinc	0.019	0.0033	0.010		mg/L	1	12/20/2017 8:45:52 PM	35551
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.015	0.0042	0.010	*	mg/L	10	1/5/2018 6:26:00 PM	C48247
Lead	0.00068	0.00017	0.00050		mg/L	1	12/21/2017 1:21:24 AM	D47943
Selenium	0.020	0.0076	0.010		mg/L	10	1/5/2018 6:26:00 PM	C48247
Uranium	0.021	0.000096	0.00050		mg/L	1	12/21/2017 1:21:24 AM	D47943

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:00:00 PM
Lab ID: 1712305-006
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.018	0.0021	0.0050	*	mg/L	5	1/2/2018 11:55:07 PM	35551
Lead	0.0065	0.0023	0.0050		mg/L	10	1/8/2018 7:51:51 PM	35551
Selenium	ND	0.049	0.050		mg/L	50	1/8/2018 7:48:15 PM	35551
Uranium	0.050	0.0015	0.0050	*	mg/L	10	1/8/2018 7:51:51 PM	35551
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000041	0.000037	0.00020	J	mg/L	1	12/20/2017 9:57:39 AM	35598
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Acenaphthylene	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Aniline	ND	15	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Anthracene	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Azobenzene	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Benz(a)anthracene	ND	19	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Benzo(a)pyrene	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Benzo(b)fluoranthene	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Benzo(g,h,i)perylene	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Benzo(k)fluoranthene	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Benzoic acid	24	20	100	JD	µg/L	1	12/12/2017 5:20:08 PM	35372
Benzyl alcohol	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Bis(2-chloroethoxy)methane	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Bis(2-chloroethyl)ether	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Bis(2-chloroisopropyl)ether	ND	19	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Bis(2-ethylhexyl)phthalate	44	24	50	JD	µg/L	1	12/12/2017 5:20:08 PM	35372
4-Bromophenyl phenyl ether	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Butyl benzyl phthalate	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Carbazole	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
4-Chloro-3-methylphenol	ND	32	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
4-Chloroaniline	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2-Chloronaphthalene	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2-Chlorophenol	ND	38	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
4-Chlorophenyl phenyl ether	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Chrysene	ND	19	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Di-n-butyl phthalate	ND	25	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Di-n-octyl phthalate	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Dibenz(a,h)anthracene	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Dibenzofuran	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
1,2-Dichlorobenzene	ND	10	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
1,3-Dichlorobenzene	ND	9.1	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:00:00 PM
Lab ID: 1712305-006
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	11	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
3,3´-Dichlorobenzidine	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Diethyl phthalate	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Dimethyl phthalate	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2,4-Dichlorophenol	ND	28	100	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2,4-Dimethylphenol	34	14	50	JD	µg/L	1	12/12/2017 5:20:08 PM	35372
4,6-Dinitro-2-methylphenol	ND	19	100	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2,4-Dinitrophenol	ND	13	100	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2,4-Dinitrotoluene	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2,6-Dinitrotoluene	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Fluoranthene	ND	21	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Fluorene	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Hexachlorobenzene	ND	19	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Hexachlorobutadiene	ND	6.7	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Hexachlorocyclopentadiene	ND	6.4	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Hexachloroethane	ND	6.0	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Indeno(1,2,3-cd)pyrene	ND	21	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Isophorone	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
1-Methylnaphthalene	ND	17	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2-Methylnaphthalene	ND	16	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2-Methylphenol	ND	17	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
3+4-Methylphenol	ND	16	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
N-Nitrosodi-n-propylamine	ND	23	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
N-Nitrosodimethylamine	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
N-Nitrosodiphenylamine	ND	19	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Naphthalene	ND	14	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2-Nitroaniline	ND	25	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
3-Nitroaniline	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
4-Nitroaniline	ND	20	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Nitrobenzene	ND	18	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2-Nitrophenol	ND	26	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
4-Nitrophenol	ND	27	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Pentachlorophenol	ND	25	100	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Phenanthrene	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Phenol	ND	16	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Pyrene	ND	22	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Pyridine	ND	11	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
1,2,4-Trichlorobenzene	ND	11	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
2,4,5-Trichlorophenol	ND	26	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372

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Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:00:00 PM
Lab ID: 1712305-006
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	27	50	D	µg/L	1	12/12/2017 5:20:08 PM	35372
Surr: 2-Fluorophenol	45.2	0	15-114	D	%Rec	1	12/12/2017 5:20:08 PM	35372
Surr: Phenol-d5	41.4	0	15-97.9	D	%Rec	1	12/12/2017 5:20:08 PM	35372
Surr: 2,4,6-Tribromophenol	73.6	0	15-161	D	%Rec	1	12/12/2017 5:20:08 PM	35372
Surr: Nitrobenzene-d5	85.9	0	29.3-120	D	%Rec	1	12/12/2017 5:20:08 PM	35372
Surr: 2-Fluorobiphenyl	78.5	0	17.5-116	D	%Rec	1	12/12/2017 5:20:08 PM	35372
Surr: 4-Terphenyl-d14	68.1	0	21-92.2	D	%Rec	1	12/12/2017 5:20:08 PM	35372
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	130	0.31	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Toluene	0.87	0.32	5.0	J	µg/L	5	12/13/2017 4:08:44 PM	A47735
Ethylbenzene	12	0.47	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Methyl tert-butyl ether (MTBE)	290	1.2	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2,4-Trimethylbenzene	4.9	0.56	5.0	J	µg/L	5	12/13/2017 4:08:44 PM	A47735
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Naphthalene	ND	0.57	10		µg/L	5	12/13/2017 4:08:44 PM	A47735
1-Methylnaphthalene	20	0.80	20		µg/L	5	12/13/2017 4:08:44 PM	A47735
2-Methylnaphthalene	ND	0.76	20		µg/L	5	12/13/2017 4:08:44 PM	A47735
Acetone	38	4.1	50	J	µg/L	5	12/13/2017 4:08:44 PM	A47735
Bromobenzene	ND	0.70	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Bromodichloromethane	ND	0.88	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Bromoform	ND	1.1	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Bromomethane	ND	1.3	15		µg/L	5	12/13/2017 4:08:44 PM	A47735
2-Butanone	ND	5.7	50		µg/L	5	12/13/2017 4:08:44 PM	A47735
Carbon disulfide	ND	2.0	50		µg/L	5	12/13/2017 4:08:44 PM	A47735
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Chlorobenzene	ND	0.53	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Chloroethane	ND	1.2	10		µg/L	5	12/13/2017 4:08:44 PM	A47735
Chloroform	ND	2.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Chloromethane	ND	1.5	15		µg/L	5	12/13/2017 4:08:44 PM	A47735
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	12/13/2017 4:08:44 PM	A47735
Dibromochloromethane	ND	0.36	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Dibromomethane	ND	0.45	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:00:00 PM
Lab ID: 1712305-006 **Matrix:** AQUEOUS **Received Date:** 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
2,2-Dichloropropane	ND	0.79	10		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
2-Hexanone	ND	3.3	50		µg/L	5	12/13/2017 4:08:44 PM	A47735
Isopropylbenzene	1.4	0.26	5.0	J	µg/L	5	12/13/2017 4:08:44 PM	A47735
4-Isopropyltoluene	ND	0.48	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	12/13/2017 4:08:44 PM	A47735
Methylene Chloride	ND	0.54	15		µg/L	5	12/13/2017 4:08:44 PM	A47735
n-Butylbenzene	ND	0.65	15		µg/L	5	12/13/2017 4:08:44 PM	A47735
n-Propylbenzene	1.3	0.37	5.0	J	µg/L	5	12/13/2017 4:08:44 PM	A47735
sec-Butylbenzene	ND	0.55	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Styrene	ND	0.78	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	12/13/2017 4:08:44 PM	A47735
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	12/13/2017 4:08:44 PM	A47735
Vinyl chloride	ND	0.89	5.0		µg/L	5	12/13/2017 4:08:44 PM	A47735
Xylenes, Total	3.4	1.6	7.5	J	µg/L	5	12/13/2017 4:08:44 PM	A47735
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	5	12/13/2017 4:08:44 PM	A47735
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	5	12/13/2017 4:08:44 PM	A47735
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	12/13/2017 4:08:44 PM	A47735
Surr: Toluene-d8	95.5	0	70-130		%Rec	5	12/13/2017 4:08:44 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OAPIS-1
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:00:00 PM
Lab ID: 1712305-006
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	1.0	0.048	0.25		mg/L	5	12/8/2017 9:14:54 PM	R47635
Surr: BFB	101	0	70-130		%Rec	5	12/8/2017 9:14:54 PM	R47635

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CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:30:00 PM
Lab ID: 1712305-007
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/11/2017 7:49:34 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 7:49:34 PM	35398
Surr: DNOP	104	0	77.5-161		%Rec	1	12/11/2017 7:49:34 PM	35398
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/11/2017 4:53:59 AM	R47681
Chloride	2200	50	100		mg/L	200	12/20/2017 4:28:01 AM	A47908
Bromide	3.4	0.073	0.50		mg/L	5	12/11/2017 4:53:59 AM	R47681
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 4:53:59 AM	R47681
Sulfate	150	0.48	2.5		mg/L	5	12/11/2017 4:53:59 AM	R47681
Nitrate+Nitrite as N	26	0.26	2.0	*	mg/L	10	12/29/2017 2:08:36 AM	A48107
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00099	0.0020		mg/L	1	12/26/2017 5:27:06 PM	B48016
Cadmium	ND	0.0010	0.0020		mg/L	1	12/26/2017 5:27:06 PM	B48016
Calcium	78	0.078	1.0		mg/L	1	12/26/2017 5:27:06 PM	B48016
Chromium	ND	0.0013	0.0060		mg/L	1	12/26/2017 5:27:06 PM	B48016
Copper	ND	0.0032	0.0060		mg/L	1	12/26/2017 5:27:06 PM	B48016
Iron	0.039	0.016	0.020		mg/L	1	12/26/2017 5:27:06 PM	B48016
Magnesium	11	0.25	1.0		mg/L	1	12/26/2017 5:27:06 PM	B48016
Manganese	0.00078	0.00039	0.0020	J	mg/L	1	12/26/2017 5:27:06 PM	B48016
Potassium	4.9	0.11	1.0		mg/L	1	12/26/2017 5:27:06 PM	B48016
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 8:03:41 PM	A48091
Sodium	1400	3.3	20		mg/L	20	12/27/2017 6:11:48 PM	B48056
Zinc	0.011	0.0021	0.010		mg/L	1	12/26/2017 5:27:06 PM	B48016
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.0010	0.0020		mg/L	1	12/20/2017 8:49:28 PM	35551
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 8:49:28 PM	35551
Chromium	ND	0.0018	0.0060		mg/L	1	12/20/2017 8:49:28 PM	35551
Copper	ND	0.0041	0.0060		mg/L	1	12/20/2017 8:49:28 PM	35551
Iron	0.39	0.010	0.020	*	mg/L	1	12/20/2017 8:49:28 PM	35551
Manganese	0.011	0.0011	0.0020		mg/L	1	12/20/2017 8:49:28 PM	35551
Silver	0.014	0.0012	0.0050		mg/L	1	1/9/2018 5:24:21 PM	35551
Zinc	0.0078	0.0033	0.010	J	mg/L	1	12/20/2017 8:49:28 PM	35551
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0090	0.0042	0.010	J	mg/L	10	12/30/2017 11:20:03 AM	A48118
Lead	ND	0.00017	0.00050		mg/L	1	12/21/2017 1:26:18 AM	D47943
Selenium	0.019	0.015	0.020	J	mg/L	20	1/5/2018 6:30:55 PM	C48247
Uranium	0.027	0.00048	0.0025		mg/L	5	12/21/2017 11:06:21 PM	C47988

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:30:00 PM
Lab ID: 1712305-007
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.021	0.050		mg/L	50	1/8/2018 7:55:28 PM	35551
Lead	ND	0.0011	0.0025		mg/L	5	1/8/2018 7:59:05 PM	35551
Selenium	ND	0.049	0.050		mg/L	50	1/8/2018 7:55:28 PM	35551
Uranium	0.028	0.00077	0.0025		mg/L	5	1/8/2018 7:59:05 PM	35551
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/20/2017 9:59:36 AM	35598
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Acetone	4.1	0.82	10	J	µg/L	1	12/13/2017 4:38:36 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 4:38:36 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 4:38:36 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735

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Lab ID: 1712305-007
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 4:38:36 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 4:38:36 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 4:38:36 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 4:38:36 PM	A47735
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	12/13/2017 4:38:36 PM	A47735
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	12/13/2017 4:38:36 PM	A47735
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/13/2017 4:38:36 PM	A47735
Surr: Toluene-d8	95.9	0	70-130		%Rec	1	12/13/2017 4:38:36 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP1-NW
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017 3:30:00 PM
Lab ID: 1712305-007
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.025	0.0097	0.050	J	mg/L	1	12/8/2017 9:37:41 PM	R47635
Surr: BFB	102	0	70-130		%Rec	1	12/8/2017 9:37:41 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP 08
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017
Lab ID: 1712305-008
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.1	0.36	1.0		mg/L	1	12/11/2017 8:16:38 PM	35398
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/11/2017 8:16:38 PM	35398
Surr: DNOP	105	0	77.5-161		%Rec	1	12/11/2017 8:16:38 PM	35398
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.6	0.22	0.50		mg/L	5	12/11/2017 5:18:48 AM	R47681
Chloride	270	5.0	10		mg/L	20	12/11/2017 5:31:13 AM	R47681
Bromide	1.1	0.073	0.50		mg/L	5	12/11/2017 5:18:48 AM	R47681
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/11/2017 5:18:48 AM	R47681
Sulfate	5.7	0.48	2.5		mg/L	5	12/11/2017 5:18:48 AM	R47681
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/11/2017 7:22:56 AM	R47681
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.0	0.0049	0.010		mg/L	5	12/29/2017 4:30:39 PM	C48109
Cadmium	ND	0.0010	0.0020		mg/L	1	12/26/2017 5:29:09 PM	B48016
Calcium	76	0.078	1.0		mg/L	1	12/26/2017 5:29:09 PM	B48016
Chromium	ND	0.0013	0.0060		mg/L	1	12/26/2017 5:29:09 PM	B48016
Copper	ND	0.0032	0.0060		mg/L	1	12/26/2017 5:29:09 PM	B48016
Iron	1.8	0.082	0.10	*	mg/L	5	12/29/2017 4:30:39 PM	C48109
Magnesium	14	0.25	1.0		mg/L	1	12/26/2017 5:29:09 PM	B48016
Manganese	1.1	0.0020	0.010	*	mg/L	5	12/29/2017 4:30:39 PM	C48109
Potassium	0.33	0.11	1.0	J	mg/L	1	12/26/2017 5:29:09 PM	B48016
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 8:05:38 PM	B48091
Sodium	380	0.82	5.0		mg/L	5	12/29/2017 4:30:39 PM	C48109
Zinc	0.013	0.0021	0.010		mg/L	1	12/26/2017 5:29:09 PM	B48016
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.0	0.0050	0.010	*	mg/L	5	12/20/2017 8:53:04 PM	35551
Cadmium	ND	0.00058	0.0020		mg/L	1	12/20/2017 8:51:16 PM	35551
Chromium	ND	0.0018	0.0060		mg/L	1	12/20/2017 8:51:16 PM	35551
Copper	ND	0.0041	0.0060		mg/L	1	12/20/2017 8:51:16 PM	35551
Iron	2.3	0.051	0.10	*	mg/L	5	12/20/2017 8:53:04 PM	35551
Manganese	1.0	0.0055	0.010	*	mg/L	5	12/20/2017 8:53:04 PM	35551
Silver	0.011	0.0012	0.0050		mg/L	1	1/9/2018 5:26:20 PM	35551
Zinc	0.0035	0.0033	0.010	J	mg/L	1	12/20/2017 8:51:16 PM	35551
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0048	0.0021	0.0050	J	mg/L	5	12/30/2017 11:24:58 AM	A48118
Lead	ND	0.00017	0.00050		mg/L	1	12/21/2017 1:31:12 AM	D47943
Selenium	0.0043	0.0038	0.0050	J	mg/L	5	12/30/2017 1:56:21 PM	B48118
Uranium	0.00025	0.000096	0.00050	J	mg/L	1	12/21/2017 1:31:12 AM	D47943

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP 08
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017
Lab ID: 1712305-008
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0050	0.00041	0.0010		mg/L	1	1/3/2018 12:14:45 AM	35551
Lead	ND	0.0023	0.0050		mg/L	10	1/8/2018 8:02:42 PM	35551
Selenium	ND	0.0098	0.010		mg/L	10	1/8/2018 8:02:42 PM	35551
Uranium	ND	0.0015	0.0050		mg/L	10	1/8/2018 8:02:42 PM	35551
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/20/2017 10:01:32 AM	35598
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	19	0.062	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Toluene	0.23	0.064	1.0	J	µg/L	1	12/13/2017 5:08:26 PM	A47735
Ethylbenzene	36	0.093	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Methyl tert-butyl ether (MTBE)	150	0.24	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2,4-Trimethylbenzene	0.14	0.11	1.0	J	µg/L	1	12/13/2017 5:08:26 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Naphthalene	3.6	0.11	2.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1-Methylnaphthalene	4.2	0.16	4.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Acetone	4.5	0.82	10	J	µg/L	1	12/13/2017 5:08:26 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 5:08:26 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 5:08:26 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP 08
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017
Lab ID: 1712305-008
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,1-Dichloroethane	0.50	0.40	1.0	J	µg/L	1	12/13/2017 5:08:26 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 5:08:26 PM	A47735
Isopropylbenzene	3.7	0.051	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 5:08:26 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
n-Butylbenzene	0.41	0.13	3.0	J	µg/L	1	12/13/2017 5:08:26 PM	A47735
n-Propylbenzene	3.6	0.074	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
sec-Butylbenzene	1.2	0.11	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
tert-Butylbenzene	0.20	0.10	1.0	J	µg/L	1	12/13/2017 5:08:26 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 5:08:26 PM	A47735
Xylenes, Total	0.45	0.32	1.5	J	µg/L	1	12/13/2017 5:08:26 PM	A47735
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	12/13/2017 5:08:26 PM	A47735
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	12/13/2017 5:08:26 PM	A47735
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	12/13/2017 5:08:26 PM	A47735
Surr: Toluene-d8	97.0	0	70-130		%Rec	1	12/13/2017 5:08:26 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP 08
Project: 4th QTR 2017 GW Sampling API
Collection Date: 12/4/2017
Lab ID: 1712305-008
Matrix: AQUEOUS
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.85	0.0097	0.050		mg/L	1	12/8/2017 10:00:26 PM	R47635
Surr: BFB	105	0	70-130		%Rec	1	12/8/2017 10:00:26 PM	R47635

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Sampling API
Collection Date:
Lab ID: 1712305-009
Matrix: TRIP BLANK
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Acetone	2.3	0.82	10	J	µg/L	1	12/13/2017 1:09:17 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 1:09:17 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 1:09:17 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 1:09:17 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Sampling API
Collection Date:
Lab ID: 1712305-009
Matrix: TRIP BLANK
Received Date: 12/6/2017 10:05:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 1:09:17 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 1:09:17 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 1:09:17 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 1:09:17 PM	A47735
Surr: 1,2-Dichloroethane-d4	99.0	0	70-130		%Rec	1	12/13/2017 1:09:17 PM	A47735
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	12/13/2017 1:09:17 PM	A47735
Surr: Dibromofluoromethane	99.8	0	70-130		%Rec	1	12/13/2017 1:09:17 PM	A47735
Surr: Toluene-d8	97.1	0	70-130		%Rec	1	12/13/2017 1:09:17 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	0.0746		0.00500	1	12/13/2017 09:48	WG1052450

Method Blank (MB)

(MB) R3272544-1 12/13/17 09:42

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L956231-01 Original Sample (OS) • Duplicate (DUP)

(OS) L956231-01 12/13/17 10:19 • (DUP) R3272544-4 12/13/17 09:56

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L956231-05 Original Sample (OS) • Duplicate (DUP)

(OS) L956231-05 12/13/17 10:02 • (DUP) R3272544-7 12/13/17 10:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3272544-2 12/13/17 09:43 • (LCSD) R3272544-3 12/13/17 09:44

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0929	0.0933	92.9	93.3	85-115			0.43	20

L956231-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L956231-03 12/13/17 09:58 • (MS) R3272544-5 12/13/17 09:59 • (MSD) R3272544-8 12/13/17 10:20

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0963	0.0901	96.3	90.1	1	75-125			6.65	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48016**	RunNo: **48016**
Prep Date:	Analysis Date: **12/26/2017**	SeqNo: **1538677** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	96.5	50	150			J
Cadmium	0.0028	0.0020	0.002000	0	142	50	150			
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0053	0.0060	0.006000	0	87.7	50	150			J
Copper	0.0060	0.0060	0.006000	0	99.7	50	150			J
Iron	0.019	0.020	0.02000	0	95.5	50	150			J
Magnesium	0.52	1.0	0.5000	0	103	50	150			J
Manganese	0.0019	0.0020	0.002000	0	95.0	50	150			J
Potassium	0.52	1.0	0.5000	0	103	50	150			J
Sodium	0.52	1.0	0.5000	0	104	50	150			J
Zinc	0.0048	0.010	0.005000	0	95.6	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48016**	RunNo: **48016**
Prep Date:	Analysis Date: **12/26/2017**	SeqNo: **1538678** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.2	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.48	0.0060	0.5000	0	96.5	85	115			
Iron	0.48	0.020	0.5000	0	97.0	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Manganese	0.46	0.0020	0.5000	0	91.7	85	115			
Potassium	49	1.0	50.00	0	98.0	85	115			
Sodium	48	1.0	50.00	0	95.8	85	115			
Zinc	0.47	0.010	0.5000	0	93.5	85	115			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48016**	RunNo: **48016**
Prep Date:	Analysis Date: **12/26/2017**	SeqNo: **1539030** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**MB-B**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B48016**	RunNo:	**48016**					
Prep Date:		Analysis Date:	**12/26/2017**	SeqNo:	**1539030**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	**MB-A**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**A48056**	RunNo:	**48056**					
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540004**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	**LLLCS-A**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A48056**	RunNo:	**48056**					
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540005**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.50	1.0	0.5000	0	100	50	150			J

Sample ID	**LCS-A**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**A48056**	RunNo:	**48056**					
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540006**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	51	1.0	50.00	0	101	85	115			

Sample ID	**MB-B**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**B48056**	RunNo:	**48056**					
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540007**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	**LLLCS-B**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B48056**	RunNo:	**48056**					
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540008**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.51	1.0	0.5000	0	102	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**LCS-B**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **B48056**			RunNo: **48056**					
Prep Date:		Analysis Date: **12/27/2017**			SeqNo: **1540009**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	98.9	85	115			

Sample ID	**MB-A**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **A48091**			RunNo: **48091**					
Prep Date:		Analysis Date: **12/28/2017**			SeqNo: **1541772**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								
Silver	ND	0.0050								

Sample ID	**LLLCS-A**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **A48091**			RunNo: **48091**					
Prep Date:		Analysis Date: **12/28/2017**			SeqNo: **1541773**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0020	0.0020	0.002000	0	99.0	50	150			J
Silver	0.0050	0.0050	0.005000	0	101	50	150			

Sample ID	**LCS-A**	SampType: **LCS**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **A48091**			RunNo: **48091**					
Prep Date:		Analysis Date: **12/28/2017**			SeqNo: **1541774**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.49	0.0020	0.5000	0	98.3	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			

Sample ID	**MB-B**	SampType: **MBLK**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **B48091**			RunNo: **48091**					
Prep Date:		Analysis Date: **12/28/2017**			SeqNo: **1541775**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								

Sample ID	**LLLCS-B**	SampType: **LCSLL**			TestCode: **EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **B48091**			RunNo: **48091**					
Prep Date:		Analysis Date: **12/28/2017**			SeqNo: **1541776**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0050	0.0050	0.005000	0	99.0	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**LCS-B**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B48091**	RunNo:	**48091**					
Prep Date:		Analysis Date:	**12/28/2017**	SeqNo:	**1541777**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.11	0.0050	0.1000	0	107	85	115			

Sample ID	**MB-C**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**C48109**	RunNo:	**48109**					
Prep Date:		Analysis Date:	**12/29/2017**	SeqNo:	**1543743**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Iron	ND	0.020								
Manganese	ND	0.0020								
Sodium	ND	1.0								

Sample ID	**LLLCS-C**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**C48109**	RunNo:	**48109**					
Prep Date:		Analysis Date:	**12/29/2017**	SeqNo:	**1543744**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	104	50	150			
Iron	0.021	0.020	0.02000	0	106	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Sodium	0.43	1.0	0.5000	0	86.2	50	150			J

Sample ID	**LCS-C**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**C48109**	RunNo:	**48109**					
Prep Date:		Analysis Date:	**12/29/2017**	SeqNo:	**1543745**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.2	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.50	0.0020	0.5000	0	101	85	115			
Sodium	51	1.0	50.00	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**MB-35551**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**35551**	RunNo:	**47872**					
Prep Date:	**12/17/2017**	Analysis Date:	**12/18/2017**	SeqNo:	**1532321**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LLLCS-35551**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**35551**	RunNo:	**47872**					
Prep Date:		Analysis Date:	**12/18/2017**	SeqNo:	**1532322**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0018	0.0020	0.002000	0	91.0	50	150			J
Cadmium	0.0019	0.0020	0.002000	0	94.0	50	150			J
Chromium	0.0055	0.0060	0.006000	0	92.3	50	150			J
Iron	0.019	0.020	0.02000	0	96.0	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.5	50	150			J
Silver	0.0052	0.0050	0.005000	0	104	50	150			
Zinc	0.0049	0.010	0.005000	0	98.2	50	150			J

Sample ID	**LCS-35551**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**35551**	RunNo:	**47872**					
Prep Date:	**12/17/2017**	Analysis Date:	**12/18/2017**	SeqNo:	**1532323**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0	102	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.8	85	115			
Chromium	0.49	0.0060	0.5000	0	98.5	85	115			
Iron	0.51	0.020	0.5000	0	103	85	115			
Manganese	0.49	0.0020	0.5000	0	98.4	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.48	0.010	0.5000	0	96.7	85	115			

Sample ID	**MB-35551**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**PBW**	Batch ID:	**35551**	RunNo:	**47895**					
Prep Date:	**12/17/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1534336**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**LLLCS-35551**	SampType:	**LCSLL**		TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**BatchQC**	Batch ID:	**35551**		RunNo:	**47895**					
Prep Date:		Analysis Date:	**12/19/2017**		SeqNo:	**1534337**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper		0.0056	0.0060	0.006000	0	92.7	50	150			J

Sample ID	**LCS-35551**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Total Metals**					
Client ID:	**LCSW**	Batch ID:	**35551**		RunNo:	**47895**					
Prep Date:	**12/17/2017**	Analysis Date:	**12/19/2017**		SeqNo:	**1534338**	Units:	**mg/L**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper		0.51	0.0060	0.5000	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1535756** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1535757** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00047	0.00050	0.0005000	0	94.7	50	150			J
Uranium	0.00044	0.00050	0.0005000	0	87.4	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1535758** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0	90.2	85	115			
Uranium	0.011	0.00050	0.01250	0	87.5	85	115			

Sample ID **1712305-001CMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **East LDU**	Batch ID: **D47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1535760** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0	91.3	70	130			
Uranium	0.011	0.00050	0.01250	0	90.5	70	130			

Sample ID **1712305-001CMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **East LDU**	Batch ID: **D47943**	RunNo: **47943**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1535761** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0	91.6	70	130	0.351	20	
Uranium	0.011	0.00050	0.01250	0	90.7	70	130	0.183	20	

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537360** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537360** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537361** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	103	50	150			
Selenium	0.00086	0.0010	0.001000	0	85.9	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.3	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537362** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.024	0.0010	0.02500	0	97.4	85	115			
Uranium	0.011	0.00050	0.01250	0	90.2	85	115			

Sample ID **1712305-001CMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **East LDU**	Batch ID: **C47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537372** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.7	70	130			
Selenium	0.021	0.0010	0.02500	0	85.3	70	130			

Sample ID **1712305-001CMSDL**	SampType: **MSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **East LDU**	Batch ID: **C47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/21/2017**	SeqNo: **1537373** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	93.0	70	130	0.322	20	
Selenium	0.021	0.0010	0.02500	0	85.6	70	130	0.320	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1542927** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1542928** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	114	50	150			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1542929** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.3	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543339** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543340** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00095	0.0010	0.001000	0	95.2	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543341** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549286** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549287** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	105	50	150			
Selenium	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.9	85	115			
Selenium	0.023	0.0010	0.02500	0	93.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**MB-35551**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35551**	RunNo:	**47891**					
Prep Date:	**12/17/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1532711**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35551**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35551**	RunNo:	**47891**					
Prep Date:	**12/17/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1532712**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00098	0.0010	0.001000	0	97.8	50	150			J
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Selenium	0.00093	0.0010	0.001000	0	93.1	50	150			J
Uranium	0.00050	0.00050	0.0005000	0	99.9	50	150			J

Sample ID	**MSLCS-35551**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35551**	RunNo:	**47891**					
Prep Date:	**12/17/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1532713**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	104	85	115			
Lead	0.013	0.00050	0.01250	0	103	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			
Uranium	0.012	0.00050	0.01250	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**MB-35598**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**35598**	RunNo:	**47904**					
Prep Date:	**12/19/2017**	Analysis Date:	**12/20/2017**	SeqNo:	**1534146**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-35598**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**35598**	RunNo:	**47904**					
Prep Date:	**12/19/2017**	Analysis Date:	**12/20/2017**	SeqNo:	**1534147**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	101	80	120			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Sampling API

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47681**	RunNo: **47681**
Prep Date:	Analysis Date: **12/10/2017**	SeqNo: **1523575** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47681**	RunNo: **47681**
Prep Date:	Analysis Date: **12/10/2017**	SeqNo: **1523576** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			
Chloride	4.7	0.50	5.000	0	93.8	90	110			
Bromide	2.4	0.10	2.500	0	95.5	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	94.8	90	110			
Sulfate	9.6	0.50	10.00	0	96.3	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A47908**	RunNo: **47908**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1534572** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A47908**	RunNo: **47908**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1534573** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.8	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A48107**	RunNo: **48107**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1542563** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Sampling API

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A48107**	RunNo: **48107**							
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1542564**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **LCS-35398**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35398**	RunNo: **47663**
Prep Date: **12/8/2017**	Analysis Date: **12/11/2017**	SeqNo: **1523106** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	92.3	135			
Surr: DNOP	0.52		0.5000		103	77.5	161			

Sample ID **MB-35398**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35398**	RunNo: **47663**
Prep Date: **12/8/2017**	Analysis Date: **12/11/2017**	SeqNo: **1523107** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.96		1.000		96.4	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527053** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	1.6	10								J
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527053** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	0.30	3.0								J
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.8	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527054** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.2	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527054** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID **1712305-001a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **East LDU**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527058** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1900	5.0	100.0	1782	88.6	70	130			E
Toluene	160	5.0	100.0	60.16	102	70	130			
Chlorobenzene	100	5.0	100.0	0	101	70	130			
1,1-Dichloroethene	110	5.0	100.0	0	109	70	130			
Trichloroethene (TCE)	94	5.0	100.0	0	94.1	70	130			
Surr: 1,2-Dichloroethane-d4	52		50.00		104	70	130			
Surr: 4-Bromofluorobenzene	54		50.00		107	70	130			
Surr: Dibromofluoromethane	51		50.00		102	70	130			
Surr: Toluene-d8	49		50.00		98.0	70	130			

Sample ID **1712305-001a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **East LDU**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527059** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1800	5.0	100.0	1782	38.3	70	130	2.73	20	ES
Toluene	160	5.0	100.0	60.16	99.6	70	130	1.26	20	
Chlorobenzene	99	5.0	100.0	0	99.2	70	130	1.91	20	
1,1-Dichloroethene	100	5.0	100.0	0	104	70	130	4.68	20	
Trichloroethene (TCE)	96	5.0	100.0	0	95.6	70	130	1.55	20	
Surr: 1,2-Dichloroethane-d4	53		50.00		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	53		50.00		106	70	130	0	0	
Surr: Dibromofluoromethane	51		50.00		103	70	130	0	0	
Surr: Toluene-d8	50		50.00		99.6	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528764** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528765** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **lcs-35372**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35372**	RunNo: **47719**
Prep Date: **12/7/2017**	Analysis Date: **12/12/2017**	SeqNo: **1525517** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	85	10	100.0	0	85.2	39.7	103			
4-Chloro-3-methylphenol	200	10	200.0	0	101	40.5	108			
2-Chlorophenol	180	10	200.0	0	90.4	35	103			
1,4-Dichlorobenzene	76	10	100.0	0	76.0	24.7	93.7			
2,4-Dinitrotoluene	75	10	100.0	0	74.9	35.6	91.4			
N-Nitrosodi-n-propylamine	92	10	100.0	0	91.9	41.6	114			
4-Nitrophenol	130	10	200.0	0	65.7	20.7	74.3			
Pentachlorophenol	160	20	200.0	0	78.2	25.3	98.5			
Phenol	130	10	200.0	0	65.8	20.9	75.1			
Pyrene	93	10	100.0	0	93.0	45.6	108			
1,2,4-Trichlorobenzene	89	10	100.0	0	88.9	30.3	106			
Surr: 2-Fluorophenol	150		200.0		74.1	15	114			
Surr: Phenol-d5	130		200.0		66.4	15	97.9			
Surr: 2,4,6-Tribromophenol	190		200.0		95.5	15	161			
Surr: Nitrobenzene-d5	89		100.0		89.0	29.3	120			
Surr: 2-Fluorobiphenyl	84		100.0		84.5	17.5	116			
Surr: 4-Terphenyl-d14	65		100.0		65.0	21	92.2			

Sample ID **mb-35372**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35372**	RunNo: **47719**
Prep Date: **12/7/2017**	Analysis Date: **12/12/2017**	SeqNo: **1525518** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	4.7	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**
11-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Sampling API

Sample ID **mb-35372**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBW**	Batch ID: **35372**	RunNo: **47719**	
Prep Date: **12/7/2017**	Analysis Date: **12/12/2017**	SeqNo: **1525518**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID **mb-35372**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35372**	RunNo: **47719**
Prep Date: **12/7/2017**	Analysis Date: **12/12/2017**	SeqNo: **1525518** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	5.0								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	120		200.0		62.2	15	114			
Surr: Phenol-d5	93		200.0		46.3	15	97.9			
Surr: 2,4,6-Tribromophenol	180		200.0		88.4	15	161			
Surr: Nitrobenzene-d5	83		100.0		82.8	29.3	120			
Surr: 2-Fluorobiphenyl	76		100.0		76.4	17.5	116			
Surr: 4-Terphenyl-d14	67		100.0		66.8	21	92.2			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712305**

11-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling API

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**R47635**		RunNo:	**47635**				
Prep Date:		Analysis Date:	**12/8/2017**		SeqNo:	**1522856**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	102	70	130			
Surr: BFB	10		10.00		99.6	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**R47635**		RunNo:	**47635**				
Prep Date:		Analysis Date:	**12/8/2017**		SeqNo:	**1522861**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1712305** RcptNo: **1**

Received By: **Erin Melendrez** **12/6/2017 10:05:00 AM**

Completed By: **Ashley Gallegos** **12/6/2017 12:32:39 PM**

Reviewed By: JNO 12/06/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 2 1 1 (≤2 or ≥12 unless noted)

Adjusted? NO

Checked by: JNO

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.7	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type): EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING (API)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712305	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
12/4/17	1300	WATER	EAST LDU	40 ML VOA-5	HCL	-001	✓		✓													
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3														✓			
	1320		WEST LDU	40 ML VOA-5	HCL	-002	✓		✓													
				250 ML AMBER-1	NEAT				✓													
	1350		NAPIS-2	40 ML VOA-5	HCL	-003			✓							✓						
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
				125 ML PLASTIC-1	NEAT														✓			

Date	Time	Relinquished by	Received by	Date	Time
12/5/17	0700			12/6/17	1005
Date	Time	Relinquished by	Received by	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Courier

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING (API)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.7

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712305	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	TOTAL & DISSOLVED		Air Bubbles (Y or N)
12/4/17	1410	WATER	KA-3	40 ML VOA-5	HCL	-004			✓							✓						
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
				125 ML PLASTIC-1	NEAT														✓			
	1425		NAPIS-3	40 ML VOA-5	HCL	-005			✓							✓						
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
				125 ML PLASTIC-1	NEAT														✓			

Date	Time	Relinquished by	Received by	Date	Time
12/5/17	0700			12/6/17	1005
Date	Time	Relinquished by	Received by	Date	Time

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☒ EDD (Type) EXCEL

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Project Name: 4TH QTR 2017 GW SAMPLING (API)
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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712305	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	TOTAL AND DISSOLVED	CYANIDE	Air Bubbles (Y or N)
12/4/17	1500	WATER	OAPIS-1	40ML VOA-5	HCL	-004			✓							✓						
				1L AMBER-2	NEAT												✓					
				250ML AMBER-1	NEAT				✓													
				250ML PLASTIC-1	HNO_3														✓			
				125ML PLASTIC-1	HNO_3													✓	✓			
				125ML PLASTIC-1	H_2SO_4													✓				
				125ML PLASTIC-1	NEAT														✓			
				500ML PLASTIC-1	NaOH																✓	
	1530		STP1-NW	40ML VOA-5	HCL	-007			✓							✓						
				250ML AMBER-1	NEAT				✓													
				250ML PLASTIC-1	HNO_3														✓			
				125ML PLASTIC-1	HNO_3													✓	✓			

Date: 12/5/17 Time: 0700 Relinquished by:
Received by: Date: 12/6/17 Time: 1035
Date: Time: Relinquished by:
Received by: Date: Time:

Remarks:

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courier

Chain-of-Custody Record

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Tel. 505-345-3975 Fax 505-345-4107

Client: ANDEAVOR GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING RD GALLUP, NM 87301

Phone #: 505-722-0231

email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM

QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other

☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: 4TH QTR 2017 GW SAMPLING (API)

Project #:

Project Manager: CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.7

HEAL No. 1712305

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	9270 (Semi-VOA)	MAJOR CATIONS / ANIONS	VOCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
12/4/17	1530	WATER	STP1-NW	125 ML PLASTIC-1	H_2SO_4	-008												✓				
	↓	↓	↓	125 ML PLASTIC-1	NEAT														✓			
	—		DUP08	40 ML VOA-5	HCL	-009			✓							✓						
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
↓		↓	↓	125 ML PLASTIC-1	NEAT														✓			
12/4/17	—	WATER	TRIP BLANK	40 ML VOA-3	HCL	-010										✓						

Date	Time	Relinquished by:	Received by:	Date	Time
12/5/17	0700			12/6/17	1005
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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courier

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 15, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4TH QTR 2017 GW Sampling OrderNo.: 1712533

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1712533**
Date Reported: **1/15/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/7/2017 3:05:00 PM
Lab ID: 1712533-001
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	12/19/2017 2:46:02 AM	35554
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/14/2017 5:37:42 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 5:37:42 PM	35490
Surr: DNOP	100	0	77.5-161		%Rec	1	12/14/2017 5:37:42 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	12/16/2017 12:34:08 AM	R47816
Chloride	650	12	25		mg/L	50	12/27/2017 10:30:13 PM	A48068
Bromide	1.1	0.073	0.50		mg/L	5	12/16/2017 12:34:08 AM	R47816
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/16/2017 12:34:08 AM	R47816
Sulfate	230	0.48	2.5		mg/L	5	12/16/2017 12:34:08 AM	R47816
Nitrate+Nitrite as N	0.76	0.13	1.0	J	mg/L	5	12/16/2017 3:03:02 AM	R47816
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.053	0.00099	0.0020		mg/L	1	12/28/2017 9:48:32 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:48:32 PM	B48091
Calcium	74	0.078	1.0		mg/L	1	12/27/2017 7:51:49 PM	C48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:48:32 PM	B48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 9:48:32 PM	B48091
Iron	ND	0.016	0.020		mg/L	1	12/28/2017 9:48:32 PM	B48091
Magnesium	13	0.25	1.0		mg/L	1	12/27/2017 7:51:49 PM	C48056
Manganese	0.069	0.00039	0.0020	*	mg/L	1	12/28/2017 9:48:32 PM	B48091
Potassium	1.3	0.11	1.0		mg/L	1	12/27/2017 7:51:49 PM	C48056
Silver	0.0022	0.0018	0.0050	J	mg/L	1	12/28/2017 9:48:32 PM	B48091
Sodium	630	1.6	10		mg/L	10	12/28/2017 9:50:21 PM	B48091
Zinc	0.012	0.0021	0.010		mg/L	1	12/28/2017 9:48:32 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.049	0.0010	0.0020		mg/L	1	12/29/2017 7:13:29 PM	35732
Cadmium	ND	0.00058	0.0020		mg/L	1	12/29/2017 7:13:29 PM	35732
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 3:57:53 PM	35732
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 7:13:29 PM	35732
Iron	ND	0.010	0.020		mg/L	1	12/29/2017 7:13:29 PM	35732
Manganese	0.069	0.0011	0.0020	*	mg/L	1	1/2/2018 3:57:53 PM	35732
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 7:13:29 PM	35732
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 3:57:53 PM	35732
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0046	0.0021	0.0050	J	mg/L	5	1/5/2018 7:59:33 PM	D48247
Lead	0.00030	0.00017	0.00050	J	mg/L	1	12/29/2017 2:00:18 AM	C48088

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/7/2017 3:05:00 PM
Lab ID: 1712533-001
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.014	0.0038	0.0050		mg/L	5	1/5/2018 7:59:33 PM	D48247
Uranium	0.051	0.00048	0.0025	*	mg/L	5	12/29/2017 2:20:03 AM	C48088
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.0023	0.0021	0.0050	J	mg/L	5	1/8/2018 8:38:46 PM	35732
Lead	ND	0.0011	0.0025		mg/L	5	1/8/2018 8:38:46 PM	35732
Selenium	0.014	0.0049	0.0050		mg/L	5	1/8/2018 8:38:46 PM	35732
Uranium	0.052	0.00077	0.0025	*	mg/L	5	1/8/2018 8:38:46 PM	35732
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/21/2017 1:55:43 PM	35652
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Methyl tert-butyl ether (MTBE)	27	0.24	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2-Dichloroethane (EDC)	0.55	0.40	1.0	J	µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Acetone	1.7	0.82	10	J	µg/L	1	12/13/2017 5:38:03 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 5:38:03 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 5:38:03 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
cis-1,2-DCE	0.32	0.20	1.0	J	µg/L	1	12/13/2017 5:38:03 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 5:38:03 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/7/2017 3:05:00 PM
Lab ID: 1712533-001 **Matrix:** AQUEOUS **Received Date:** 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,1-Dichloroethane	1.0	0.40	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,1-Dichloroethene	0.86	0.081	1.0	J	µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 5:38:03 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 5:38:03 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 5:38:03 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 5:38:03 PM	A47735
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	12/13/2017 5:38:03 PM	A47735
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	12/13/2017 5:38:03 PM	A47735

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-10
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/7/2017 3:05:00 PM
Lab ID: 1712533-001
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/13/2017 5:38:03 PM	A47735
Surr: Toluene-d8	96.6	0	70-130		%Rec	1	12/13/2017 5:38:03 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.022	0.0097	0.050	J	mg/L	1	12/14/2017 3:41:48 PM	R47798
Surr: BFB	101	0	70-130		%Rec	1	12/14/2017 3:41:48 PM	R47798

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-1
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 11:55:00 AM
Lab ID: 1712533-002
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	12/19/2017 3:31:33 AM	35554
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/14/2017 6:59:34 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 6:59:34 PM	35490
Surr: DNOP	104	0	77.5-161		%Rec	1	12/14/2017 6:59:34 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.23	0.22	0.50	J	mg/L	5	12/16/2017 12:58:56 AM	R47816
Chloride	96	5.0	10		mg/L	20	12/16/2017 1:11:21 AM	R47816
Bromide	0.44	0.073	0.50	J	mg/L	5	12/16/2017 12:58:56 AM	R47816
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/16/2017 12:58:56 AM	R47816
Sulfate	170	0.48	2.5		mg/L	5	12/16/2017 12:58:56 AM	R47816
Nitrate+Nitrite as N	0.28	0.13	1.0	J	mg/L	5	12/16/2017 3:15:27 AM	R47816
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.034	0.00099	0.0020		mg/L	1	12/28/2017 9:52:22 PM	C48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:52:22 PM	C48091
Calcium	2.1	0.078	1.0		mg/L	1	12/27/2017 8:06:24 PM	C48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:52:22 PM	C48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 9:52:22 PM	C48091
Iron	ND	0.016	0.020		mg/L	1	12/28/2017 9:52:22 PM	C48091
Magnesium	ND	0.25	1.0		mg/L	1	12/27/2017 8:06:24 PM	C48056
Manganese	0.0031	0.00039	0.0020		mg/L	1	12/28/2017 9:52:22 PM	C48091
Potassium	0.75	0.11	1.0	J	mg/L	1	12/27/2017 8:06:24 PM	C48056
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 9:52:22 PM	C48091
Sodium	330	0.82	5.0		mg/L	5	12/28/2017 9:54:10 PM	C48091
Zinc	0.0076	0.0021	0.010	J	mg/L	1	12/28/2017 9:52:22 PM	C48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.033	0.0010	0.0020		mg/L	1	12/29/2017 7:15:35 PM	35732
Cadmium	ND	0.00058	0.0020		mg/L	1	12/29/2017 7:15:35 PM	35732
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 4:00:01 PM	35732
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 7:15:35 PM	35732
Iron	0.034	0.010	0.020		mg/L	1	12/29/2017 7:15:35 PM	35732
Manganese	0.0051	0.0011	0.0020		mg/L	1	1/2/2018 4:00:01 PM	35732
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 7:15:35 PM	35732
Zinc	0.0044	0.0033	0.010	J	mg/L	1	1/2/2018 4:00:01 PM	35732
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0026	0.0021	0.0050	J	mg/L	5	12/30/2017 3:44:41 PM	B48118
Lead	ND	0.00017	0.00050		mg/L	1	12/29/2017 2:26:36 AM	C48088

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-1
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 11:55:00 AM
Lab ID: 1712533-002
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.0040	0.0038	0.0050	J	mg/L	5	1/5/2018 8:04:27 PM	D48247
Uranium	0.037	0.00048	0.0025	*	mg/L	5	12/29/2017 2:33:10 AM	C48088
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.00089	0.00041	0.0010	J	mg/L	1	1/3/2018 12:53:57 AM	35732
Lead	ND	0.0011	0.0025		mg/L	5	1/8/2018 8:49:38 PM	35732
Selenium	ND	0.0049	0.0050		mg/L	5	1/8/2018 8:49:38 PM	35732
Uranium	0.035	0.00077	0.0025	*	mg/L	5	1/8/2018 8:49:38 PM	35732
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/21/2017 1:57:43 PM	35652
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Methyl tert-butyl ether (MTBE)	1.4	0.24	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Acetone	1.6	0.82	10	J	µg/L	1	12/13/2017 6:07:34 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 6:07:34 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 6:07:34 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 6:07:34 PM	A47735

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-1
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 11:55:00 AM
Lab ID: 1712533-002
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 6:07:34 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 6:07:34 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 6:07:34 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 6:07:34 PM	A47735
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	12/13/2017 6:07:34 PM	A47735
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	12/13/2017 6:07:34 PM	A47735

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Hall Environmental Analysis Laboratory, Inc.

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Collection Date: 12/8/2017 11:55:00 AM
Lab ID: 1712533-002
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/13/2017 6:07:34 PM	A47735
Surr: Toluene-d8	96.3	0	70-130		%Rec	1	12/13/2017 6:07:34 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.012	0.0097	0.050	J	mg/L	1	12/14/2017 4:04:47 PM	R47798
Surr: BFB	103	0	70-130		%Rec	1	12/14/2017 4:04:47 PM	R47798

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5C
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:20:00 PM
Lab ID: 1712533-003
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/14/2017 7:27:08 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 7:27:08 PM	35490
Surr: DNOP	98.6	0	77.5-161		%Rec	1	12/14/2017 7:27:08 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	ND	0.22	0.50		mg/L	5	12/16/2017 1:23:45 AM	R47816
Chloride	1400	25	50		mg/L	100	12/27/2017 10:42:38 PM	A48068
Bromide	1.2	0.073	0.50		mg/L	5	12/16/2017 1:23:45 AM	R47816
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/16/2017 1:23:45 AM	R47816
Sulfate	210	0.48	2.5		mg/L	5	12/16/2017 1:23:45 AM	R47816
Nitrate+Nitrite as N	0.23	0.13	1.0	J	mg/L	5	12/16/2017 3:27:52 AM	R47816
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00099	0.0020		mg/L	1	12/28/2017 9:56:14 PM	C48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:56:14 PM	C48091
Calcium	58	0.078	1.0		mg/L	1	12/27/2017 8:10:15 PM	C48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:56:14 PM	C48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 9:56:14 PM	C48091
Iron	0.29	0.016	0.020		mg/L	1	12/28/2017 9:56:14 PM	C48091
Magnesium	7.3	0.25	1.0		mg/L	1	12/27/2017 8:10:15 PM	C48056
Manganese	0.043	0.00039	0.0020		mg/L	1	12/28/2017 9:56:14 PM	C48091
Potassium	3.2	0.11	1.0		mg/L	1	12/27/2017 8:10:15 PM	C48056
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 9:56:14 PM	C48091
Sodium	1100	3.3	20		mg/L	20	12/29/2017 4:59:30 PM	C48109
Zinc	0.0074	0.0021	0.010	J	mg/L	1	12/28/2017 9:56:14 PM	C48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.12	0.0010	0.0020		mg/L	1	12/29/2017 7:17:30 PM	35732
Cadmium	ND	0.00058	0.0020		mg/L	1	12/29/2017 7:17:30 PM	35732
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 4:01:57 PM	35732
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 7:17:30 PM	35732
Iron	0.54	0.010	0.020	*	mg/L	1	12/29/2017 7:17:30 PM	35732
Manganese	0.058	0.0011	0.0020	*	mg/L	1	1/2/2018 4:01:57 PM	35732
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 7:17:30 PM	35732
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 4:01:57 PM	35732
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0084	0.020		mg/L	20	12/30/2017 3:29:56 PM	B48118
Lead	ND	0.00017	0.00050		mg/L	1	12/29/2017 2:39:43 AM	C48088
Selenium	ND	0.0076	0.010		mg/L	10	1/5/2018 8:09:21 PM	D48247
Uranium	0.041	0.00048	0.0025	*	mg/L	5	12/29/2017 2:52:49 AM	C48088

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Client Sample ID: BW-5C
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:20:00 PM
Lab ID: 1712533-003
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.0022	0.0021	0.0050	J	mg/L	5	1/8/2018 8:53:14 PM	35732
Lead	ND	0.0011	0.0025		mg/L	5	1/8/2018 8:53:14 PM	35732
Selenium	ND	0.0049	0.0050		mg/L	5	1/8/2018 8:53:14 PM	35732
Uranium	0.038	0.00077	0.0025	*	mg/L	5	1/8/2018 8:53:14 PM	35732
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000081	0.000037	0.00020	J	mg/L	1	12/21/2017 1:59:43 PM	35652
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Benzoic acid	4.7	3.9	20	J	µg/L	1	12/18/2017 11:36:51 AM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/18/2017 11:36:51 AM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 11:36:51 AM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 11:36:51 AM	35477

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Lab ID: 1712533-003
Matrix: AQUEOUS
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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 11:36:51 AM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 11:36:51 AM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 11:36:51 AM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 11:36:51 AM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 11:36:51 AM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 11:36:51 AM	35477
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 11:36:51 AM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Naphthalene	ND	2.9	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 11:36:51 AM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 11:36:51 AM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Pentachlorophenol	7.5	4.9	20	J	µg/L	1	12/18/2017 11:36:51 AM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Phenol	ND	3.1	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 11:36:51 AM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 11:36:51 AM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 11:36:51 AM	35477

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 11:36:51 AM	35477
Surr: 2-Fluorophenol	48.1	0	15-114		%Rec	1	12/18/2017 11:36:51 AM	35477
Surr: Phenol-d5	35.8	0	15-97.9		%Rec	1	12/18/2017 11:36:51 AM	35477
Surr: 2,4,6-Tribromophenol	76.1	0	15-161		%Rec	1	12/18/2017 11:36:51 AM	35477
Surr: Nitrobenzene-d5	69.3	0	29.3-120		%Rec	1	12/18/2017 11:36:51 AM	35477
Surr: 2-Fluorobiphenyl	62.8	0	17.5-116		%Rec	1	12/18/2017 11:36:51 AM	35477
Surr: 4-Terphenyl-d14	51.8	0	21-92.2		%Rec	1	12/18/2017 11:36:51 AM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Methyl tert-butyl ether (MTBE)	39	0.24	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2-Dichloroethane (EDC)	0.58	0.40	1.0	J	µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Acetone	1.1	0.82	10	J	µg/L	1	12/13/2017 6:36:59 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 6:36:59 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 6:36:59 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5C
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:20:00 PM
Lab ID: 1712533-003
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,1-Dichloroethane	0.66	0.40	1.0	J	µg/L	1	12/13/2017 6:36:59 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 6:36:59 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 6:36:59 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 6:36:59 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 6:36:59 PM	A47735
Surr: 1,2-Dichloroethane-d4	108	0	70-130		%Rec	1	12/13/2017 6:36:59 PM	A47735
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	1	12/13/2017 6:36:59 PM	A47735
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	12/13/2017 6:36:59 PM	A47735
Surr: Toluene-d8	96.9	0	70-130		%Rec	1	12/13/2017 6:36:59 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5C
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:20:00 PM
Lab ID: 1712533-003
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.035	0.0097	0.050	J	mg/L	1	12/14/2017 4:27:47 PM	R47798
Surr: BFB	102	0	70-130		%Rec	1	12/14/2017 4:27:47 PM	R47798

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5B
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:45:00 PM
Lab ID: 1712533-004
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/14/2017 7:54:38 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 7:54:38 PM	35490
Surr: DNOP	102	0	77.5-161		%Rec	1	12/14/2017 7:54:38 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.27	0.22	0.50	J	mg/L	5	12/16/2017 1:48:35 AM	R47816
Chloride	110	5.0	10		mg/L	20	12/16/2017 2:00:59 AM	R47816
Bromide	0.47	0.073	0.50	J	mg/L	5	12/16/2017 1:48:35 AM	R47816
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/16/2017 1:48:35 AM	R47816
Sulfate	110	0.48	2.5		mg/L	5	12/16/2017 1:48:35 AM	R47816
Nitrate+Nitrite as N	0.15	0.13	1.0	J	mg/L	5	12/16/2017 3:40:17 AM	R47816
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.050	0.00099	0.0020		mg/L	1	12/28/2017 10:05:58 PM	C48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 10:05:58 PM	C48091
Calcium	2.5	0.078	1.0		mg/L	1	12/27/2017 8:14:34 PM	C48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 10:05:58 PM	C48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 10:05:58 PM	C48091
Iron	0.024	0.016	0.020		mg/L	1	12/28/2017 10:05:58 PM	C48091
Magnesium	0.26	0.25	1.0	J	mg/L	1	12/27/2017 8:14:34 PM	C48056
Manganese	0.0064	0.00039	0.0020		mg/L	1	12/28/2017 10:05:58 PM	C48091
Potassium	0.78	0.11	1.0	J	mg/L	1	12/27/2017 8:14:34 PM	C48056
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 10:05:58 PM	C48091
Sodium	300	0.82	5.0		mg/L	5	12/28/2017 10:07:46 PM	C48091
Zinc	0.0070	0.0021	0.010	J	mg/L	1	12/28/2017 10:05:58 PM	C48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.085	0.0010	0.0020		mg/L	1	12/29/2017 7:19:23 PM	35732
Cadmium	ND	0.00058	0.0020		mg/L	1	12/29/2017 7:19:23 PM	35732
Chromium	0.012	0.0018	0.0060		mg/L	1	1/2/2018 4:03:52 PM	35732
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 7:19:23 PM	35732
Iron	1.7	0.051	0.10	*	mg/L	5	1/2/2018 4:11:31 PM	35732
Manganese	0.042	0.0011	0.0020		mg/L	1	1/2/2018 4:03:52 PM	35732
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 7:19:23 PM	35732
Zinc	0.0086	0.0033	0.010	J	mg/L	1	1/2/2018 4:03:52 PM	35732
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0032	0.00042	0.0010		mg/L	1	12/30/2017 4:09:20 PM	C48118
Lead	ND	0.00017	0.00050		mg/L	1	12/29/2017 3:05:55 AM	C48088
Selenium	0.0039	0.00076	0.0010		mg/L	1	1/5/2018 8:14:15 PM	D48247
Uranium	0.040	0.00048	0.0025	*	mg/L	5	12/29/2017 3:12:29 AM	C48088

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5B
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:45:00 PM
Lab ID: 1712533-004
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0030	0.00041	0.0010		mg/L	1	1/3/2018 1:13:35 AM	35732
Lead	0.00097	0.00023	0.00050		mg/L	1	1/3/2018 1:13:35 AM	35732
Selenium	ND	0.0049	0.0050		mg/L	5	1/8/2018 8:56:51 PM	35732
Uranium	0.042	0.00077	0.0025	*	mg/L	5	1/8/2018 8:56:51 PM	35732
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00015	0.000037	0.00020	J	mg/L	1	12/21/2017 2:05:47 PM	35652
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Benzoic acid	6.5	3.9	20	J	µg/L	1	12/18/2017 12:04:53 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/18/2017 12:04:53 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 12:04:53 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 12:04:53 PM	35477

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Hall Environmental Analysis Laboratory, Inc.

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Client Sample ID: BW-5B
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:45:00 PM
Lab ID: 1712533-004
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 12:04:53 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 12:04:53 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 12:04:53 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 12:04:53 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 12:04:53 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 12:04:53 PM	35477
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 12:04:53 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Naphthalene	ND	2.9	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 12:04:53 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 12:04:53 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 12:04:53 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Phenol	ND	3.1	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 12:04:53 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 12:04:53 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 12:04:53 PM	35477

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5B
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:45:00 PM
Lab ID: 1712533-004
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 12:04:53 PM	35477
Surr: 2-Fluorophenol	62.0	0	15-114		%Rec	1	12/18/2017 12:04:53 PM	35477
Surr: Phenol-d5	45.4	0	15-97.9		%Rec	1	12/18/2017 12:04:53 PM	35477
Surr: 2,4,6-Tribromophenol	88.6	0	15-161		%Rec	1	12/18/2017 12:04:53 PM	35477
Surr: Nitrobenzene-d5	84.3	0	29.3-120		%Rec	1	12/18/2017 12:04:53 PM	35477
Surr: 2-Fluorobiphenyl	77.5	0	17.5-116		%Rec	1	12/18/2017 12:04:53 PM	35477
Surr: 4-Terphenyl-d14	126	0	21-92.2	S	%Rec	1	12/18/2017 12:04:53 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Toluene	1.8	0.064	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Methyl tert-butyl ether (MTBE)	0.64	0.24	1.0	J	µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Acetone	1.5	0.82	10	J	µg/L	1	12/13/2017 7:06:16 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
2-Butanone	1.8	1.1	10	J	µg/L	1	12/13/2017 7:06:16 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 7:06:16 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5B
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:45:00 PM
Lab ID: 1712533-004
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 7:06:16 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 7:06:16 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 7:06:16 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 7:06:16 PM	A47735
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	12/13/2017 7:06:16 PM	A47735
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	1	12/13/2017 7:06:16 PM	A47735
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	12/13/2017 7:06:16 PM	A47735
Surr: Toluene-d8	98.2	0	70-130		%Rec	1	12/13/2017 7:06:16 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: BW-5B
Project: 4TH QTR 2017 GW Sampling
Collection Date: 12/8/2017 2:45:00 PM
Lab ID: 1712533-004 **Matrix:** AQUEOUS **Received Date:** 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.014	0.0097	0.050	J	mg/L	1	12/14/2017 4:50:42 PM	R47798
Surr: BFB	100	0	70-130		%Rec	1	12/14/2017 4:50:42 PM	R47798

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP11
Project: 4TH QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712533-005
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	12/19/2017 3:46:46 AM	35554
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/14/2017 8:22:07 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 8:22:07 PM	35490
Surr: DNOP	101	0	77.5-161		%Rec	1	12/14/2017 8:22:07 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **MRA**	
Fluoride	0.25	0.22	0.50	J	mg/L	5	12/16/2017 2:13:24 AM	R47816
Chloride	94	5.0	10		mg/L	20	12/16/2017 2:25:48 AM	R47816
Bromide	0.38	0.073	0.50	J	mg/L	5	12/16/2017 2:13:24 AM	R47816
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/16/2017 2:13:24 AM	R47816
Sulfate	170	0.48	2.5		mg/L	5	12/16/2017 2:13:24 AM	R47816
Nitrate+Nitrite as N	0.30	0.13	1.0	J	mg/L	5	12/16/2017 3:52:41 AM	R47816
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.033	0.00099	0.0020		mg/L	1	12/28/2017 10:09:35 PM	C48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 10:09:35 PM	C48091
Calcium	2.1	0.078	1.0		mg/L	1	12/27/2017 8:18:26 PM	C48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 10:09:35 PM	C48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 10:09:35 PM	C48091
Iron	ND	0.016	0.020		mg/L	1	12/28/2017 10:09:35 PM	C48091
Magnesium	ND	0.25	1.0		mg/L	1	12/27/2017 8:18:26 PM	C48056
Manganese	0.0027	0.00039	0.0020		mg/L	1	12/28/2017 10:09:35 PM	C48091
Potassium	0.68	0.11	1.0	J	mg/L	1	12/27/2017 8:18:26 PM	C48056
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 10:09:35 PM	C48091
Sodium	320	0.82	5.0		mg/L	5	12/28/2017 10:11:23 PM	C48091
Zinc	0.0089	0.0021	0.010	J	mg/L	1	12/28/2017 10:09:35 PM	C48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.033	0.0010	0.0020		mg/L	1	12/29/2017 7:21:03 PM	35732
Cadmium	ND	0.00058	0.0020		mg/L	1	12/29/2017 7:21:03 PM	35732
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 4:13:12 PM	35732
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 7:21:03 PM	35732
Iron	0.028	0.010	0.020		mg/L	1	12/29/2017 7:21:03 PM	35732
Manganese	0.0052	0.0011	0.0020		mg/L	1	1/2/2018 4:13:12 PM	35732
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 7:21:03 PM	35732
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 4:13:12 PM	35732
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0032	0.0021	0.0050	J	mg/L	5	12/30/2017 3:49:37 PM	B48118
Lead	ND	0.00017	0.00050		mg/L	1	12/29/2017 3:19:03 AM	C48088

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP11
Project: 4TH QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712533-005
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Selenium	0.0041	0.00076	0.0010		mg/L	1	1/5/2018 8:19:09 PM	D48247
Uranium	0.036	0.00048	0.0025	*	mg/L	5	12/29/2017 3:38:48 AM	C48088
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.00073	0.00041	0.0010	J	mg/L	1	1/3/2018 1:18:28 AM	35732
Lead	ND	0.0011	0.0025		mg/L	5	1/8/2018 9:00:28 PM	35732
Selenium	ND	0.0049	0.0050		mg/L	5	1/8/2018 9:00:28 PM	35732
Uranium	0.035	0.00077	0.0025	*	mg/L	5	1/8/2018 9:00:28 PM	35732
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000050	0.000037	0.00020	J	mg/L	1	12/21/2017 2:07:49 PM	35652
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Methyl tert-butyl ether (MTBE)	1.3	0.24	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Acetone	1.9	0.82	10	J	µg/L	1	12/13/2017 7:35:28 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 7:35:28 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 7:35:28 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 7:35:28 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP11
Project: 4TH QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712533-005
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 7:35:28 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 7:35:28 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 7:35:28 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 7:35:28 PM	A47735
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	12/13/2017 7:35:28 PM	A47735
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	12/13/2017 7:35:28 PM	A47735

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP11
Project: 4TH QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712533-005
Matrix: AQUEOUS
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/13/2017 7:35:28 PM	A47735
Surr: Toluene-d8	101	0	70-130		%Rec	1	12/13/2017 7:35:28 PM	A47735
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.013	0.0097	0.050	J	mg/L	1	12/14/2017 5:13:40 PM	R47798
Surr: BFB	99.9	0	70-130		%Rec	1	12/14/2017 5:13:40 PM	R47798

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4TH QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712533-006
Matrix: TRIP BLANK
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Toluene	ND	0.064	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Naphthalene	ND	0.11	2.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Acetone	1.8	0.82	10	J	µg/L	1	12/13/2017 8:04:36 PM	A47735
Bromobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Bromoform	ND	0.21	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Bromomethane	ND	0.26	3.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
2-Butanone	ND	1.1	10		µg/L	1	12/13/2017 8:04:36 PM	A47735
Carbon disulfide	ND	0.40	10		µg/L	1	12/13/2017 8:04:36 PM	A47735
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Chloroethane	ND	0.23	2.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Chloroform	ND	0.40	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Chloromethane	ND	0.29	3.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Dibromomethane	ND	0.091	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/13/2017 8:04:36 PM	A47735

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4TH QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712533-006
Matrix: TRIP BLANK
Received Date: 12/9/2017 9:04:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
2-Hexanone	ND	0.66	10		µg/L	1	12/13/2017 8:04:36 PM	A47735
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/13/2017 8:04:36 PM	A47735
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Styrene	ND	0.16	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/13/2017 8:04:36 PM	A47735
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/13/2017 8:04:36 PM	A47735
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	12/13/2017 8:04:36 PM	A47735
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	12/13/2017 8:04:36 PM	A47735
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/13/2017 8:04:36 PM	A47735
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	12/13/2017 8:04:36 PM	A47735

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Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID	**MB-C**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**C48056**	RunNo:	**48056**				
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540010**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID	**LLLCS-C**	SampType:	**LCSLL**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**C48056**	RunNo:	**48056**				
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540011**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.51	1.0	0.5000	0	102	50	150			J
Magnesium	0.50	1.0	0.5000	0	99.9	50	150			J
Potassium	0.51	1.0	0.5000	0	103	50	150			J

Sample ID	**LCS-C**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**C48056**	RunNo:	**48056**				
Prep Date:		Analysis Date:	**12/27/2017**	SeqNo:	**1540012**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	101	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Potassium	51	1.0	50.00	0	101	85	115			

Sample ID	**MB-B**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**B48091**	RunNo:	**48091**				
Prep Date:		Analysis Date:	**12/28/2017**	SeqNo:	**1541775**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541776** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Chromium	0.0057	0.0060	0.006000	0	94.5	50	150			J
Copper	0.0055	0.0060	0.006000	0	91.5	50	150			J
Iron	0.020	0.020	0.02000	0	98.2	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0050	0.0050	0.005000	0	99.0	50	150			J
Sodium	0.46	1.0	0.5000	0	92.1	50	150			J
Zinc	0.0051	0.010	0.005000	0	103	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541777** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.8	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			
Copper	0.50	0.0060	0.5000	0	99.8	85	115			
Iron	0.52	0.020	0.5000	0	103	85	115			
Manganese	0.50	0.0020	0.5000	0	99.6	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Sodium	50	1.0	50.00	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.4	85	115			

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541778** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541779** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	97.0	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Chromium	0.0060	0.0060	0.006000	0	99.2	50	150			J
Copper	0.0059	0.0060	0.006000	0	98.2	50	150			J
Iron	0.021	0.020	0.02000	0	107	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Silver	0.0053	0.0050	0.005000	0	107	50	150			
Sodium	0.47	1.0	0.5000	0	93.8	50	150			J
Zinc	0.0058	0.010	0.005000	0	115	50	150			J

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541780** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.9	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Chromium	0.49	0.0060	0.5000	0	98.1	85	115			
Copper	0.49	0.0060	0.5000	0	98.9	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.50	0.0020	0.5000	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	50	1.0	50.00	0	100	85	115			
Zinc	0.48	0.010	0.5000	0	95.5	85	115			

Sample ID **MB-C**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48109**	RunNo: **48109**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1543743** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID **LLLCS-C**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48109**	RunNo: **48109**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1543744** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.43	1.0	0.5000	0	86.2	50	150			J

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**
15-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW Sampling

Sample ID **LCS-C**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48109**	RunNo: **48109**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1543745** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	51	1.0	50.00	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **MB-35732**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **35732**	RunNo: **48109**
Prep Date: **12/27/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542656** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-35732**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **35732**	RunNo: **48109**
Prep Date: **12/27/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542657** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	99.0	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	88.0	50	150			J
Chromium	0.0056	0.0060	0.006000	0	93.0	50	150			J
Copper	0.0067	0.0060	0.006000	0	111	50	150			
Iron	0.020	0.020	0.02000	0	101	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0053	0.0050	0.005000	0	106	50	150			
Zinc	0.0053	0.010	0.005000	0	107	50	150			J

Sample ID **LCS-35732**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **35732**	RunNo: **48109**
Prep Date: **12/27/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542658** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.5	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.2	85	115			
Chromium	0.49	0.0060	0.5000	0	97.1	85	115			
Copper	0.49	0.0060	0.5000	0	97.2	85	115			
Iron	0.50	0.020	0.5000	0	99.1	85	115			
Manganese	0.49	0.0020	0.5000	0	97.4	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.47	0.010	0.5000	0	94.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541471** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541472** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	96.3	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.1	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541473** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	95.8	85	115			
Uranium	0.012	0.00050	0.01250	0	92.5	85	115			

Sample ID **1712533-003EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BW-5C**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541491** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.6	70	130			

Sample ID **1712533-003EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BW-5C**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541493** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.10	0.0025	0.06250	0.04130	98.7	70	130			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543339** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**B48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1543340**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	110	50	150			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**B48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1543341**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.4	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**C48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1543369**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**C48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1543370**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0014	0.0010	0.001000	0	142	50	150			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**C48118**	RunNo:	**48118**					
Prep Date:		Analysis Date:	**12/30/2017**	SeqNo:	**1543371**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**D48247**	RunNo:	**48247**					
Prep Date:		Analysis Date:	**1/5/2018**	SeqNo:	**1549316**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID	**LLLCS**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**D48247**	RunNo:	**48247**					
Prep Date:		Analysis Date:	**1/5/2018**	SeqNo:	**1549317**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	111	50	150			
Selenium	0.0012	0.0010	0.001000	0	124	50	150			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**D48247**	RunNo:	**48247**					
Prep Date:		Analysis Date:	**1/5/2018**	SeqNo:	**1549318**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.6	85	115			
Selenium	0.025	0.0010	0.02500	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID	**MB-35732**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35732**	RunNo:	**48096**					
Prep Date:	**12/27/2017**	Analysis Date:	**12/29/2017**	SeqNo:	**1542204**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35732**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35732**	RunNo:	**48096**					
Prep Date:	**12/27/2017**	Analysis Date:	**12/29/2017**	SeqNo:	**1542205**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00080	0.0010	0.001000	0	80.0	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.6	50	150			J
Selenium	0.00089	0.0010	0.001000	0	89.0	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.9	50	150			J

Sample ID	**MSLCS-35732**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35732**	RunNo:	**48096**					
Prep Date:	**12/27/2017**	Analysis Date:	**12/29/2017**	SeqNo:	**1542206**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.0	85	115			
Lead	0.012	0.00050	0.01250	0	97.6	85	115			
Selenium	0.024	0.0010	0.02500	0	95.3	85	115			
Uranium	0.012	0.00050	0.01250	0	96.9	85	115			

Sample ID	**1712533-001FLLMS**	SampType:	**MSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**OW-10**	Batch ID:	**35732**	RunNo:	**48289**					
Prep Date:	**12/27/2017**	Analysis Date:	**1/8/2018**	SeqNo:	**1550939**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0050	0.02500	0.002328	102	70	130			
Lead	0.012	0.0025	0.01250	0	99.1	70	130			
Selenium	0.036	0.0050	0.02500	0.01384	89.3	70	130			
Uranium	0.063	0.0025	0.01250	0.05241	86.8	70	130			

Sample ID	**1712533-001FLLMS**	SampType:	**MSDLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**OW-10**	Batch ID:	**35732**	RunNo:	**48289**					
Prep Date:	**12/27/2017**	Analysis Date:	**1/8/2018**	SeqNo:	**1550940**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **1712533-001FLLMS**	SampType: **MSDLL**		TestCode: **200.8 ICPMS Metals:Total**		
Client ID: **OW-10**	Batch ID: **35732**		RunNo: **48289**		
Prep Date: **12/27/2017**	Analysis Date: **1/8/2018**		SeqNo: **1550940**	Units: **mg/L**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0050	0.02500	0.002328	102	70	130	0.237	20	
Lead	0.013	0.0025	0.01250	0	102	70	130	2.81	20	
Selenium	0.038	0.0050	0.02500	0.01384	95.5	70	130	4.18	20	
Uranium	0.066	0.0025	0.01250	0.05241	106	70	130	3.68	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID	**MB-35652**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**35652**	RunNo:	**47956**					
Prep Date:	**12/21/2017**	Analysis Date:	**12/21/2017**	SeqNo:	**1536524**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-35652**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**35652**	RunNo:	**47956**					
Prep Date:	**12/21/2017**	Analysis Date:	**12/21/2017**	SeqNo:	**1536525**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0	107	80	120			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**
15-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW Sampling

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47816**	RunNo: **47816**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1531071** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47816**	RunNo: **47816**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1531072** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	107	90	110			
Chloride	4.6	0.50	5.000	0	93.0	90	110			
Bromide	2.4	0.10	2.500	0	97.6	90	110			
Phosphorus, Orthophosphate (As P	5.2	0.50	5.000	0	104	90	110			
Sulfate	9.6	0.50	10.00	0	96.0	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.2	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A48068**	RunNo: **48068**
Prep Date:	Analysis Date: **12/27/2017**	SeqNo: **1540761** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A48068**	RunNo: **48068**
Prep Date:	Analysis Date: **12/27/2017**	SeqNo: **1540762** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.9	90	110			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**
15-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW Sampling

Sample ID	**MB-35554**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**35554**	RunNo:	**47866**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/18/2017**	SeqNo:	**1531933**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-35554**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**35554**	RunNo:	**47866**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/18/2017**	SeqNo:	**1531935**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.071	0.010	0.1000	0	70.8	70	130			

Sample ID	**1712533-001CMS**	SampType:	**MS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**OW-10**	Batch ID:	**35554**	RunNo:	**47866**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1531959**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.065	0.0092	0.09235	0	70.3	57.7	132			

Sample ID	**1712533-001CMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**OW-10**	Batch ID:	**35554**	RunNo:	**47866**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/19/2017**	SeqNo:	**1531961**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.066	0.0093	0.09259	0	71.8	57.7	132	2.31	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **1712533-001BMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **OW-10**	Batch ID: **35490**	RunNo: **47771**
Prep Date: **12/13/2017**	Analysis Date: **12/14/2017**	SeqNo: **1529118** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.1	1.0	5.000	0	123	83.3	151			
Surr: DNOP	0.55		0.5000		111	77.5	161			

Sample ID **1712533-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **OW-10**	Batch ID: **35490**	RunNo: **47771**
Prep Date: **12/13/2017**	Analysis Date: **12/14/2017**	SeqNo: **1529119** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	83.3	151	4.06	20	
Surr: DNOP	0.53		0.5000		105	77.5	161	0	0	

Sample ID **LCS-35490**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35490**	RunNo: **47771**
Prep Date: **12/13/2017**	Analysis Date: **12/14/2017**	SeqNo: **1529120** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	117	92.3	135			
Surr: DNOP	0.53		0.5000		107	77.5	161			

Sample ID **MB-35490**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35490**	RunNo: **47771**
Prep Date: **12/13/2017**	Analysis Date: **12/14/2017**	SeqNo: **1529121** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.98		1.000		97.8	77.5	161			

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527053** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	1.6	10								J
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527053** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	0.30	3.0								J
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.8	70	130			
Surr: Toluene-d8	9.7		10.00		97.0	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527054** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.2	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A47735**	RunNo: **47735**
Prep Date:	Analysis Date: **12/13/2017**	SeqNo: **1527054** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	108	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **1712533-004cms**	SampType: **MS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BW-5B**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531748** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	77	10	100.0	0	77.2	18.1	108			
4-Chloro-3-methylphenol	170	10	200.0	0	86.4	15	111			
2-Chlorophenol	160	10	200.0	0	80.6	15	113			
1,4-Dichlorobenzene	67	10	100.0	0	66.9	21	81.3			
2,4-Dinitrotoluene	70	10	100.0	0	69.7	27.4	101			
N-Nitrosodi-n-propylamine	85	10	100.0	0	84.8	24.9	107			
4-Nitrophenol	93	10	200.0	0	46.5	15	62.2			
Pentachlorophenol	130	20	200.0	0	67.3	15	96.9			
Phenol	89	10	200.0	0	44.3	15	64.7			
Pyrene	82	10	100.0	0	81.9	29.2	111			
1,2,4-Trichlorobenzene	74	10	100.0	0	74.1	22.9	94.8			
Surr: 2-Fluorophenol	110		200.0		55.5	15	114			
Surr: Phenol-d5	86		200.0		42.8	15	97.9			
Surr: 2,4,6-Tribromophenol	160		200.0		81.1	15	161			
Surr: Nitrobenzene-d5	76		100.0		76.4	29.3	120			
Surr: 2-Fluorobiphenyl	72		100.0		71.6	17.5	116			
Surr: 4-Terphenyl-d14	70		100.0		69.6	21	92.2			

Sample ID **1712533-004cmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BW-5B**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531749** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	88	10	100.0	0	88.1	18.1	108	13.3	30.5	
4-Chloro-3-methylphenol	170	10	200.0	0	86.9	15	111	0.600	50	
2-Chlorophenol	180	10	200.0	0	89.8	15	113	10.8	36.3	
1,4-Dichlorobenzene	79	10	100.0	0	78.8	21	81.3	16.3	42.1	
2,4-Dinitrotoluene	76	10	100.0	0	76.2	27.4	101	8.91	28.5	
N-Nitrosodi-n-propylamine	90	10	100.0	0	89.5	24.9	107	5.41	25.4	
4-Nitrophenol	99	10	200.0	0	49.7	15	62.2	6.59	50	
Pentachlorophenol	160	20	200.0	0	79.2	15	96.9	16.3	50	
Phenol	94	10	200.0	0	47.1	15	64.7	6.02	46.1	
Pyrene	93	10	100.0	0	92.7	29.2	111	12.4	34.3	
1,2,4-Trichlorobenzene	88	10	100.0	0	87.7	22.9	94.8	16.9	43.6	
Surr: 2-Fluorophenol	120		200.0		60.9	15	114	0	0	
Surr: Phenol-d5	92		200.0		45.9	15	97.9	0	0	
Surr: 2,4,6-Tribromophenol	190		200.0		97.2	15	161	0	0	
Surr: Nitrobenzene-d5	86		100.0		86.1	29.3	120	0	0	
Surr: 2-Fluorobiphenyl	83		100.0		83.3	17.5	116	0	0	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **1712533-004cmsd**	SampType: **MSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **BW-5B**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531749** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	66		100.0		66.5	21	92.2	0	0	

Sample ID **lcs-35477**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531758** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	85	10	100.0	0	85.2	39.7	103			
4-Chloro-3-methylphenol	190	10	200.0	0	96.2	40.5	108			
2-Chlorophenol	150	10	200.0	0	75.9	35	103			
1,4-Dichlorobenzene	76	10	100.0	0	76.5	24.7	93.7			
2,4-Dinitrotoluene	73	10	100.0	0	73.0	35.6	91.4			
N-Nitrosodi-n-propylamine	94	10	100.0	0	93.6	41.6	114			
4-Nitrophenol	100	10	200.0	0	50.4	20.7	74.3			
Pentachlorophenol	110	20	200.0	0	54.3	25.3	98.5			
Phenol	130	10	200.0	0	64.2	20.9	75.1			
Pyrene	89	10	100.0	0	88.8	45.6	108			
1,2,4-Trichlorobenzene	85	10	100.0	0	84.8	30.3	106			
Surr: 2-Fluorophenol	120		200.0		58.6	15	114			
Surr: Phenol-d5	120		200.0		62.2	15	97.9			
Surr: 2,4,6-Tribromophenol	150		200.0		73.0	15	161			
Surr: Nitrobenzene-d5	88		100.0		88.3	29.3	120			
Surr: 2-Fluorobiphenyl	81		100.0		81.4	17.5	116			
Surr: 4-Terphenyl-d14	120		100.0		119	21	92.2			S

Sample ID **mb-35477**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531759** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**
15-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4TH QTR 2017 GW Sampling

Sample ID **mb-35477**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBW**	Batch ID: **35477**	RunNo: **47867**	
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531759**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	4.8	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID **mb-35477**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531759** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	41		200.0		20.6	15	114			
Surr: Phenol-d5	48		200.0		24.1	15	97.9			
Surr: 2,4,6-Tribromophenol	70		200.0		35.0	15	161			
Surr: Nitrobenzene-d5	77		100.0		76.7	29.3	120			
Surr: 2-Fluorobiphenyl	71		100.0		71.0	17.5	116			
Surr: 4-Terphenyl-d14	58		100.0		57.6	21	92.2			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712533**

15-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4TH QTR 2017 GW Sampling

Sample ID	**2.5ug gro lcs2**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**R47798**		RunNo:	**47798**				
Prep Date:		Analysis Date:	**12/14/2017**		SeqNo:	**1528595**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.6	70	130			
Surr: BFB	9.4		10.00		93.7	70	130			

Sample ID	**rb3**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**R47798**		RunNo:	**47798**				
Prep Date:		Analysis Date:	**12/14/2017**		SeqNo:	**1528596**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1712533 RcptNo: 1

Received By: Sophia Campuzano 12/9/2017 9:04:00 AM

Completed By: Ashley Gallegos 12/11/2017 9:07:39 AM

Reviewed By: ENM 12/12/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Client		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 15 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: IMD DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.5	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.3 + 0.2(CF) = 0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712533	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011 & EDC)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
12/7/17	1505	WATER	OW-10	40 ML VOA-5	HCL	-001			✓							✓						
				40 ML VOA-3	$Na_2S_2O_3$						✓												
				250 ML AMBER-1	NEAT				✓														
				250 ML PLASTIC-1	HNO_3														✓				
				125 ML PLASTIC-1	HNO_3													✓	✓				
				125 ML PLASTIC-1	H_2SO_4													✓					
↓	↓		↓	125 ML PLASTIC-1	NEAT														✓				
12/8/17	1155		OW-1	40 ML VOA-5	HCL	-002			✓							✓						
				40 ML VOA-3	$Na_2S_2O_3$						✓												
				250 ML AMBER-1	NEAT				✓														
				250 ML PLASTIC-1	HNO_3														✓				
				125 ML PLASTIC-1	HNO_3													✓	✓				
↓	↓	↓	↓																			

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/9/17	0904			12/09/17	0904
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING RD GALLUP, NM 87301

Phone #: 505-722-0231

email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM

QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)

Accreditation: ☐ NELAP ☐ Other

☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: 4TH QTR 2017 GW SAMPLING

Project #:

Project Manager: CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.3 + 0.2(CF) = 0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712533	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
12/8/17	1155	WATER	OW-1	125 ML PLASTIC-1	H_2SO_4	-002												✓				
	↓			125 ML PLASTIC-1	NEAT	1													✓			
	1420		BW-5C	40 ML VOA-5	HCL	-003			✓							✓						
				1 L AMBER-1	NEAT	|											✓					
				250 ML AMBER-1	NEAT	|			✓													
				250 ML PLASTIC-1	HNO_3	|													✓			
				125 ML PLASTIC-1	HNO_3	|												✓	✓			
				125 ML PLASTIC-1	H_2SO_4	|												✓				
	↓	↓	↓	125 ML PLASTIC-1	NEAT	↓													✓			
	1445	WATER	BW-5B	40 ML VOA-5	HCL	-004			✓							✓						
				1 L AMBER-2	NEAT	|									TPH		✓					
↓	↓	↓	↓	250 ML AMBER-1	NEAT	↓			✓													

Date: 12/9/17 Time: 0904 Relinquished by:

Received by: Date Time 12/09/17 0904

Date: Time: Relinquished by:

Received by: Date Time

Remarks:

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Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type): EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☒ Yes ☐ No
Sample Temperature: 0.3 + 0.2(CF) = 0.5

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Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712533	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011 & EDC	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS / ANIONS	WQCC METALS (TOTAL & DISSOLVED)			Air Bubbles (Y or N)
12/8/17	1445	WATER	BW-5B	250 ML PLASTIC-1	HNO_3	-004													✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
				500 ML PLASTIC-1	NEAT														✓			
	—		DUP11	40 ML VOA-5	HCL	-005			✓							✓						
				40 ML VOA-3	$Na_2S_2O_3$						✓											
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 PLASTIC-1	H_2SO_4													✓				
				125 PLASTIC-1	NEAT														✓			
	—		TRIP BLANK	40 ML VOA-3	HCL	-006										✓						

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/9/17	0904			12/09/17	0904
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 17, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th QTR 2017 GW Sampling OrderNo.: 1712649

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/8/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-60
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:00:00 AM
Lab ID: 1712649-001 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/14/2017 9:16:56 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 9:16:56 PM	35490
Surr: DNOP	101	0	77.5-161		%Rec	1	12/14/2017 9:16:56 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	1.1	0.22	0.50		mg/L	5	12/18/2017 10:39:48 PM	R47878
Chloride	1700	50	100		mg/L	200	12/26/2017 11:12:08 PM	R48030
Bromide	10	0.073	0.50		mg/L	5	12/18/2017 10:39:48 PM	R47878
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/18/2017 10:39:48 PM	R47878
Sulfate	780	1.9	10		mg/L	20	12/18/2017 10:52:13 PM	R47878
Nitrate+Nitrite as N	14	0.26	2.0	*	mg/L	10	12/26/2017 10:10:04 PM	R48030
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.029	0.00099	0.0020		mg/L	1	12/28/2017 8:58:47 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 8:58:47 PM	B48091
Calcium	130	0.39	5.0		mg/L	5	12/27/2017 7:10:07 PM	B48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 8:58:47 PM	B48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 8:58:47 PM	B48091
Iron	0.020	0.016	0.020	J	mg/L	1	12/28/2017 8:58:47 PM	B48091
Magnesium	22	0.25	1.0		mg/L	1	12/27/2017 7:08:03 PM	B48056
Manganese	0.042	0.00039	0.0020		mg/L	1	12/28/2017 8:58:47 PM	B48091
Potassium	4.0	0.11	1.0		mg/L	1	12/27/2017 7:08:03 PM	B48056
Silver	0.0029	0.0018	0.0050	J	mg/L	1	12/28/2017 8:58:47 PM	B48091
Sodium	1400	3.3	20		mg/L	20	12/28/2017 9:02:34 PM	B48091
Zinc	0.010	0.0021	0.010		mg/L	1	12/28/2017 8:58:47 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **JLF**	
Barium	0.12	0.0010	0.0020		mg/L	1	12/21/2017 7:14:41 PM	35610
Cadmium	ND	0.00058	0.0020		mg/L	1	12/28/2017 2:52:23 PM	35610
Chromium	0.0033	0.0018	0.0060	J	mg/L	1	12/27/2017 4:19:24 PM	35610
Copper	ND	0.0041	0.0060		mg/L	1	12/21/2017 7:14:41 PM	35610
Iron	3.1	0.051	0.10	*	mg/L	5	12/27/2017 4:21:13 PM	35610
Manganese	0.13	0.0011	0.0020	*	mg/L	1	12/27/2017 4:19:24 PM	35610
Silver	0.0024	0.0012	0.0050	J	mg/L	1	12/28/2017 2:52:23 PM	35610
Zinc	0.0097	0.0033	0.010	J	mg/L	1	12/27/2017 4:19:24 PM	35610
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.013	0.0084	0.020	J*	mg/L	20	1/5/2018 6:35:50 PM	C48247
Lead	ND	0.00017	0.00050		mg/L	1	12/22/2017 2:22:48 AM	E47988
Selenium	0.031	0.015	0.020		mg/L	20	1/5/2018 6:35:50 PM	C48247
Uranium	0.047	0.00048	0.0025	*	mg/L	5	12/28/2017 11:09:36 PM	B48088

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-60
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:00:00 AM
Lab ID: 1712649-001 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0083	0.020		mg/L	20	1/11/2018 4:37:06 PM	35610
Lead	0.0020	0.0011	0.0025	J	mg/L	5	1/8/2018 8:06:18 PM	35610
Selenium	0.021	0.020	0.020		mg/L	20	1/11/2018 4:37:06 PM	35610
Uranium	0.048	0.00077	0.0025	*	mg/L	5	1/8/2018 8:06:18 PM	35610
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/21/2017 1:26:19 PM	35651
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Benzoic acid	ND	3.9	20		µg/L	1	12/18/2017 1:28:13 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Bis(2-ethylhexyl)phthalate	45	4.8	10		µg/L	1	12/18/2017 1:28:13 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 1:28:13 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 1:28:13 PM	35477

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 1:28:13 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 1:28:13 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 1:28:13 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 1:28:13 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 1:28:13 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 1:28:13 PM	35477
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 1:28:13 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Naphthalene	ND	2.9	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 1:28:13 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 1:28:13 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 1:28:13 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Phenol	ND	3.1	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 1:28:13 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 1:28:13 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 1:28:13 PM	35477

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Lab ID: 1712649-001 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 1:28:13 PM	35477
Surr: 2-Fluorophenol	35.3	0	15-114		%Rec	1	12/18/2017 1:28:13 PM	35477
Surr: Phenol-d5	34.5	0	15-97.9		%Rec	1	12/18/2017 1:28:13 PM	35477
Surr: 2,4,6-Tribromophenol	55.0	0	15-161		%Rec	1	12/18/2017 1:28:13 PM	35477
Surr: Nitrobenzene-d5	64.2	0	29.3-120		%Rec	1	12/18/2017 1:28:13 PM	35477
Surr: 2-Fluorobiphenyl	64.7	0	17.5-116		%Rec	1	12/18/2017 1:28:13 PM	35477
Surr: 4-Terphenyl-d14	42.3	0	21-92.2		%Rec	1	12/18/2017 1:28:13 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Toluene	ND	0.064	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Methyl tert-butyl ether (MTBE)	0.28	0.24	1.0	J	µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Naphthalene	ND	0.11	2.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Acetone	2.5	0.82	10	J	µg/L	1	12/14/2017 12:28:56 PM	W47802
Bromobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Bromoform	ND	0.21	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Bromomethane	ND	0.26	3.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
2-Butanone	ND	1.1	10		µg/L	1	12/14/2017 12:28:56 PM	W47802
Carbon disulfide	ND	0.40	10		µg/L	1	12/14/2017 12:28:56 PM	W47802
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Chloroethane	ND	0.23	2.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Chloroform	ND	0.40	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Chloromethane	ND	0.29	3.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Dibromomethane	ND	0.091	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802

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Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
2-Hexanone	ND	0.66	10		µg/L	1	12/14/2017 12:28:56 PM	W47802
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/14/2017 12:28:56 PM	W47802
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Styrene	ND	0.16	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/14/2017 12:28:56 PM	W47802
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/14/2017 12:28:56 PM	W47802
Surr: 1,2-Dichloroethane-d4	99.3	0	70-130		%Rec	1	12/14/2017 12:28:56 PM	W47802
Surr: 4-Bromofluorobenzene	111	0	70-130		%Rec	1	12/14/2017 12:28:56 PM	W47802
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/14/2017 12:28:56 PM	W47802
Surr: Toluene-d8	100	0	70-130		%Rec	1	12/14/2017 12:28:56 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-60
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:00:00 AM
Lab ID: 1712649-001 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.031	0.0097	0.050	J	mg/L	1	12/14/2017 5:36:37 PM	R47798
Surr: BFB	100	0	70-130		%Rec	1	12/14/2017 5:36:37 PM	R47798

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-59
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:40:00 AM
Lab ID: 1712649-002
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.55	0.36	1.0	J	mg/L	1	12/14/2017 9:44:11 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 9:44:11 PM	35490
Surr: DNOP	110	0	77.5-161		%Rec	1	12/14/2017 9:44:11 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/18/2017 11:04:38 PM	R47878
Chloride	1700	50	100		mg/L	200	12/26/2017 11:24:33 PM	R48030
Bromide	8.6	0.073	0.50		mg/L	5	12/18/2017 11:04:38 PM	R47878
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/18/2017 11:04:38 PM	R47878
Sulfate	2600	19	100		mg/L	200	12/26/2017 11:24:33 PM	R48030
Nitrate+Nitrite as N	ND	0.26	2.0		mg/L	10	12/26/2017 10:22:29 PM	R48030
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.013	0.00099	0.0020		mg/L	1	12/28/2017 9:04:22 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:04:22 PM	B48091
Calcium	220	0.39	5.0		mg/L	5	12/27/2017 7:14:09 PM	B48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:04:22 PM	B48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 9:04:22 PM	B48091
Iron	0.024	0.016	0.020		mg/L	1	12/28/2017 9:04:22 PM	B48091
Magnesium	68	0.25	1.0		mg/L	1	12/27/2017 7:12:03 PM	B48056
Manganese	0.13	0.00039	0.0020	*	mg/L	1	12/28/2017 9:04:22 PM	B48091
Potassium	1.0	0.11	1.0	J	mg/L	1	12/27/2017 7:12:03 PM	B48056
Silver	0.0047	0.0018	0.0050	J	mg/L	1	12/28/2017 9:04:22 PM	B48091
Sodium	2500	8.2	50		mg/L	50	12/28/2017 9:15:34 PM	B48091
Zinc	0.011	0.0021	0.010		mg/L	1	12/28/2017 9:04:22 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **JLF**	
Barium	0.064	0.0010	0.0020		mg/L	1	12/21/2017 7:16:34 PM	35610
Cadmium	ND	0.00058	0.0020		mg/L	1	12/28/2017 2:54:13 PM	35610
Chromium	ND	0.0018	0.0060		mg/L	1	12/27/2017 4:22:58 PM	35610
Copper	0.0042	0.0041	0.0060	J	mg/L	1	12/21/2017 7:16:34 PM	35610
Iron	2.1	0.051	0.10	*	mg/L	5	12/27/2017 4:24:48 PM	35610
Manganese	0.17	0.0011	0.0020	*	mg/L	1	12/27/2017 4:22:58 PM	35610
Silver	0.0037	0.0012	0.0050	J	mg/L	1	12/28/2017 2:54:13 PM	35610
Zinc	0.0041	0.0033	0.010	J	mg/L	1	12/27/2017 4:22:58 PM	35610
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.012	0.0042	0.010	*	mg/L	10	12/30/2017 2:06:12 PM	B48118
Lead	ND	0.00087	0.0025		mg/L	5	12/28/2017 11:49:03 PM	B48088
Selenium	0.023	0.0076	0.010		mg/L	10	12/30/2017 2:06:12 PM	B48118
Uranium	0.14	0.0048	0.025	*	mg/L	50	12/28/2017 11:55:37 PM	B48088

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-59
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:40:00 AM
Lab ID: 1712649-002
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.0095	0.0021	0.0050		mg/L	5	1/8/2018 8:09:54 PM	35610
Lead	0.0014	0.0011	0.0025	J	mg/L	5	1/8/2018 8:09:54 PM	35610
Selenium	ND	0.020	0.020		mg/L	20	1/11/2018 4:41:48 PM	35610
Uranium	0.17	0.0031	0.010	*	mg/L	20	1/11/2018 4:41:48 PM	35610
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/21/2017 1:28:20 PM	35651
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Benzoic acid	4.5	3.9	20	J	µg/L	1	12/18/2017 1:55:58 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/18/2017 1:55:58 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 1:55:58 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 1:55:58 PM	35477

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-59
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:40:00 AM
Lab ID: 1712649-002
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 1:55:58 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 1:55:58 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 1:55:58 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 1:55:58 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 1:55:58 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 1:55:58 PM	35477
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 1:55:58 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Naphthalene	ND	2.9	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 1:55:58 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 1:55:58 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 1:55:58 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Phenol	ND	3.1	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 1:55:58 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 1:55:58 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 1:55:58 PM	35477

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-59
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:40:00 AM
Lab ID: 1712649-002
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 1:55:58 PM	35477
Surr: 2-Fluorophenol	9.12	0	15-114	S	%Rec	1	12/18/2017 1:55:58 PM	35477
Surr: Phenol-d5	13.7	0	15-97.9	S	%Rec	1	12/18/2017 1:55:58 PM	35477
Surr: 2,4,6-Tribromophenol	16.7	0	15-161		%Rec	1	12/18/2017 1:55:58 PM	35477
Surr: Nitrobenzene-d5	90.0	0	29.3-120		%Rec	1	12/18/2017 1:55:58 PM	35477
Surr: 2-Fluorobiphenyl	84.8	0	17.5-116		%Rec	1	12/18/2017 1:55:58 PM	35477
Surr: 4-Terphenyl-d14	47.7	0	21-92.2		%Rec	1	12/18/2017 1:55:58 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Toluene	ND	0.064	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Methyl tert-butyl ether (MTBE)	9.4	0.24	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Naphthalene	ND	0.11	2.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Acetone	2.8	0.82	10	J	µg/L	1	12/14/2017 12:58:33 PM	W47802
Bromobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Bromoform	ND	0.21	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Bromomethane	ND	0.26	3.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
2-Butanone	ND	1.1	10		µg/L	1	12/14/2017 12:58:33 PM	W47802
Carbon disulfide	ND	0.40	10		µg/L	1	12/14/2017 12:58:33 PM	W47802
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Chloroethane	ND	0.23	2.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Chloroform	ND	0.40	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Chloromethane	ND	0.29	3.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Dibromomethane	ND	0.091	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-59
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:40:00 AM
Lab ID: 1712649-002 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
2-Hexanone	ND	0.66	10		µg/L	1	12/14/2017 12:58:33 PM	W47802
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/14/2017 12:58:33 PM	W47802
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Styrene	ND	0.16	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/14/2017 12:58:33 PM	W47802
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/14/2017 12:58:33 PM	W47802
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	12/14/2017 12:58:33 PM	W47802
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	12/14/2017 12:58:33 PM	W47802
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/14/2017 12:58:33 PM	W47802
Surr: Toluene-d8	100	0	70-130		%Rec	1	12/14/2017 12:58:33 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-59
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 8:40:00 AM
Lab ID: 1712649-002
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	3.1	0.0097	0.050		mg/L	1	12/14/2017 5:59:35 PM	R47798
Surr: BFB	99.3	0	70-130		%Rec	1	12/14/2017 5:59:35 PM	R47798

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 9:30:00 AM
Lab ID: 1712649-003
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	2.4	0.36	1.0		mg/L	1	12/14/2017 10:11:15 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 10:11:15 PM	35490
Surr: DNOP	108	0	77.5-161		%Rec	1	12/14/2017 10:11:15 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.30	0.22	0.50	J	mg/L	5	12/18/2017 11:29:27 PM	R47878
Chloride	270	5.0	10		mg/L	20	12/18/2017 11:41:52 PM	R47878
Bromide	3.3	0.073	0.50		mg/L	5	12/18/2017 11:29:27 PM	R47878
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/18/2017 11:29:27 PM	R47878
Sulfate	34	0.48	2.5		mg/L	5	12/18/2017 11:29:27 PM	R47878
Nitrate+Nitrite as N	0.17	0.13	1.0	J	mg/L	5	12/19/2017 2:23:11 AM	R47878
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.15	0.00099	0.0020		mg/L	1	12/28/2017 9:17:39 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:17:39 PM	B48091
Calcium	61	0.078	1.0		mg/L	1	12/27/2017 7:16:05 PM	B48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:17:39 PM	B48091
Copper	0.0077	0.0032	0.0060		mg/L	1	12/28/2017 9:17:39 PM	B48091
Iron	0.31	0.016	0.020	*	mg/L	1	12/28/2017 9:17:39 PM	B48091
Magnesium	17	0.25	1.0		mg/L	1	12/27/2017 7:16:05 PM	B48056
Manganese	1.4	0.0020	0.010	*	mg/L	5	12/28/2017 9:19:33 PM	B48091
Potassium	0.17	0.11	1.0	J	mg/L	1	12/27/2017 7:16:05 PM	B48056
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 9:17:39 PM	B48091
Sodium	410	0.82	5.0		mg/L	5	12/28/2017 9:19:33 PM	B48091
Zinc	0.011	0.0021	0.010		mg/L	1	12/28/2017 9:17:39 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **JLF**	
Barium	0.17	0.0010	0.0020		mg/L	1	12/21/2017 7:18:25 PM	35610
Cadmium	ND	0.00058	0.0020		mg/L	1	12/28/2017 2:56:03 PM	35610
Chromium	ND	0.0018	0.0060		mg/L	1	12/27/2017 4:26:46 PM	35610
Copper	0.014	0.0041	0.0060		mg/L	1	12/21/2017 7:18:25 PM	35610
Iron	0.63	0.010	0.020	*	mg/L	1	12/21/2017 7:18:25 PM	35610
Manganese	1.4	0.0055	0.010	*	mg/L	5	12/27/2017 4:28:33 PM	35610
Silver	ND	0.0012	0.0050		mg/L	1	12/21/2017 7:18:25 PM	35610
Zinc	ND	0.0033	0.010		mg/L	1	12/27/2017 4:26:46 PM	35610
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0057	0.0042	0.010	J	mg/L	10	12/30/2017 2:25:56 PM	B48118
Lead	0.0083	0.00017	0.00050		mg/L	1	12/29/2017 12:28:27 AM	C48088
Selenium	ND	0.038	0.050		mg/L	50	12/30/2017 2:11:07 PM	B48118
Uranium	0.061	0.00048	0.0025	*	mg/L	5	12/29/2017 12:35:00 AM	C48088

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 9:30:00 AM
Lab ID: 1712649-003
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0041	0.010		mg/L	10	1/11/2018 4:46:36 PM	35610
Lead	0.0092	0.0011	0.0025		mg/L	5	1/8/2018 8:13:31 PM	35610
Selenium	ND	0.0098	0.010		mg/L	10	1/11/2018 4:46:36 PM	35610
Uranium	0.057	0.00077	0.0025	*	mg/L	5	1/8/2018 8:13:31 PM	35610
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000072	0.000037	0.00020	J	mg/L	1	12/21/2017 1:30:14 PM	35651
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Benzoic acid	ND	3.9	20		µg/L	1	12/18/2017 2:23:51 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/18/2017 2:23:51 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 2:23:51 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 2:23:51 PM	35477

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 9:30:00 AM
Lab ID: 1712649-003
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 2:23:51 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 2:23:51 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 2:23:51 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 2:23:51 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 2:23:51 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 2:23:51 PM	35477
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 2:23:51 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Naphthalene	ND	2.9	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 2:23:51 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 2:23:51 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 2:23:51 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Phenol	ND	3.1	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 2:23:51 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 2:23:51 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 2:23:51 PM	35477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 9:30:00 AM
Lab ID: 1712649-003
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 2:23:51 PM	35477
Surr: 2-Fluorophenol	58.0	0	15-114		%Rec	1	12/18/2017 2:23:51 PM	35477
Surr: Phenol-d5	42.4	0	15-97.9		%Rec	1	12/18/2017 2:23:51 PM	35477
Surr: 2,4,6-Tribromophenol	85.1	0	15-161		%Rec	1	12/18/2017 2:23:51 PM	35477
Surr: Nitrobenzene-d5	80.6	0	29.3-120		%Rec	1	12/18/2017 2:23:51 PM	35477
Surr: 2-Fluorobiphenyl	77.9	0	17.5-116		%Rec	1	12/18/2017 2:23:51 PM	35477
Surr: 4-Terphenyl-d14	51.6	0	21-92.2		%Rec	1	12/18/2017 2:23:51 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	55	0.31	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Toluene	0.93	0.32	5.0	J	µg/L	5	12/14/2017 2:55:50 PM	W47802
Ethylbenzene	16	0.47	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Methyl tert-butyl ether (MTBE)	1900	12	50		µg/L	50	12/14/2017 2:26:44 PM	W47802
1,2,4-Trimethylbenzene	9.4	0.56	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,3,5-Trimethylbenzene	0.52	0.44	5.0	J	µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Naphthalene	ND	0.57	10		µg/L	5	12/14/2017 2:55:50 PM	W47802
1-Methylnaphthalene	ND	0.80	20		µg/L	5	12/14/2017 2:55:50 PM	W47802
2-Methylnaphthalene	ND	0.76	20		µg/L	5	12/14/2017 2:55:50 PM	W47802
Acetone	ND	4.1	50		µg/L	5	12/14/2017 2:55:50 PM	W47802
Bromobenzene	ND	0.70	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Bromodichloromethane	ND	0.88	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Bromoform	ND	1.1	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Bromomethane	ND	1.3	15		µg/L	5	12/14/2017 2:55:50 PM	W47802
2-Butanone	ND	5.7	50		µg/L	5	12/14/2017 2:55:50 PM	W47802
Carbon disulfide	ND	2.0	50		µg/L	5	12/14/2017 2:55:50 PM	W47802
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Chlorobenzene	ND	0.53	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Chloroethane	ND	1.2	10		µg/L	5	12/14/2017 2:55:50 PM	W47802
Chloroform	ND	2.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Chloromethane	ND	1.5	15		µg/L	5	12/14/2017 2:55:50 PM	W47802
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	12/14/2017 2:55:50 PM	W47802
Dibromochloromethane	ND	0.36	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Dibromomethane	ND	0.45	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 9:30:00 AM
Lab ID: 1712649-003
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
2,2-Dichloropropane	ND	0.79	10		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
2-Hexanone	ND	3.3	50		µg/L	5	12/14/2017 2:55:50 PM	W47802
Isopropylbenzene	0.41	0.26	5.0	J	µg/L	5	12/14/2017 2:55:50 PM	W47802
4-Isopropyltoluene	ND	0.48	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	12/14/2017 2:55:50 PM	W47802
Methylene Chloride	ND	0.54	15		µg/L	5	12/14/2017 2:55:50 PM	W47802
n-Butylbenzene	ND	0.65	15		µg/L	5	12/14/2017 2:55:50 PM	W47802
n-Propylbenzene	1.4	0.37	5.0	J	µg/L	5	12/14/2017 2:55:50 PM	W47802
sec-Butylbenzene	ND	0.55	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Styrene	ND	0.78	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	12/14/2017 2:55:50 PM	W47802
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	12/14/2017 2:55:50 PM	W47802
Vinyl chloride	ND	0.89	5.0		µg/L	5	12/14/2017 2:55:50 PM	W47802
Xylenes, Total	ND	1.6	7.5		µg/L	5	12/14/2017 2:55:50 PM	W47802
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	5	12/14/2017 2:55:50 PM	W47802
Surr: 4-Bromofluorobenzene	105	0	70-130		%Rec	5	12/14/2017 2:55:50 PM	W47802
Surr: Dibromofluoromethane	102	0	70-130		%Rec	5	12/14/2017 2:55:50 PM	W47802
Surr: Toluene-d8	101	0	70-130		%Rec	5	12/14/2017 2:55:50 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-54
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 9:30:00 AM
Lab ID: 1712649-003
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	2.6	0.0097	0.050		mg/L	1	12/14/2017 6:22:27 PM	R47798
Surr: BFB	98.4	0	70-130		%Rec	1	12/14/2017 6:22:27 PM	R47798

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:10:00 AM
Lab ID: 1712649-004
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.1	0.36	1.0		mg/L	1	12/14/2017 10:37:55 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 10:37:55 PM	35490
Surr: DNOP	104	0	77.5-161		%Rec	1	12/14/2017 10:37:55 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.54	0.22	0.50		mg/L	5	12/18/2017 11:54:17 PM	R47878
Chloride	380	5.0	10		mg/L	20	12/19/2017 12:06:41 AM	R47878
Bromide	3.0	0.073	0.50		mg/L	5	12/18/2017 11:54:17 PM	R47878
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/18/2017 11:54:17 PM	R47878
Sulfate	1.3	0.48	2.5	J	mg/L	5	12/18/2017 11:54:17 PM	R47878
Nitrate+Nitrite as N	ND	0.13	1.0		mg/L	5	12/19/2017 3:12:48 AM	R47878
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.48	0.00099	0.0020		mg/L	1	12/28/2017 9:21:23 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:21:23 PM	B48091
Calcium	110	0.39	5.0		mg/L	5	12/27/2017 7:21:53 PM	B48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:21:23 PM	B48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 9:21:23 PM	B48091
Iron	3.7	0.082	0.10	*	mg/L	5	12/28/2017 9:23:02 PM	B48091
Magnesium	31	0.25	1.0		mg/L	1	12/27/2017 7:20:02 PM	B48056
Manganese	3.9	0.0020	0.010	*	mg/L	5	12/28/2017 9:23:02 PM	B48091
Potassium	0.13	0.11	1.0	J	mg/L	1	12/27/2017 7:20:02 PM	B48056
Silver	0.0019	0.0018	0.0050	J	mg/L	1	12/28/2017 9:21:23 PM	B48091
Sodium	380	0.82	5.0		mg/L	5	12/28/2017 9:23:02 PM	B48091
Zinc	0.013	0.0021	0.010		mg/L	1	12/28/2017 9:21:23 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **JLF**	
Barium	0.51	0.0010	0.0020		mg/L	1	12/21/2017 7:20:15 PM	35610
Cadmium	ND	0.00058	0.0020		mg/L	1	12/28/2017 2:57:52 PM	35610
Chromium	ND	0.0018	0.0060		mg/L	1	12/27/2017 4:30:28 PM	35610
Copper	ND	0.0041	0.0060		mg/L	1	12/21/2017 7:20:15 PM	35610
Iron	4.1	0.051	0.10	*	mg/L	5	12/27/2017 4:32:17 PM	35610
Manganese	3.9	0.0055	0.010	*	mg/L	5	12/27/2017 4:32:17 PM	35610
Silver	0.0017	0.0012	0.0050	J	mg/L	1	12/28/2017 2:57:52 PM	35610
Zinc	ND	0.0033	0.010		mg/L	1	12/27/2017 4:30:28 PM	35610
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0051	0.00042	0.0010		mg/L	1	12/30/2017 2:50:33 PM	B48118
Lead	ND	0.00017	0.00050		mg/L	1	12/29/2017 12:02:11 AM	B48088
Selenium	0.0047	0.0038	0.0050	J	mg/L	5	1/5/2018 6:40:45 PM	C48247
Uranium	0.0041	0.000096	0.00050		mg/L	1	12/29/2017 12:02:11 AM	B48088

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:10:00 AM
Lab ID: 1712649-004
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0053	0.00041	0.0010		mg/L	1	1/3/2018 12:19:39 AM	35610
Lead	ND	0.0011	0.0025		mg/L	5	1/8/2018 8:17:07 PM	35610
Selenium	ND	0.0049	0.0050		mg/L	5	1/8/2018 8:17:07 PM	35610
Uranium	0.0043	0.00077	0.0025		mg/L	5	1/8/2018 8:17:07 PM	35610
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/21/2017 1:32:08 PM	35651
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Benzoic acid	ND	3.9	20		µg/L	1	12/18/2017 2:51:40 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Bis(2-ethylhexyl)phthalate	13	4.8	10		µg/L	1	12/18/2017 2:51:40 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 2:51:40 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 2:51:40 PM	35477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:10:00 AM
Lab ID: 1712649-004
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 2:51:40 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 2:51:40 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 2:51:40 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 2:51:40 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 2:51:40 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 2:51:40 PM	35477
1-Methylnaphthalene	17	3.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 2:51:40 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Naphthalene	17	2.9	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 2:51:40 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 2:51:40 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 2:51:40 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Phenol	26	3.1	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 2:51:40 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 2:51:40 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 2:51:40 PM	35477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:10:00 AM
Lab ID: 1712649-004
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 2:51:40 PM	35477
Surr: 2-Fluorophenol	55.8	0	15-114		%Rec	1	12/18/2017 2:51:40 PM	35477
Surr: Phenol-d5	41.6	0	15-97.9		%Rec	1	12/18/2017 2:51:40 PM	35477
Surr: 2,4,6-Tribromophenol	77.9	0	15-161		%Rec	1	12/18/2017 2:51:40 PM	35477
Surr: Nitrobenzene-d5	83.5	0	29.3-120		%Rec	1	12/18/2017 2:51:40 PM	35477
Surr: 2-Fluorobiphenyl	76.1	0	17.5-116		%Rec	1	12/18/2017 2:51:40 PM	35477
Surr: 4-Terphenyl-d14	44.3	0	21-92.2		%Rec	1	12/18/2017 2:51:40 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	7100	6.2	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Toluene	360	6.4	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Ethylbenzene	560	9.3	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Methyl tert-butyl ether (MTBE)	1700	24	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2,4-Trimethylbenzene	130	11	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,3,5-Trimethylbenzene	27	8.7	100	J	µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Naphthalene	ND	11	200		µg/L	100	12/14/2017 3:54:04 PM	W47802
1-Methylnaphthalene	ND	16	400		µg/L	100	12/14/2017 3:54:04 PM	W47802
2-Methylnaphthalene	ND	15	400		µg/L	100	12/14/2017 3:54:04 PM	W47802
Acetone	ND	82	1000		µg/L	100	12/14/2017 3:54:04 PM	W47802
Bromobenzene	ND	14	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Bromodichloromethane	ND	18	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Bromoform	ND	21	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Bromomethane	ND	26	300		µg/L	100	12/14/2017 3:54:04 PM	W47802
2-Butanone	ND	110	1000		µg/L	100	12/14/2017 3:54:04 PM	W47802
Carbon disulfide	ND	40	1000		µg/L	100	12/14/2017 3:54:04 PM	W47802
Carbon Tetrachloride	ND	11	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Chlorobenzene	ND	11	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Chloroethane	ND	23	200		µg/L	100	12/14/2017 3:54:04 PM	W47802
Chloroform	ND	40	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Chloromethane	ND	29	300		µg/L	100	12/14/2017 3:54:04 PM	W47802
2-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
4-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
cis-1,2-DCE	ND	20	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/14/2017 3:54:04 PM	W47802
Dibromochloromethane	ND	7.2	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Dibromomethane	ND	9.1	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/14/2017 3:54:04 PM	W47802

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:10:00 AM
Lab ID: 1712649-004 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,1-Dichloroethane	ND	40	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2-Dichloropropane	ND	10	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,3-Dichloropropane	ND	17	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
2,2-Dichloropropane	ND	16	200		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Hexachlorobutadiene	ND	80	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
2-Hexanone	ND	66	1000		µg/L	100	12/14/2017 3:54:04 PM	W47802
Isopropylbenzene	18	5.1	100	J	µg/L	100	12/14/2017 3:54:04 PM	W47802
4-Isopropyltoluene	ND	9.6	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/14/2017 3:54:04 PM	W47802
Methylene Chloride	ND	11	300		µg/L	100	12/14/2017 3:54:04 PM	W47802
n-Butylbenzene	ND	13	300		µg/L	100	12/14/2017 3:54:04 PM	W47802
n-Propylbenzene	41	7.4	100	J	µg/L	100	12/14/2017 3:54:04 PM	W47802
sec-Butylbenzene	ND	11	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Styrene	ND	16	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
tert-Butylbenzene	ND	10	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/14/2017 3:54:04 PM	W47802
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
trans-1,2-DCE	ND	18	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Trichlorofluoromethane	ND	18	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/14/2017 3:54:04 PM	W47802
Vinyl chloride	ND	18	100		µg/L	100	12/14/2017 3:54:04 PM	W47802
Xylenes, Total	290	32	150		µg/L	100	12/14/2017 3:54:04 PM	W47802
Surr: 1,2-Dichloroethane-d4	99.4	0	70-130		%Rec	100	12/14/2017 3:54:04 PM	W47802
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	100	12/14/2017 3:54:04 PM	W47802
Surr: Dibromofluoromethane	99.8	0	70-130		%Rec	100	12/14/2017 3:54:04 PM	W47802
Surr: Toluene-d8	99.0	0	70-130		%Rec	100	12/14/2017 3:54:04 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-55
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:10:00 AM
Lab ID: 1712649-004
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	26	0.97	5.0		mg/L	100	12/14/2017 2:55:47 PM	R47798
Surr: BFB	103	0	70-130		%Rec	100	12/14/2017 2:55:47 PM	R47798

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:45:00 AM
Lab ID: 1712649-005
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	0.83	0.36	1.0	J	mg/L	1	12/14/2017 11:04:37 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 11:04:37 PM	35490
Surr: DNOP	107	0	77.5-161		%Rec	1	12/14/2017 11:04:37 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	0.27	0.22	0.50	J	mg/L	5	12/19/2017 12:43:55 AM	R47878
Chloride	590	12	25		mg/L	50	12/26/2017 11:36:57 PM	R48030
Bromide	3.1	0.073	0.50		mg/L	5	12/19/2017 12:43:55 AM	R47878
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/19/2017 12:43:55 AM	R47878
Sulfate	18	0.48	2.5		mg/L	5	12/19/2017 12:43:55 AM	R47878
Nitrate+Nitrite as N	0.22	0.13	1.0	J	mg/L	5	12/19/2017 3:25:13 AM	R47878
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.34	0.00099	0.0020		mg/L	1	12/28/2017 9:24:42 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:24:42 PM	B48091
Calcium	83	0.078	1.0		mg/L	1	12/27/2017 7:23:40 PM	B48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:24:42 PM	B48091
Copper	0.0090	0.0032	0.0060		mg/L	1	12/28/2017 9:24:42 PM	B48091
Iron	ND	0.016	0.020		mg/L	1	12/28/2017 9:24:42 PM	B48091
Magnesium	16	0.25	1.0		mg/L	1	12/27/2017 7:23:40 PM	B48056
Manganese	0.048	0.00039	0.0020		mg/L	1	12/28/2017 9:24:42 PM	B48091
Potassium	1.2	0.11	1.0		mg/L	1	12/27/2017 7:23:40 PM	B48056
Silver	ND	0.0018	0.0050		mg/L	1	12/28/2017 9:24:42 PM	B48091
Sodium	450	0.82	5.0		mg/L	5	12/28/2017 9:26:30 PM	B48091
Zinc	0.012	0.0021	0.010		mg/L	1	12/28/2017 9:24:42 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **JLF**	
Barium	0.41	0.0010	0.0020		mg/L	1	12/21/2017 7:22:06 PM	35610
Cadmium	ND	0.00058	0.0020		mg/L	1	12/28/2017 2:59:44 PM	35610
Chromium	ND	0.0018	0.0060		mg/L	1	12/27/2017 4:34:03 PM	35610
Copper	0.0094	0.0041	0.0060		mg/L	1	12/21/2017 7:22:06 PM	35610
Iron	1.1	0.051	0.10	*	mg/L	5	12/27/2017 4:41:41 PM	35610
Manganese	0.10	0.0011	0.0020	*	mg/L	1	12/27/2017 4:34:03 PM	35610
Silver	0.0014	0.0012	0.0050	J	mg/L	1	12/28/2017 2:59:44 PM	35610
Zinc	0.0062	0.0033	0.010	J	mg/L	1	12/27/2017 4:34:03 PM	35610
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0046	0.0021	0.0050	J	mg/L	5	12/30/2017 2:55:28 PM	B48118
Lead	0.00038	0.00017	0.00050	J	mg/L	1	12/29/2017 1:01:19 AM	C48088
Selenium	0.012	0.0038	0.0050		mg/L	5	1/9/2018 9:11:10 PM	B48330
Uranium	0.021	0.000096	0.00050		mg/L	1	12/29/2017 1:01:19 AM	C48088

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:45:00 AM
Lab ID: 1712649-005
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0049	0.00041	0.0010		mg/L	1	1/3/2018 12:24:33 AM	35610
Lead	0.0012	0.0011	0.0025	J	mg/L	5	1/8/2018 8:27:58 PM	35610
Selenium	ND	0.0098	0.010		mg/L	10	1/11/2018 4:51:19 PM	35610
Uranium	0.021	0.00077	0.0025		mg/L	5	1/8/2018 8:27:58 PM	35610
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000040	0.000037	0.00020	J	mg/L	1	12/21/2017 1:34:04 PM	35651
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Benzoic acid	ND	3.9	20		µg/L	1	12/18/2017 3:19:22 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/18/2017 3:19:22 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 3:19:22 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 3:19:22 PM	35477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:45:00 AM
Lab ID: 1712649-005
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 3:19:22 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 3:19:22 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 3:19:22 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 3:19:22 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 3:19:22 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 3:19:22 PM	35477
1-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 3:19:22 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Naphthalene	ND	2.9	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 3:19:22 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 3:19:22 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 3:19:22 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Phenol	ND	3.1	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 3:19:22 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 3:19:22 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 3:19:22 PM	35477

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:45:00 AM
Lab ID: 1712649-005
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 3:19:22 PM	35477
Surr: 2-Fluorophenol	60.3	0	15-114		%Rec	1	12/18/2017 3:19:22 PM	35477
Surr: Phenol-d5	48.5	0	15-97.9		%Rec	1	12/18/2017 3:19:22 PM	35477
Surr: 2,4,6-Tribromophenol	89.5	0	15-161		%Rec	1	12/18/2017 3:19:22 PM	35477
Surr: Nitrobenzene-d5	93.0	0	29.3-120		%Rec	1	12/18/2017 3:19:22 PM	35477
Surr: 2-Fluorobiphenyl	83.6	0	17.5-116		%Rec	1	12/18/2017 3:19:22 PM	35477
Surr: 4-Terphenyl-d14	53.2	0	21-92.2		%Rec	1	12/18/2017 3:19:22 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	2.1	0.062	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Toluene	ND	0.064	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Methyl tert-butyl ether (MTBE)	110	0.24	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2-Dichloroethane (EDC)	19	0.40	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Naphthalene	ND	0.11	2.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Acetone	5.9	0.82	10	J	µg/L	1	12/14/2017 1:28:20 PM	W47802
Bromobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Bromoform	ND	0.21	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Bromomethane	ND	0.26	3.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
2-Butanone	ND	1.1	10		µg/L	1	12/14/2017 1:28:20 PM	W47802
Carbon disulfide	ND	0.40	10		µg/L	1	12/14/2017 1:28:20 PM	W47802
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Chloroethane	ND	0.23	2.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Chloroform	ND	0.40	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Chloromethane	ND	0.29	3.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Dibromomethane	ND	0.091	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:45:00 AM
Lab ID: 1712649-005 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,1-Dichloroethane	0.67	0.40	1.0	J	µg/L	1	12/14/2017 1:28:20 PM	W47802
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
2-Hexanone	ND	0.66	10		µg/L	1	12/14/2017 1:28:20 PM	W47802
Isopropylbenzene	1.6	0.051	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/14/2017 1:28:20 PM	W47802
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
sec-Butylbenzene	0.27	0.11	1.0	J	µg/L	1	12/14/2017 1:28:20 PM	W47802
Styrene	ND	0.16	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/14/2017 1:28:20 PM	W47802
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/14/2017 1:28:20 PM	W47802
Surr: 1,2-Dichloroethane-d4	113	0	70-130		%Rec	1	12/14/2017 1:28:20 PM	W47802
Surr: 4-Bromofluorobenzene	108	0	70-130		%Rec	1	12/14/2017 1:28:20 PM	W47802
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	12/14/2017 1:28:20 PM	W47802
Surr: Toluene-d8	96.3	0	70-130		%Rec	1	12/14/2017 1:28:20 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-56
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 10:45:00 AM
Lab ID: 1712649-005
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	1.0	0.0097	0.050		mg/L	1	12/14/2017 6:45:22 PM	R47798
Surr: BFB	99.5	0	70-130		%Rec	1	12/14/2017 6:45:22 PM	R47798

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 12:40:00 PM
Lab ID: 1712649-006
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.5	0.36	1.0		mg/L	1	12/14/2017 11:31:08 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 11:31:08 PM	35490
Surr: DNOP	110	0	77.5-161		%Rec	1	12/14/2017 11:31:08 PM	35490
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/19/2017 1:08:44 AM	R47878
Chloride	150	5.0	10		mg/L	20	12/19/2017 1:21:08 AM	R47878
Bromide	2.5	0.073	0.50		mg/L	5	12/19/2017 1:08:44 AM	R47878
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/19/2017 1:08:44 AM	R47878
Sulfate	1.7	0.48	2.5	J	mg/L	5	12/19/2017 1:08:44 AM	R47878
Nitrate+Nitrite as N	0.17	0.13	1.0	J	mg/L	5	12/19/2017 3:37:38 AM	R47878
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.2	0.0049	0.010	*	mg/L	5	12/28/2017 9:30:00 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:28:19 PM	B48091
Calcium	110	0.39	5.0		mg/L	5	12/27/2017 7:40:02 PM	B48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:28:19 PM	B48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 9:28:19 PM	B48091
Iron	2.0	0.082	0.10	*	mg/L	5	12/28/2017 9:30:00 PM	B48091
Magnesium	17	0.25	1.0		mg/L	1	12/27/2017 7:38:14 PM	B48056
Manganese	2.1	0.0020	0.010	*	mg/L	5	12/28/2017 9:30:00 PM	B48091
Potassium	1.4	0.11	1.0		mg/L	1	12/27/2017 7:38:14 PM	B48056
Silver	0.0019	0.0018	0.0050	J	mg/L	1	12/28/2017 9:28:19 PM	B48091
Sodium	280	0.82	5.0		mg/L	5	12/28/2017 9:30:00 PM	B48091
Zinc	0.0091	0.0021	0.010	J	mg/L	1	12/28/2017 9:28:19 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	3.7	0.0050	0.010	*	mg/L	5	12/27/2017 4:45:26 PM	35610
Cadmium	ND	0.00058	0.0020		mg/L	1	12/27/2017 4:43:39 PM	35610
Chromium	ND	0.0018	0.0060		mg/L	1	12/27/2017 4:43:39 PM	35610
Copper	ND	0.0041	0.0060		mg/L	1	12/21/2017 7:23:57 PM	35610
Iron	4.2	0.051	0.10	*	mg/L	5	12/27/2017 4:45:26 PM	35610
Manganese	2.3	0.0055	0.010	*	mg/L	5	12/27/2017 4:45:26 PM	35610
Silver	0.0021	0.0012	0.0050	J	mg/L	1	12/27/2017 4:43:39 PM	35610
Zinc	0.0042	0.0033	0.010	J	mg/L	1	12/27/2017 4:43:39 PM	35610
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0062	0.0042	0.010	J	mg/L	10	12/30/2017 3:00:22 PM	B48118
Lead	ND	0.00017	0.00050		mg/L	1	12/29/2017 1:14:25 AM	C48088
Selenium	0.0077	0.0076	0.010	J	mg/L	10	1/5/2018 6:45:40 PM	C48247
Uranium	0.00089	0.000096	0.00050		mg/L	1	12/29/2017 1:14:25 AM	C48088

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 12:40:00 PM
Lab ID: 1712649-006
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0060	0.00041	0.0010		mg/L	1	1/3/2018 12:29:27 AM	35610
Lead	0.0012	0.0011	0.0025	J	mg/L	5	1/8/2018 8:31:34 PM	35610
Selenium	ND	0.0098	0.010		mg/L	10	1/11/2018 4:56:01 PM	35610
Uranium	0.00089	0.00077	0.0025	J	mg/L	5	1/8/2018 8:31:34 PM	35610
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/21/2017 1:35:59 PM	35651
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	4.2	3.6	10	J	µg/L	1	12/18/2017 3:47:07 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Benzoic acid	39	3.9	20		µg/L	1	12/18/2017 3:47:07 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/18/2017 3:47:07 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 3:47:07 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 3:47:07 PM	35477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 12:40:00 PM
Lab ID: 1712649-006
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 3:47:07 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 3:47:07 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 3:47:07 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 3:47:07 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 3:47:07 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Fluorene	5.4	4.0	10	J	µg/L	1	12/18/2017 3:47:07 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 3:47:07 PM	35477
1-Methylnaphthalene	92	3.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2-Methylnaphthalene	ND	3.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 3:47:07 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Naphthalene	64	2.9	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 3:47:07 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 3:47:07 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 3:47:07 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Phenol	130	3.1	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 3:47:07 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 3:47:07 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 3:47:07 PM	35477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 12:40:00 PM
Lab ID: 1712649-006
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 3:47:07 PM	35477
Surr: 2-Fluorophenol	54.8	0	15-114		%Rec	1	12/18/2017 3:47:07 PM	35477
Surr: Phenol-d5	45.0	0	15-97.9		%Rec	1	12/18/2017 3:47:07 PM	35477
Surr: 2,4,6-Tribromophenol	74.8	0	15-161		%Rec	1	12/18/2017 3:47:07 PM	35477
Surr: Nitrobenzene-d5	71.5	0	29.3-120		%Rec	1	12/18/2017 3:47:07 PM	35477
Surr: 2-Fluorobiphenyl	67.4	0	17.5-116		%Rec	1	12/18/2017 3:47:07 PM	35477
Surr: 4-Terphenyl-d14	43.7	0	21-92.2		%Rec	1	12/18/2017 3:47:07 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	11000	62	1000		µg/L	1000	12/14/2017 4:23:19 PM	W47802
Toluene	24	6.4	100	J	µg/L	100	12/14/2017 4:52:27 PM	W47802
Ethylbenzene	520	9.3	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Methyl tert-butyl ether (MTBE)	98	24	100	J	µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2,4-Trimethylbenzene	ND	11	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,3,5-Trimethylbenzene	ND	8.7	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Naphthalene	45	11	200	J	µg/L	100	12/14/2017 4:52:27 PM	W47802
1-Methylnaphthalene	45	16	400	J	µg/L	100	12/14/2017 4:52:27 PM	W47802
2-Methylnaphthalene	ND	15	400		µg/L	100	12/14/2017 4:52:27 PM	W47802
Acetone	ND	82	1000		µg/L	100	12/14/2017 4:52:27 PM	W47802
Bromobenzene	ND	14	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Bromodichloromethane	ND	18	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Bromoform	ND	21	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Bromomethane	ND	26	300		µg/L	100	12/14/2017 4:52:27 PM	W47802
2-Butanone	ND	110	1000		µg/L	100	12/14/2017 4:52:27 PM	W47802
Carbon disulfide	ND	40	1000		µg/L	100	12/14/2017 4:52:27 PM	W47802
Carbon Tetrachloride	ND	11	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Chlorobenzene	ND	11	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Chloroethane	ND	23	200		µg/L	100	12/14/2017 4:52:27 PM	W47802
Chloroform	ND	40	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Chloromethane	ND	29	300		µg/L	100	12/14/2017 4:52:27 PM	W47802
2-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
4-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
cis-1,2-DCE	ND	20	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/14/2017 4:52:27 PM	W47802
Dibromochloromethane	ND	7.2	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Dibromomethane	ND	9.1	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/14/2017 4:52:27 PM	W47802

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 12:40:00 PM
Lab ID: 1712649-006
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,1-Dichloroethane	ND	40	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2-Dichloropropane	ND	10	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,3-Dichloropropane	ND	17	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
2,2-Dichloropropane	ND	16	200		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Hexachlorobutadiene	ND	80	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
2-Hexanone	ND	66	1000		µg/L	100	12/14/2017 4:52:27 PM	W47802
Isopropylbenzene	12	5.1	100	J	µg/L	100	12/14/2017 4:52:27 PM	W47802
4-Isopropyltoluene	ND	9.6	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/14/2017 4:52:27 PM	W47802
Methylene Chloride	ND	11	300		µg/L	100	12/14/2017 4:52:27 PM	W47802
n-Butylbenzene	ND	13	300		µg/L	100	12/14/2017 4:52:27 PM	W47802
n-Propylbenzene	29	7.4	100	J	µg/L	100	12/14/2017 4:52:27 PM	W47802
sec-Butylbenzene	ND	11	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Styrene	ND	16	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
tert-Butylbenzene	ND	10	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/14/2017 4:52:27 PM	W47802
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
trans-1,2-DCE	ND	18	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Trichlorofluoromethane	ND	18	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/14/2017 4:52:27 PM	W47802
Vinyl chloride	ND	18	100		µg/L	100	12/14/2017 4:52:27 PM	W47802
Xylenes, Total	83	32	150	J	µg/L	100	12/14/2017 4:52:27 PM	W47802
Surr: 1,2-Dichloroethane-d4	99.9	0	70-130		%Rec	100	12/14/2017 4:52:27 PM	W47802
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	100	12/14/2017 4:52:27 PM	W47802
Surr: Dibromofluoromethane	98.1	0	70-130		%Rec	100	12/14/2017 4:52:27 PM	W47802
Surr: Toluene-d8	98.6	0	70-130		%Rec	100	12/14/2017 4:52:27 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-57
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 12:40:00 PM
Lab ID: 1712649-006
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	30	0.97	5.0		mg/L	100	12/14/2017 9:02:39 PM	R47798
Surr: BFB	96.5	0	70-130		%Rec	100	12/14/2017 9:02:39 PM	R47798

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-2
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 1:30:00 PM
Lab ID: 1712649-007
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.7	0.36	1.0		mg/L	1	12/14/2017 11:57:50 PM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/14/2017 11:57:50 PM	35490
Surr: DNOP	107	0	77.5-161		%Rec	1	12/14/2017 11:57:50 PM	35490
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	38000	62	1000		µg/L	1000	12/14/2017 5:21:36 PM	W47802
Toluene	2900	6.4	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Ethylbenzene	1500	9.3	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Methyl tert-butyl ether (MTBE)	1300	24	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2,4-Trimethylbenzene	280	11	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,3,5-Trimethylbenzene	26	8.7	100	J	µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Naphthalene	69	11	200	J	µg/L	100	12/14/2017 5:50:39 PM	W47802
1-Methylnaphthalene	21	16	400	J	µg/L	100	12/14/2017 5:50:39 PM	W47802
2-Methylnaphthalene	ND	15	400		µg/L	100	12/14/2017 5:50:39 PM	W47802
Acetone	ND	82	1000		µg/L	100	12/14/2017 5:50:39 PM	W47802
Bromobenzene	ND	14	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Bromodichloromethane	ND	18	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Bromoform	ND	21	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Bromomethane	ND	26	300		µg/L	100	12/14/2017 5:50:39 PM	W47802
2-Butanone	ND	110	1000		µg/L	100	12/14/2017 5:50:39 PM	W47802
Carbon disulfide	ND	40	1000		µg/L	100	12/14/2017 5:50:39 PM	W47802
Carbon Tetrachloride	ND	11	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Chlorobenzene	ND	11	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Chloroethane	ND	23	200		µg/L	100	12/14/2017 5:50:39 PM	W47802
Chloroform	ND	40	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Chloromethane	ND	29	300		µg/L	100	12/14/2017 5:50:39 PM	W47802
2-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
4-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
cis-1,2-DCE	ND	20	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/14/2017 5:50:39 PM	W47802
Dibromochloromethane	ND	7.2	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Dibromomethane	ND	9.1	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,1-Dichloroethane	ND	40	100		µg/L	100	12/14/2017 5:50:39 PM	W47802

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: RW-2
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 1:30:00 PM
Lab ID: 1712649-007
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2-Dichloropropane	ND	10	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,3-Dichloropropane	ND	17	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
2,2-Dichloropropane	ND	16	200		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Hexachlorobutadiene	ND	80	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
2-Hexanone	ND	66	1000		µg/L	100	12/14/2017 5:50:39 PM	W47802
Isopropylbenzene	19	5.1	100	J	µg/L	100	12/14/2017 5:50:39 PM	W47802
4-Isopropyltoluene	ND	9.6	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/14/2017 5:50:39 PM	W47802
Methylene Chloride	ND	11	300		µg/L	100	12/14/2017 5:50:39 PM	W47802
n-Butylbenzene	ND	13	300		µg/L	100	12/14/2017 5:50:39 PM	W47802
n-Propylbenzene	42	7.4	100	J	µg/L	100	12/14/2017 5:50:39 PM	W47802
sec-Butylbenzene	ND	11	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Styrene	ND	16	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
tert-Butylbenzene	ND	10	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/14/2017 5:50:39 PM	W47802
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
trans-1,2-DCE	ND	18	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Trichlorofluoromethane	ND	18	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/14/2017 5:50:39 PM	W47802
Vinyl chloride	ND	18	100		µg/L	100	12/14/2017 5:50:39 PM	W47802
Xylenes, Total	3600	32	150		µg/L	100	12/14/2017 5:50:39 PM	W47802
Surr: 1,2-Dichloroethane-d4	95.8	0	70-130		%Rec	100	12/14/2017 5:50:39 PM	W47802
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	100	12/14/2017 5:50:39 PM	W47802
Surr: Dibromofluoromethane	98.7	0	70-130		%Rec	100	12/14/2017 5:50:39 PM	W47802
Surr: Toluene-d8	99.9	0	70-130		%Rec	100	12/14/2017 5:50:39 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	120	1.9	10		mg/L	200	12/14/2017 9:25:35 PM	R47798
Surr: BFB	99.5	0	70-130		%Rec	200	12/14/2017 9:25:35 PM	R47798

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 3:00:00 PM
Lab ID: 1712649-008
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	6.2	0.36	1.0		mg/L	1	12/15/2017 12:24:32 AM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/15/2017 12:24:32 AM	35490
Surr: DNOP	109	0	77.5-161		%Rec	1	12/15/2017 12:24:32 AM	35490
EPA METHOD 300.0: ANIONS							Analyst: **CJS**	
Fluoride	ND	0.22	0.50		mg/L	5	12/19/2017 1:33:33 AM	R47878
Chloride	140	5.0	10		mg/L	20	12/19/2017 1:45:57 AM	R47878
Bromide	2.3	0.073	0.50		mg/L	5	12/19/2017 1:33:33 AM	R47878
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	12/19/2017 1:33:33 AM	R47878
Sulfate	ND	0.48	2.5		mg/L	5	12/19/2017 1:33:33 AM	R47878
Nitrate+Nitrite as N	0.27	0.13	1.0	J	mg/L	5	12/19/2017 3:50:02 AM	R47878
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	3.8	0.0049	0.010	*	mg/L	5	12/28/2017 9:39:30 PM	B48091
Cadmium	ND	0.0010	0.0020		mg/L	1	12/28/2017 9:31:52 PM	B48091
Calcium	120	0.39	5.0		mg/L	5	12/27/2017 7:44:00 PM	B48056
Chromium	ND	0.0013	0.0060		mg/L	1	12/28/2017 9:31:52 PM	B48091
Copper	ND	0.0032	0.0060		mg/L	1	12/28/2017 9:31:52 PM	B48091
Iron	7.1	0.16	0.20	*	mg/L	10	12/28/2017 9:41:21 PM	B48091
Magnesium	34	0.25	1.0		mg/L	1	12/27/2017 7:42:10 PM	B48056
Manganese	1.9	0.0020	0.010	*	mg/L	5	12/28/2017 9:39:30 PM	B48091
Potassium	0.41	0.11	1.0	J	mg/L	1	12/27/2017 7:42:10 PM	B48056
Silver	0.0020	0.0018	0.0050	J	mg/L	1	12/28/2017 9:31:52 PM	B48091
Sodium	250	0.82	5.0		mg/L	5	12/28/2017 9:39:30 PM	B48091
Zinc	0.0076	0.0021	0.010	J	mg/L	1	12/28/2017 9:31:52 PM	B48091
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	4.7	0.0050	0.010	*	mg/L	5	12/27/2017 4:49:19 PM	35610
Cadmium	ND	0.00058	0.0020		mg/L	1	12/27/2017 4:47:23 PM	35610
Chromium	0.0061	0.0018	0.0060		mg/L	1	12/27/2017 4:47:23 PM	35610
Copper	0.0047	0.0041	0.0060	J	mg/L	1	12/21/2017 7:25:47 PM	35610
Iron	15	0.20	0.40	*	mg/L	20	12/27/2017 4:51:20 PM	35610
Manganese	2.4	0.0055	0.010	*	mg/L	5	12/27/2017 4:49:19 PM	35610
Silver	ND	0.0012	0.0050		mg/L	1	12/21/2017 7:25:47 PM	35610
Zinc	0.017	0.0033	0.010		mg/L	1	12/27/2017 4:47:23 PM	35610
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0045	0.0021	0.0050	J	mg/L	5	12/30/2017 3:05:17 PM	B48118
Lead	ND	0.00017	0.00050		mg/L	1	12/29/2017 1:27:31 AM	C48088
Selenium	0.0069	0.0038	0.0050		mg/L	5	1/5/2018 7:00:29 PM	C48247
Uranium	0.00022	0.000096	0.00050	J	mg/L	1	12/29/2017 1:27:31 AM	C48088

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 3:00:00 PM
Lab ID: 1712649-008
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
200.8 ICPMS METALS:TOTAL							Analyst: **JLF**	
Arsenic	0.0059	0.00041	0.0010		mg/L	1	1/3/2018 12:34:21 AM	35610
Lead	0.0095	0.0011	0.0025		mg/L	5	1/8/2018 8:35:10 PM	35610
Selenium	0.0058	0.0049	0.0050		mg/L	5	1/8/2018 8:35:10 PM	35610
Uranium	0.0010	0.00077	0.0025	J	mg/L	5	1/8/2018 8:35:10 PM	35610
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	ND	0.000037	0.00020		mg/L	1	12/21/2017 1:41:56 PM	35651
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
Acenaphthene	ND	3.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Acenaphthylene	ND	3.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Aniline	ND	3.1	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Anthracene	ND	3.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Azobenzene	ND	4.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Benz(a)anthracene	ND	3.9	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Benzo(a)pyrene	ND	4.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Benzo(b)fluoranthene	ND	4.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Benzo(g,h,i)perylene	ND	4.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Benzo(k)fluoranthene	ND	4.4	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Benzoic acid	22	3.9	20		µg/L	1	12/18/2017 4:15:03 PM	35477
Benzyl alcohol	ND	4.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Bis(2-chloroethoxy)methane	ND	4.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Bis(2-chloroethyl)ether	ND	4.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Bis(2-ethylhexyl)phthalate	ND	4.8	10		µg/L	1	12/18/2017 4:15:03 PM	35477
4-Bromophenyl phenyl ether	ND	4.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Butyl benzyl phthalate	ND	4.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Carbazole	ND	4.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
4-Chloro-3-methylphenol	ND	6.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
4-Chloroaniline	ND	3.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2-Chloronaphthalene	ND	3.7	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2-Chlorophenol	ND	7.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
4-Chlorophenyl phenyl ether	ND	3.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Chrysene	ND	3.8	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Di-n-butyl phthalate	ND	5.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Di-n-octyl phthalate	ND	4.7	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Dibenz(a,h)anthracene	ND	4.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Dibenzofuran	ND	4.1	10		µg/L	1	12/18/2017 4:15:03 PM	35477
1,2-Dichlorobenzene	ND	2.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
1,3-Dichlorobenzene	ND	1.8	10		µg/L	1	12/18/2017 4:15:03 PM	35477

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 3:00:00 PM
Lab ID: 1712649-008
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
1,4-Dichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 4:15:03 PM	35477
3,3´-Dichlorobenzidine	ND	3.9	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Diethyl phthalate	ND	4.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Dimethyl phthalate	ND	3.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2,4-Dichlorophenol	ND	5.7	20		µg/L	1	12/18/2017 4:15:03 PM	35477
2,4-Dimethylphenol	ND	2.8	10		µg/L	1	12/18/2017 4:15:03 PM	35477
4,6-Dinitro-2-methylphenol	ND	3.9	20		µg/L	1	12/18/2017 4:15:03 PM	35477
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	12/18/2017 4:15:03 PM	35477
2,4-Dinitrotoluene	ND	4.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2,6-Dinitrotoluene	ND	4.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Fluoranthene	ND	4.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Fluorene	ND	4.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Hexachlorobenzene	ND	3.8	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Hexachlorobutadiene	ND	1.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Hexachlorocyclopentadiene	ND	1.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Hexachloroethane	ND	1.2	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Indeno(1,2,3-cd)pyrene	ND	4.2	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Isophorone	ND	4.4	10		µg/L	1	12/18/2017 4:15:03 PM	35477
1-Methylnaphthalene	82	3.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2-Methylnaphthalene	53	3.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2-Methylphenol	ND	3.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
3+4-Methylphenol	ND	3.2	10		µg/L	1	12/18/2017 4:15:03 PM	35477
N-Nitrosodi-n-propylamine	ND	4.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
N-Nitrosodimethylamine	ND	3.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
N-Nitrosodiphenylamine	ND	3.9	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Naphthalene	120	2.9	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2-Nitroaniline	ND	4.9	10		µg/L	1	12/18/2017 4:15:03 PM	35477
3-Nitroaniline	ND	4.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
4-Nitroaniline	ND	4.0	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Nitrobenzene	ND	3.6	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2-Nitrophenol	ND	5.2	10		µg/L	1	12/18/2017 4:15:03 PM	35477
4-Nitrophenol	ND	5.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Pentachlorophenol	ND	4.9	20		µg/L	1	12/18/2017 4:15:03 PM	35477
Phenanthrene	ND	4.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Phenol	50	3.1	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Pyrene	ND	4.4	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Pyridine	ND	2.3	10		µg/L	1	12/18/2017 4:15:03 PM	35477
1,2,4-Trichlorobenzene	ND	2.1	10		µg/L	1	12/18/2017 4:15:03 PM	35477
2,4,5-Trichlorophenol	ND	5.1	10		µg/L	1	12/18/2017 4:15:03 PM	35477

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 3:00:00 PM
Lab ID: 1712649-008
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: **DAM**	
2,4,6-Trichlorophenol	ND	5.5	10		µg/L	1	12/18/2017 4:15:03 PM	35477
Surr: 2-Fluorophenol	56.6	0	15-114		%Rec	1	12/18/2017 4:15:03 PM	35477
Surr: Phenol-d5	46.6	0	15-97.9		%Rec	1	12/18/2017 4:15:03 PM	35477
Surr: 2,4,6-Tribromophenol	89.9	0	15-161		%Rec	1	12/18/2017 4:15:03 PM	35477
Surr: Nitrobenzene-d5	81.2	0	29.3-120		%Rec	1	12/18/2017 4:15:03 PM	35477
Surr: 2-Fluorobiphenyl	77.0	0	17.5-116		%Rec	1	12/18/2017 4:15:03 PM	35477
Surr: 4-Terphenyl-d14	48.9	0	21-92.2		%Rec	1	12/18/2017 4:15:03 PM	35477
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	32000	62	1000		µg/L	1000	12/14/2017 6:19:46 PM	W47802
Toluene	40	6.4	100	J	µg/L	100	12/14/2017 6:48:46 PM	W47802
Ethylbenzene	1200	9.3	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Methyl tert-butyl ether (MTBE)	2900	24	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2,4-Trimethylbenzene	24	11	100	J	µg/L	100	12/14/2017 6:48:46 PM	W47802
1,3,5-Trimethylbenzene	ND	8.7	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Naphthalene	110	11	200	J	µg/L	100	12/14/2017 6:48:46 PM	W47802
1-Methylnaphthalene	38	16	400	J	µg/L	100	12/14/2017 6:48:46 PM	W47802
2-Methylnaphthalene	ND	15	400		µg/L	100	12/14/2017 6:48:46 PM	W47802
Acetone	ND	82	1000		µg/L	100	12/14/2017 6:48:46 PM	W47802
Bromobenzene	ND	14	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Bromodichloromethane	ND	18	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Bromoform	ND	21	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Bromomethane	ND	26	300		µg/L	100	12/14/2017 6:48:46 PM	W47802
2-Butanone	ND	110	1000		µg/L	100	12/14/2017 6:48:46 PM	W47802
Carbon disulfide	ND	40	1000		µg/L	100	12/14/2017 6:48:46 PM	W47802
Carbon Tetrachloride	ND	11	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Chlorobenzene	ND	11	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Chloroethane	ND	23	200		µg/L	100	12/14/2017 6:48:46 PM	W47802
Chloroform	ND	40	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Chloromethane	ND	29	300		µg/L	100	12/14/2017 6:48:46 PM	W47802
2-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
4-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
cis-1,2-DCE	ND	20	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/14/2017 6:48:46 PM	W47802
Dibromochloromethane	ND	7.2	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Dibromomethane	ND	9.1	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/14/2017 6:48:46 PM	W47802

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 3:00:00 PM
Lab ID: 1712649-008 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,1-Dichloroethane	ND	40	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2-Dichloropropane	ND	10	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,3-Dichloropropane	ND	17	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
2,2-Dichloropropane	ND	16	200		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Hexachlorobutadiene	ND	80	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
2-Hexanone	ND	66	1000		µg/L	100	12/14/2017 6:48:46 PM	W47802
Isopropylbenzene	33	5.1	100	J	µg/L	100	12/14/2017 6:48:46 PM	W47802
4-Isopropyltoluene	ND	9.6	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/14/2017 6:48:46 PM	W47802
Methylene Chloride	ND	11	300		µg/L	100	12/14/2017 6:48:46 PM	W47802
n-Butylbenzene	ND	13	300		µg/L	100	12/14/2017 6:48:46 PM	W47802
n-Propylbenzene	89	7.4	100	J	µg/L	100	12/14/2017 6:48:46 PM	W47802
sec-Butylbenzene	ND	11	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Styrene	ND	16	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
tert-Butylbenzene	ND	10	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/14/2017 6:48:46 PM	W47802
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
trans-1,2-DCE	ND	18	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Trichlorofluoromethane	ND	18	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/14/2017 6:48:46 PM	W47802
Vinyl chloride	ND	18	100		µg/L	100	12/14/2017 6:48:46 PM	W47802
Xylenes, Total	120	32	150	J	µg/L	100	12/14/2017 6:48:46 PM	W47802
Surr: 1,2-Dichloroethane-d4	97.2	0	70-130		%Rec	100	12/14/2017 6:48:46 PM	W47802
Surr: 4-Bromofluorobenzene	107	0	70-130		%Rec	100	12/14/2017 6:48:46 PM	W47802
Surr: Dibromofluoromethane	97.8	0	70-130		%Rec	100	12/14/2017 6:48:46 PM	W47802
Surr: Toluene-d8	101	0	70-130		%Rec	100	12/14/2017 6:48:46 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-58
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017 3:00:00 PM
Lab ID: 1712649-008 **Matrix:** AQUEOUS **Received Date:** 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	83	1.9	10		mg/L	200	12/14/2017 9:48:27 PM	R47798
Surr: BFB	98.3	0	70-130		%Rec	200	12/14/2017 9:48:27 PM	R47798

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP09
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017
Lab ID: 1712649-009
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	8.9	0.36	1.0		mg/L	1	12/15/2017 12:51:18 AM	35490
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/15/2017 12:51:18 AM	35490
Surr: DNOP	113	0	77.5-161		%Rec	1	12/15/2017 12:51:18 AM	35490
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	37000	62	1000		µg/L	1000	12/14/2017 7:17:43 PM	W47802
Toluene	2700	6.4	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Ethylbenzene	1400	9.3	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Methyl tert-butyl ether (MTBE)	1400	24	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2,4-Trimethylbenzene	280	11	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,3,5-Trimethylbenzene	25	8.7	100	J	µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2-Dichloroethane (EDC)	ND	40	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2-Dibromoethane (EDB)	ND	13	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Naphthalene	87	11	200	J	µg/L	100	12/14/2017 1:57:34 PM	W47802
1-Methylnaphthalene	29	16	400	J	µg/L	100	12/14/2017 1:57:34 PM	W47802
2-Methylnaphthalene	ND	15	400		µg/L	100	12/14/2017 1:57:34 PM	W47802
Acetone	190	82	1000	J	µg/L	100	12/14/2017 1:57:34 PM	W47802
Bromobenzene	ND	14	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Bromodichloromethane	ND	18	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Bromoform	ND	21	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Bromomethane	ND	26	300		µg/L	100	12/14/2017 1:57:34 PM	W47802
2-Butanone	ND	110	1000		µg/L	100	12/14/2017 1:57:34 PM	W47802
Carbon disulfide	ND	40	1000		µg/L	100	12/14/2017 1:57:34 PM	W47802
Carbon Tetrachloride	ND	11	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Chlorobenzene	ND	11	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Chloroethane	ND	23	200		µg/L	100	12/14/2017 1:57:34 PM	W47802
Chloroform	ND	40	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Chloromethane	ND	29	300		µg/L	100	12/14/2017 1:57:34 PM	W47802
2-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
4-Chlorotoluene	ND	40	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
cis-1,2-DCE	ND	20	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
cis-1,3-Dichloropropene	ND	8.2	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2-Dibromo-3-chloropropane	ND	140	200		µg/L	100	12/14/2017 1:57:34 PM	W47802
Dibromochloromethane	ND	7.2	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Dibromomethane	ND	9.1	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2-Dichlorobenzene	ND	9.0	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,3-Dichlorobenzene	ND	15	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,4-Dichlorobenzene	ND	40	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Dichlorodifluoromethane	ND	100	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,1-Dichloroethane	ND	40	100		µg/L	100	12/14/2017 1:57:34 PM	W47802

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP09
Project: 4th QTR 2017 GW Sampling
Collection Date: 12/6/2017
Lab ID: 1712649-009
Matrix: AQUEOUS
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloroethene	ND	8.1	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2-Dichloropropane	ND	10	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,3-Dichloropropane	ND	17	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
2,2-Dichloropropane	ND	16	200		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,1-Dichloropropene	ND	9.3	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Hexachlorobutadiene	ND	80	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
2-Hexanone	ND	66	1000		µg/L	100	12/14/2017 1:57:34 PM	W47802
Isopropylbenzene	18	5.1	100	J	µg/L	100	12/14/2017 1:57:34 PM	W47802
4-Isopropyltoluene	ND	9.6	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	12/14/2017 1:57:34 PM	W47802
Methylene Chloride	ND	11	300		µg/L	100	12/14/2017 1:57:34 PM	W47802
n-Butylbenzene	ND	13	300		µg/L	100	12/14/2017 1:57:34 PM	W47802
n-Propylbenzene	41	7.4	100	J	µg/L	100	12/14/2017 1:57:34 PM	W47802
sec-Butylbenzene	ND	11	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Styrene	ND	16	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
tert-Butylbenzene	ND	10	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,1,1,2-Tetrachloroethane	ND	10	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,1,2,2-Tetrachloroethane	ND	14	200		µg/L	100	12/14/2017 1:57:34 PM	W47802
Tetrachloroethene (PCE)	ND	13	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
trans-1,2-DCE	ND	18	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
trans-1,3-Dichloropropene	ND	22	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2,3-Trichlorobenzene	ND	12	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2,4-Trichlorobenzene	ND	14	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,1,1-Trichloroethane	ND	7.3	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,1,2-Trichloroethane	ND	14	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Trichloroethene (TCE)	ND	11	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Trichlorofluoromethane	ND	18	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
1,2,3-Trichloropropane	ND	39	200		µg/L	100	12/14/2017 1:57:34 PM	W47802
Vinyl chloride	ND	18	100		µg/L	100	12/14/2017 1:57:34 PM	W47802
Xylenes, Total	3400	32	150		µg/L	100	12/14/2017 1:57:34 PM	W47802
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	100	12/14/2017 1:57:34 PM	W47802
Surr: 4-Bromofluorobenzene	110	0	70-130		%Rec	100	12/14/2017 1:57:34 PM	W47802
Surr: Dibromofluoromethane	104	0	70-130		%Rec	100	12/14/2017 1:57:34 PM	W47802
Surr: Toluene-d8	96.4	0	70-130		%Rec	100	12/14/2017 1:57:34 PM	W47802
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	110	0.97	5.0		mg/L	100	12/14/2017 10:11:12 PM	R47798
Surr: BFB	91.5	0	70-130		%Rec	100	12/14/2017 10:11:12 PM	R47798

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712649-010
Matrix: TRIP BLANK
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
Benzene	ND	0.062	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Toluene	ND	0.064	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Naphthalene	ND	0.11	2.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Acetone	1.7	0.82	10	J	µg/L	1	12/14/2017 11:59:40 AM	W47802
Bromobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Bromoform	ND	0.21	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Bromomethane	ND	0.26	3.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
2-Butanone	ND	1.1	10		µg/L	1	12/14/2017 11:59:40 AM	W47802
Carbon disulfide	ND	0.40	10		µg/L	1	12/14/2017 11:59:40 AM	W47802
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Chloroethane	ND	0.23	2.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Chloroform	ND	0.40	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Chloromethane	ND	0.29	3.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Dibromomethane	ND	0.091	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/14/2017 11:59:40 AM	W47802

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: TRIP BLANK
Project: 4th QTR 2017 GW Sampling
Collection Date:
Lab ID: 1712649-010
Matrix: TRIP BLANK
Received Date: 12/8/2017 9:35:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **DJF**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
2-Hexanone	ND	0.66	10		µg/L	1	12/14/2017 11:59:40 AM	W47802
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/14/2017 11:59:40 AM	W47802
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Styrene	ND	0.16	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/14/2017 11:59:40 AM	W47802
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/14/2017 11:59:40 AM	W47802
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	12/14/2017 11:59:40 AM	W47802
Surr: 4-Bromofluorobenzene	109	0	70-130		%Rec	1	12/14/2017 11:59:40 AM	W47802
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/14/2017 11:59:40 AM	W47802
Surr: Toluene-d8	100	0	70-130		%Rec	1	12/14/2017 11:59:40 AM	W47802

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48056**	RunNo: **48056**
Prep Date:	Analysis Date: **12/27/2017**	SeqNo: **1540007** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48056**	RunNo: **48056**
Prep Date:	Analysis Date: **12/27/2017**	SeqNo: **1540008** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.50	1.0	0.5000	0	100	50	150			J
Magnesium	0.50	1.0	0.5000	0	101	50	150			J
Potassium	0.53	1.0	0.5000	0	106	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48056**	RunNo: **48056**
Prep Date:	Analysis Date: **12/27/2017**	SeqNo: **1540009** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	101	85	115			
Magnesium	51	1.0	50.00	0	103	85	115			
Potassium	51	1.0	50.00	0	101	85	115			

Sample ID **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541775** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541776** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Chromium	0.0057	0.0060	0.006000	0	94.5	50	150			J
Copper	0.0055	0.0060	0.006000	0	91.5	50	150			J
Iron	0.020	0.020	0.02000	0	98.2	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0050	0.0050	0.005000	0	99.0	50	150			J
Sodium	0.46	1.0	0.5000	0	92.1	50	150			J
Zinc	0.0051	0.010	0.005000	0	103	50	150			J

Sample ID **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48091**	RunNo: **48091**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541777** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.8	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			
Copper	0.50	0.0060	0.5000	0	99.8	85	115			
Iron	0.52	0.020	0.5000	0	103	85	115			
Manganese	0.50	0.0020	0.5000	0	99.6	85	115			
Silver	0.11	0.0050	0.1000	0	107	85	115			
Sodium	50	1.0	50.00	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.4	85	115			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **MB-35610**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **35610**	RunNo: **47970**
Prep Date: **12/19/2017**	Analysis Date: **12/21/2017**	SeqNo: **1536817** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	0.00071	0.0020								J
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-35610**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **35610**	RunNo: **47970**
Prep Date: **12/19/2017**	Analysis Date: **12/21/2017**	SeqNo: **1536818** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	103	50	150			
Cadmium	0.0028	0.0020	0.002000	0	140	50	150			
Chromium	0.0058	0.0060	0.006000	0	96.2	50	150			J
Copper	0.0053	0.0060	0.006000	0	88.8	50	150			J
Iron	0.015	0.020	0.02000	0	74.0	50	150			J
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Silver	0.0052	0.0050	0.005000	0	103	50	150			
Zinc	0.0056	0.010	0.005000	0	112	50	150			J

Sample ID **LCS-35610**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **35610**	RunNo: **47970**
Prep Date: **12/19/2017**	Analysis Date: **12/21/2017**	SeqNo: **1536819** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.5	85	115			
Cadmium	0.52	0.0020	0.5000	0	104	85	115			
Chromium	0.48	0.0060	0.5000	0	95.8	85	115			
Copper	0.49	0.0060	0.5000	0	98.4	85	115			
Iron	0.50	0.020	0.5000	0	99.8	85	115			
Manganese	0.47	0.0020	0.5000	0	94.6	85	115			
Silver	0.11	0.0050	0.1000	0	108	85	115			
Zinc	0.47	0.010	0.5000	0	94.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **E47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/22/2017**	SeqNo: **1537386** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **E47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/22/2017**	SeqNo: **1537387** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00047	0.00050	0.0005000	0	93.2	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **E47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/22/2017**	SeqNo: **1537388** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0	91.7	85	115			

Sample ID **1712649-001EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-60**	Batch ID: **E47988**	RunNo: **47988**
Prep Date:	Analysis Date: **12/22/2017**	SeqNo: **1537394** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0	105	70	130			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541445** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541446** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00049	0.00050	0.0005000	0	98.4	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.3	50	150			J

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541447** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	99.2	85	115			
Uranium	0.012	0.00050	0.01250	0	95.9	85	115			

Sample ID **1712649-001EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-60**	Batch ID: **B48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/28/2017**	SeqNo: **1541465** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.11	0.0025	0.06250	0.04668	104	70	130			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541471** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541472** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	96.3	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.1	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48088**	RunNo: **48088**
Prep Date:	Analysis Date: **12/29/2017**	SeqNo: **1541473** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	95.8	85	115			
Uranium	0.012	0.00050	0.01250	0	92.5	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543339** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								

Qualifiers:

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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543339** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543340** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	110	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.2	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543341** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.024	0.0010	0.02500	0	95.2	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549286** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549287** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	105	50	150			
Selenium	0.0010	0.0010	0.001000	0	101	50	150			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549288** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.023	0.0010	0.02500	0	93.5	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48330**	RunNo: **48330**
Prep Date:	Analysis Date: **1/9/2018**	SeqNo: **1552227** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48330**	RunNo: **48330**
Prep Date:	Analysis Date: **1/9/2018**	SeqNo: **1552228** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00095	0.0010	0.001000	0	95.3	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48330**	RunNo: **48330**
Prep Date:	Analysis Date: **1/9/2018**	SeqNo: **1552229** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.024	0.0010	0.02500	0	94.6	85	115			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID	**MB-35610**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35610**	RunNo:	**48033**					
Prep Date:	**12/19/2017**	Analysis Date:	**12/22/2017**	SeqNo:	**1539335**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35610**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35610**	RunNo:	**48033**					
Prep Date:	**12/19/2017**	Analysis Date:	**12/22/2017**	SeqNo:	**1539337**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00084	0.0010	0.001000	0	83.9	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.9	50	150			J
Selenium	0.00083	0.0010	0.001000	0	82.5	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.6	50	150			J

Sample ID	**MSLCS-35610**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35610**	RunNo:	**48033**					
Prep Date:	**12/19/2017**	Analysis Date:	**12/22/2017**	SeqNo:	**1539340**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	99.4	85	115			
Lead	0.012	0.00050	0.01250	0	97.1	85	115			
Selenium	0.024	0.0010	0.02500	0	94.3	85	115			
Uranium	0.012	0.00050	0.01250	0	96.5	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID	**MB-35651**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**35651**	RunNo:	**47956**					
Prep Date:	**12/21/2017**	Analysis Date:	**12/21/2017**	SeqNo:	**1536401**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-35651**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**35651**	RunNo:	**47956**					
Prep Date:	**12/21/2017**	Analysis Date:	**12/21/2017**	SeqNo:	**1536402**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.2	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R47878**	RunNo: **47878**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1532363** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS-b**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R47878**	RunNo: **47878**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1532365** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.8	0.50	5.000	0	96.0	90	110			
Bromide	2.5	0.10	2.500	0	98.6	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.8	90	110			
Sulfate	9.8	0.50	10.00	0	97.5	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R48030**	RunNo: **48030**
Prep Date:	Analysis Date: **12/26/2017**	SeqNo: **1539145** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R48030**	RunNo: **48030**
Prep Date:	Analysis Date: **12/26/2017**	SeqNo: **1539146** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.6	90	110			
Sulfate	9.5	0.50	10.00	0	95.3	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	98.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **LCS-35490**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35490**	RunNo: **47771**
Prep Date: **12/13/2017**	Analysis Date: **12/14/2017**	SeqNo: **1529120** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	117	92.3	135			
Surr: DNOP	0.53		0.5000		107	77.5	161			

Sample ID **MB-35490**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35490**	RunNo: **47771**
Prep Date: **12/13/2017**	Analysis Date: **12/14/2017**	SeqNo: **1529121** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.98		1.000		97.8	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528764** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528764** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		111	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		99.9	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528765** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.4	70	130			
Toluene	20	1.0	20.00	0	99.3	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528765** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21	1.0	20.00	0	107	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **1712649-001a ms**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **OW-60**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528768** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.9	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	106	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.8	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **1712649-001a msd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **OW-60**	Batch ID: **W47802**	RunNo: **47802**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528769** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.8	70	130	5.29	20	
Toluene	19	1.0	20.00	0	94.7	70	130	5.94	20	
Chlorobenzene	19	1.0	20.00	0	96.5	70	130	4.28	20	
1,1-Dichloroethene	20	1.0	20.00	0	102	70	130	3.25	20	
Trichloroethene (TCE)	18	1.0	20.00	0	92.1	70	130	2.18	20	
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.1	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130	0	0	
Surr: Dibromofluoromethane	9.7		10.00		96.7	70	130	0	0	
Surr: Toluene-d8	9.3		10.00		92.9	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **lcs-35477**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531758** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	85	10	100.0	0	85.2	39.7	103			
4-Chloro-3-methylphenol	190	10	200.0	0	96.2	40.5	108			
2-Chlorophenol	150	10	200.0	0	75.9	35	103			
1,4-Dichlorobenzene	76	10	100.0	0	76.5	24.7	93.7			
2,4-Dinitrotoluene	73	10	100.0	0	73.0	35.6	91.4			
N-Nitrosodi-n-propylamine	94	10	100.0	0	93.6	41.6	114			
4-Nitrophenol	100	10	200.0	0	50.4	20.7	74.3			
Pentachlorophenol	110	20	200.0	0	54.3	25.3	98.5			
Phenol	130	10	200.0	0	64.2	20.9	75.1			
Pyrene	89	10	100.0	0	88.8	45.6	108			
1,2,4-Trichlorobenzene	85	10	100.0	0	84.8	30.3	106			
Surr: 2-Fluorophenol	120		200.0		58.6	15	114			
Surr: Phenol-d5	120		200.0		62.2	15	97.9			
Surr: 2,4,6-Tribromophenol	150		200.0		73.0	15	161			
Surr: Nitrobenzene-d5	88		100.0		88.3	29.3	120			
Surr: 2-Fluorobiphenyl	81		100.0		81.4	17.5	116			
Surr: 4-Terphenyl-d14	120		100.0		119	21	92.2			S

Sample ID **mb-35477**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531759** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	4.8	20								J
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**
17-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th QTR 2017 GW Sampling

Sample ID **mb-35477**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**	
Client ID: **PBW**	Batch ID: **35477**	RunNo: **47867**	
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531759**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3´-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **mb-35477**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35477**	RunNo: **47867**
Prep Date: **12/13/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531759** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	41		200.0		20.6	15	114			
Surr: Phenol-d5	48		200.0		24.1	15	97.9			
Surr: 2,4,6-Tribromophenol	70		200.0		35.0	15	161			
Surr: Nitrobenzene-d5	77		100.0		76.7	29.3	120			
Surr: 2-Fluorobiphenyl	71		100.0		71.0	17.5	116			
Surr: 4-Terphenyl-d14	58		100.0		57.6	21	92.2			

Sample ID **mb-35585**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35585**	RunNo: **47950**
Prep Date: **12/19/2017**	Analysis Date: **12/20/2017**	SeqNo: **1536247** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		58.0	15	114			
Surr: Phenol-d5	84		200.0		42.0	15	97.9			
Surr: 2,4,6-Tribromophenol	170		200.0		82.8	15	161			
Surr: Nitrobenzene-d5	84		100.0		84.2	29.3	120			
Surr: 2-Fluorobiphenyl	79		100.0		78.5	17.5	116			
Surr: 4-Terphenyl-d14	84		100.0		83.9	21	92.2			

Sample ID **lcs-35585**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35585**	RunNo: **47950**
Prep Date: **12/19/2017**	Analysis Date: **12/20/2017**	SeqNo: **1536248** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **lcs-35585**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35585**	RunNo: **47950**
Prep Date: **12/19/2017**	Analysis Date: **12/20/2017**	SeqNo: **1536248** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	130		200.0		66.3	15	114			
Surr: Phenol-d5	99		200.0		49.7	15	97.9			
Surr: 2,4,6-Tribromophenol	200		200.0		98.9	15	161			
Surr: Nitrobenzene-d5	94		100.0		94.0	29.3	120			
Surr: 2-Fluorobiphenyl	87		100.0		86.6	17.5	116			
Surr: 4-Terphenyl-d14	68		100.0		68.0	21	92.2			

Sample ID **lcsd-35585**	SampType: **LCSD**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSS02**	Batch ID: **35585**	RunNo: **47950**
Prep Date: **12/19/2017**	Analysis Date: **12/20/2017**	SeqNo: **1536249** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		60.4	15	114	0	0	
Surr: Phenol-d5	92		200.0		46.0	15	97.9	0	0	
Surr: 2,4,6-Tribromophenol	180		200.0		92.0	15	161	0	0	
Surr: Nitrobenzene-d5	86		100.0		86.4	29.3	120	0	0	
Surr: 2-Fluorobiphenyl	79		100.0		78.7	17.5	116	0	0	
Surr: 4-Terphenyl-d14	61		100.0		61.4	21	92.2	0	0	

Sample ID **lcs-35784**	SampType: **LCS**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **LCSW**	Batch ID: **35784**	RunNo: **48327**
Prep Date: **1/2/2018**	Analysis Date: **1/9/2018**	SeqNo: **1552111** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	180		200.0		87.9	15	114			
Surr: Phenol-d5	150		200.0		76.2	15	97.9			
Surr: 2,4,6-Tribromophenol	200		200.0		100	15	161			
Surr: Nitrobenzene-d5	93		100.0		92.6	29.3	120			
Surr: 2-Fluorobiphenyl	91		100.0		90.9	17.5	116			
Surr: 4-Terphenyl-d14	61		100.0		61.4	21	92.2			

Sample ID **mb-35784**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35784**	RunNo: **48327**
Prep Date: **1/2/2018**	Analysis Date: **1/9/2018**	SeqNo: **1552112** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	80		200.0		39.9	15	114			
Surr: Phenol-d5	71		200.0		35.7	15	97.9			
Surr: 2,4,6-Tribromophenol	130		200.0		62.6	15	161			
Surr: Nitrobenzene-d5	72		100.0		72.2	29.3	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **mb-35784**	SampType: **MBLK**	TestCode: **EPA Method 8270C: Semivolatiles**
Client ID: **PBW**	Batch ID: **35784**	RunNo: **48327**
Prep Date: **1/2/2018**	Analysis Date: **1/9/2018**	SeqNo: **1552112** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	65		100.0		65.0	17.5	116			
Surr: 4-Terphenyl-d14	56		100.0		55.5	21	92.2			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712649**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling

Sample ID **2.5ug gro lcs2**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R47798**	RunNo: **47798**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528595** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.6	70	130			
Surr: BFB	9.4		10.00		93.7	70	130			

Sample ID **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R47798**	RunNo: **47798**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528596** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		102	70	130			

Sample ID **1712649-004ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-55**	Batch ID: **R47798**	RunNo: **47798**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	70	5.0	50.00	25.56	88.2	70	130			
Surr: BFB	920		1000		92.1	70	130			

Sample ID **1712649-004amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-55**	Batch ID: **R47798**	RunNo: **47798**
Prep Date:	Analysis Date: **12/14/2017**	SeqNo: **1528742** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	68	5.0	50.00	25.56	85.6	70	130	1.88	20	
Surr: BFB	910		1000		91.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Western Refining Gallup** Work Order Number: **1712649** RcptNo: **1**

Received By: **Erin Melendrez** **12/8/2017 9:35:00 AM**

Completed By: **Ashley Gallegos** **12/12/2017 10:41:54 AM**

Reviewed By: JMO 12/12/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 21 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: JMO | DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.1	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712649
12/6/17	0800	WATER	OW-60	40 mL VOA-5	HCL	-001
				1 L AMBER-1	NEAT	
				250 mL AMBER-1	NEAT	
				250 mL PLASTIC-1	HNO_3	
				125 mL PLASTIC-1	HNO_3	
				125 mL PLASTIC-1	H_2SO_4	
				125 mL PLASTIC-1	NEAT	
	0840		OW-59	40 mL VOA-5	HCL	-002
				1 L AMBER-2	NEAT	
				250 mL AMBER-1	NEAT	
				250 mL PLASTIC-1	HNO_3	
				125 mL PLASTIC-1	HNO_3	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)	Air Bubbles (Y or N)
		✓							✓				
										✓			
		✓											
												✓	
											✓	✓	
											✓		
												✓	
		✓							✓				
										✓			
		✓											
												✓	
											✓	✓	

Date	Time	Relinquished by	Received by	Date	Time
12/7/17	0700			12/8/17	0935

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712049	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)		Air Bubbles (Y or N)
12/6/17	0840	WATER	OW-59	125 ML PLASTIC-1	H_2SO_4	-002												✓			
	↓		↓	125 ML PLASTIC-1	NEAT	⊥													✓		
	0930		OW-54	40 ML VOA-5	HCL	-003			✓							✓					
				1 L AMBER-1	NEAT	|											✓				
				250 ML AMBER-1	NEAT	|			✓												
				250 ML PLASTIC-1	HNO_3	|													✓		
				125 ML PLASTIC-1	HNO_3	|												✓	✓		
				125 ML PLASTIC-1	H_2SO_4	|												✓			
	↓		↓	125 ML PLASTIC-1	NEAT	⊥													✓		
	1010		OW-55	40 ML VOA-5	HCL	-004			✓							✓					
	↓		↓	1 L AMBER	NEAT	|											✓				
				250 ML AMBER	NEAT	⊥			✓												

Date: 12/7/17 Time: 0700 Relinquished by:
Received by: Date: 12/8/17 Time: 0935
Remarks:

Date: Time: Relinquished by:
Received by: Date: Time:

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Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.1

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712649
12/6/17	1010	WATER	OW-55	250 ML PLASTIC-1	HNO_3	-004
				125 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	H_2SO_4	
				125 ML PLASTIC-1	NEAT	
	1045		OW-56	40 ML VOA-5	HCL	-005
				1 L AMBER-1	NEAT	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	H_2SO_4	
				125 ML PLASTIC-1	NEAT	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
												✓			
											✓	✓			
											✓				
												✓			
		✓							✓						
										✓					
		✓													
												✓			
											✓	✓			
											✓				
												✓			

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/7/17	0700			12/8/17	0435
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
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Phone #: 505-722-0231
email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.1

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Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712649	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	HAITOR CATIONS/ANIONS	WQCC METALS	(TOTAL & DISSOLVED)		Air Bubbles (Y or N)
12/6/17	1240	WATER	OW-57	40 ML VOA-5	HCL	-006			✓							✓						
				1 L AMBER-1	NEAT												✓					
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3														✓			
				125 ML PLASTIC-1	HNO_3													✓	✓			
				125 ML PLASTIC-1	H_2SO_4													✓				
	↓		↓	500 ML PLASTIC-1	NEAT	↓													✓			
	1330		RW-2	40 ML VOA-5	HCL	-007			✓							✓						
	↓		↓	250 ML AMBER-1	NEAT	↓			✓													
	1500		OW-58	40 ML VOA-5	HCL	-008			✓							✓						
				1 L AMBER-1	NEAT												✓					
↓	↓	↓	↓	250 ML AMBER-1	NEAT	↓			✓													

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/7/17	0700			12/8/17	0935
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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Phone #: 505-722-0231
email or Fax: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.1

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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712649
12/6/17	1500	WATER	GW-58	250 ML PLASTIC-1	HNO_3	-008
				125 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	H_2SO_4	
				500 ML PLASTIC-1	NEAT	
	—		DUP09	40 ML VOA-5	HCL	-009
				250 ML AMBER	NEAT	
12/6/17	—	WATER	TRIP BLANK	40 ML VOA-3	HCL	-010

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	MAJOR CATIONS/ANIONS	WQCC METALS (TOTAL & DISSOLVED)	Air Bubbles (Y or N)
												✓	
											✓	✓	
											✓		
												✓	
		✓							✓				
		✓											
									✓				

Date: 12/7/17 Time: 0700 Relinquished by:
Received by: Date: 12/8/17 Time: 0935
Remarks:

Date: Time: Relinquished by:
Received by: Date: Time:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 17, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th QTR 2017 GW Sampling OW Wells OrderNo.: 1712838

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/13/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 11:20:00 AM
Lab ID: 1712838-001
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	12/19/2017 5:33:18 AM	35554
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/19/2017 2:52:08 PM	35577
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/19/2017 2:52:08 PM	35577
Surr: DNOP	104	0	77.5-161		%Rec	1	12/19/2017 2:52:08 PM	35577
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.019	0.00099	0.0020		mg/L	1	1/2/2018 6:33:29 PM	A48123
Cadmium	ND	0.0010	0.0020		mg/L	1	1/2/2018 6:33:29 PM	A48123
Chromium	ND	0.0013	0.0060		mg/L	1	1/2/2018 6:33:29 PM	A48123
Copper	ND	0.0032	0.0060		mg/L	1	1/2/2018 6:33:29 PM	A48123
Iron	ND	0.016	0.020		mg/L	1	1/2/2018 6:33:29 PM	A48123
Manganese	0.023	0.00039	0.0020		mg/L	1	1/2/2018 6:33:29 PM	A48123
Silver	ND	0.0018	0.0050		mg/L	1	1/2/2018 6:33:29 PM	A48123
Zinc	0.0095	0.0021	0.010	J	mg/L	1	1/2/2018 6:33:29 PM	A48123
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.019	0.0010	0.0020		mg/L	1	1/2/2018 5:03:59 PM	35764
Cadmium	0.00064	0.00058	0.0020	J	mg/L	1	12/29/2017 8:13:47 PM	35764
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 5:03:59 PM	35764
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 8:13:47 PM	35764
Iron	ND	0.010	0.020		mg/L	1	12/29/2017 8:13:47 PM	35764
Manganese	0.022	0.0011	0.0020		mg/L	1	1/4/2018 9:23:53 PM	35764
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 8:13:47 PM	35764
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 5:03:59 PM	35764
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	1/5/2018 9:27:54 PM	D48247
Lead	ND	0.00017	0.00050		mg/L	1	12/30/2017 5:03:29 PM	C48118
Selenium	ND	0.0038	0.0050		mg/L	5	1/5/2018 9:27:54 PM	D48247
Uranium	0.015	0.00048	0.0025		mg/L	5	1/5/2018 9:27:54 PM	D48247
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.00084	0.00041	0.0010	J	mg/L	1	1/8/2018 9:11:19 PM	35764
Lead	ND	0.00023	0.00050		mg/L	1	1/8/2018 9:11:19 PM	35764
Selenium	ND	0.00098	0.0010		mg/L	1	1/8/2018 9:11:19 PM	35764
Uranium	0.016	0.00015	0.00050		mg/L	1	1/8/2018 9:11:19 PM	35764
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000097	0.000037	0.00020	J	mg/L	1	12/27/2017 2:23:11 PM	35705
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 11:20:00 AM
Lab ID: 1712838-001 **Matrix:** AQUEOUS **Received Date:** 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Toluene	ND	0.064	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Methyl tert-butyl ether (MTBE)	56	0.24	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2-Dichloroethane (EDC)	0.87	0.40	1.0	J	µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Naphthalene	ND	0.11	2.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Acetone	3.6	0.82	10	J	µg/L	1	12/18/2017 3:53:00 PM	R47865
Bromobenzene	ND	0.14	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Bromoform	ND	0.21	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Bromomethane	ND	0.26	3.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
2-Butanone	ND	1.1	10		µg/L	1	12/18/2017 3:53:00 PM	R47865
Carbon disulfide	ND	0.40	10		µg/L	1	12/18/2017 3:53:00 PM	R47865
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Chloroethane	ND	0.23	2.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Chloroform	ND	0.40	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Chloromethane	ND	0.29	3.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Dibromomethane	ND	0.091	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/18/2017 3:53:00 PM	R47865

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-13
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 11:20:00 AM
Lab ID: 1712838-001 **Matrix:** AQUEOUS **Received Date:** 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
2-Hexanone	ND	0.66	10		µg/L	1	12/18/2017 3:53:00 PM	R47865
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/18/2017 3:53:00 PM	R47865
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Styrene	ND	0.16	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/18/2017 3:53:00 PM	R47865
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/18/2017 3:53:00 PM	R47865
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	12/18/2017 3:53:00 PM	R47865
Surr: 4-Bromofluorobenzene	95.7	0	70-130		%Rec	1	12/18/2017 3:53:00 PM	R47865
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/18/2017 3:53:00 PM	R47865
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	12/18/2017 3:53:00 PM	R47865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.064	0.0097	0.050		mg/L	1	12/15/2017 10:20:36 AM	G47839
Surr: BFB	100	0	70-130		%Rec	1	12/15/2017 10:20:36 AM	G47839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 1:10:00 PM
Lab ID: 1712838-002
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0092		µg/L	1	12/19/2017 5:48:30 AM	35554
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	4.3	0.36	1.0		mg/L	1	12/19/2017 4:15:35 PM	35577
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/19/2017 4:15:35 PM	35577
Surr: DNOP	103	0	77.5-161		%Rec	1	12/19/2017 4:15:35 PM	35577
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	2.1	0.0049	0.010	*	mg/L	5	1/2/2018 8:29:42 PM	A48123
Cadmium	ND	0.0010	0.0020		mg/L	1	1/2/2018 6:35:27 PM	A48123
Chromium	ND	0.0013	0.0060		mg/L	1	1/2/2018 6:35:27 PM	A48123
Copper	ND	0.0032	0.0060		mg/L	1	1/2/2018 6:35:27 PM	A48123
Iron	4.4	0.082	0.10	*	mg/L	5	1/2/2018 8:29:42 PM	A48123
Manganese	2.1	0.0020	0.010	*	mg/L	5	1/2/2018 8:29:42 PM	A48123
Silver	ND	0.0018	0.0050		mg/L	1	1/2/2018 6:35:27 PM	A48123
Zinc	0.0085	0.0021	0.010	J	mg/L	1	1/2/2018 6:35:27 PM	A48123
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	2.3	0.0050	0.010	*	mg/L	5	1/2/2018 5:07:47 PM	35764
Cadmium	ND	0.00058	0.0020		mg/L	1	12/29/2017 8:15:45 PM	35764
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 5:05:56 PM	35764
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 8:15:45 PM	35764
Iron	4.9	0.051	0.10	*	mg/L	5	1/5/2018 3:52:50 PM	35764
Manganese	2.2	0.0055	0.010	*	mg/L	5	1/5/2018 3:52:50 PM	35764
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 8:15:45 PM	35764
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 5:05:56 PM	35764
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0083	0.0021	0.0050		mg/L	5	1/5/2018 9:37:41 PM	D48247
Lead	ND	0.00017	0.00050		mg/L	1	12/30/2017 5:23:11 PM	C48118
Selenium	0.011	0.0038	0.0050		mg/L	5	1/5/2018 9:37:41 PM	D48247
Uranium	0.0033	0.000096	0.00050		mg/L	1	12/30/2017 5:23:11 PM	C48118
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.0057	0.0041	0.010	J	mg/L	10	1/11/2018 5:00:44 PM	35764
Lead	ND	0.00023	0.00050		mg/L	1	1/8/2018 9:14:55 PM	35764
Selenium	ND	0.0098	0.010		mg/L	10	1/11/2018 5:00:44 PM	35764
Uranium	0.0031	0.00015	0.00050		mg/L	1	1/8/2018 9:14:55 PM	35764
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00011	0.000037	0.00020	J	mg/L	1	12/27/2017 2:25:06 PM	35705
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 1:10:00 PM
Lab ID: 1712838-002
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	13000	62	1000		µg/L	1000	12/19/2017 2:38:00 PM	R47892
Toluene	13	0.64	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Ethylbenzene	640	0.93	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Methyl tert-butyl ether (MTBE)	630	2.4	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2,4-Trimethylbenzene	13	1.1	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,3,5-Trimethylbenzene	2.1	0.87	10	J	µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2-Dichloroethane (EDC)	ND	4.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2-Dibromoethane (EDB)	ND	1.3	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Naphthalene	37	1.1	20		µg/L	10	12/18/2017 5:28:00 PM	R47865
1-Methylnaphthalene	33	1.6	40	J	µg/L	10	12/18/2017 5:28:00 PM	R47865
2-Methylnaphthalene	ND	1.5	40		µg/L	10	12/18/2017 5:28:00 PM	R47865
Acetone	ND	8.2	100		µg/L	10	12/18/2017 5:28:00 PM	R47865
Bromobenzene	ND	1.4	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Bromodichloromethane	ND	1.8	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Bromoform	ND	2.1	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Bromomethane	ND	2.6	30		µg/L	10	12/18/2017 5:28:00 PM	R47865
2-Butanone	ND	11	100		µg/L	10	12/18/2017 5:28:00 PM	R47865
Carbon disulfide	ND	4.0	100		µg/L	10	12/18/2017 5:28:00 PM	R47865
Carbon Tetrachloride	ND	1.1	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Chlorobenzene	ND	1.1	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Chloroethane	ND	2.3	20		µg/L	10	12/18/2017 5:28:00 PM	R47865
Chloroform	ND	4.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Chloromethane	ND	2.9	30		µg/L	10	12/18/2017 5:28:00 PM	R47865
2-Chlorotoluene	ND	4.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
4-Chlorotoluene	ND	4.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
cis-1,2-DCE	ND	2.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
cis-1,3-Dichloropropene	ND	0.82	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2-Dibromo-3-chloropropane	ND	14	20		µg/L	10	12/18/2017 5:28:00 PM	R47865
Dibromochloromethane	ND	0.72	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Dibromomethane	ND	0.91	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2-Dichlorobenzene	ND	0.90	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,3-Dichlorobenzene	ND	1.5	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,4-Dichlorobenzene	ND	4.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Dichlorodifluoromethane	ND	10	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,1-Dichloroethane	ND	4.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,1-Dichloroethene	ND	0.81	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2-Dichloropropane	ND	1.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,3-Dichloropropane	ND	1.7	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
2,2-Dichloropropane	ND	1.6	20		µg/L	10	12/18/2017 5:28:00 PM	R47865

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-14
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 1:10:00 PM
Lab ID: 1712838-002
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.93	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Hexachlorobutadiene	ND	8.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
2-Hexanone	ND	6.6	100		µg/L	10	12/18/2017 5:28:00 PM	R47865
Isopropylbenzene	16	0.51	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
4-Isopropyltoluene	1.7	0.96	10	J	µg/L	10	12/18/2017 5:28:00 PM	R47865
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	12/18/2017 5:28:00 PM	R47865
Methylene Chloride	ND	1.1	30		µg/L	10	12/18/2017 5:28:00 PM	R47865
n-Butylbenzene	3.0	1.3	30	J	µg/L	10	12/18/2017 5:28:00 PM	R47865
n-Propylbenzene	28	0.74	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
sec-Butylbenzene	3.2	1.1	10	J	µg/L	10	12/18/2017 5:28:00 PM	R47865
Styrene	ND	1.6	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
tert-Butylbenzene	ND	1.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,1,1,2-Tetrachloroethane	ND	1.0	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,1,2,2-Tetrachloroethane	ND	1.4	20		µg/L	10	12/18/2017 5:28:00 PM	R47865
Tetrachloroethene (PCE)	ND	1.3	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
trans-1,2-DCE	ND	1.8	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
trans-1,3-Dichloropropene	ND	2.2	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2,3-Trichlorobenzene	ND	1.2	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2,4-Trichlorobenzene	ND	1.4	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,1,1-Trichloroethane	ND	0.73	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,1,2-Trichloroethane	ND	1.4	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Trichloroethene (TCE)	ND	1.1	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Trichlorofluoromethane	ND	1.8	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
1,2,3-Trichloropropane	ND	3.9	20		µg/L	10	12/18/2017 5:28:00 PM	R47865
Vinyl chloride	ND	1.8	10		µg/L	10	12/18/2017 5:28:00 PM	R47865
Xylenes, Total	52	3.2	15		µg/L	10	12/18/2017 5:28:00 PM	R47865
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	10	12/18/2017 5:28:00 PM	R47865
Surr: 4-Bromofluorobenzene	97.1	0	70-130		%Rec	10	12/18/2017 5:28:00 PM	R47865
Surr: Dibromofluoromethane	102	0	70-130		%Rec	10	12/18/2017 5:28:00 PM	R47865
Surr: Toluene-d8	99.6	0	70-130		%Rec	10	12/18/2017 5:28:00 PM	R47865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	31	0.48	2.5		mg/L	50	12/15/2017 10:43:25 AM	G47839
Surr: BFB	103	0	70-130		%Rec	50	12/15/2017 10:43:25 AM	G47839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP10
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017
Lab ID: 1712838-003
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	12/19/2017 6:03:31 AM	35554
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/19/2017 4:44:24 PM	35577
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/19/2017 4:44:24 PM	35577
Surr: DNOP	104	0	77.5-161		%Rec	1	12/19/2017 4:44:24 PM	35577
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.068	0.00099	0.0020		mg/L	1	1/2/2018 6:43:09 PM	A48123
Cadmium	ND	0.0010	0.0020		mg/L	1	1/2/2018 6:43:09 PM	A48123
Chromium	ND	0.0013	0.0060		mg/L	1	1/2/2018 6:43:09 PM	A48123
Copper	ND	0.0032	0.0060		mg/L	1	1/2/2018 6:43:09 PM	A48123
Iron	0.33	0.016	0.020	*	mg/L	1	1/2/2018 6:43:09 PM	A48123
Manganese	0.33	0.00039	0.0020	*	mg/L	1	1/2/2018 6:43:09 PM	A48123
Silver	ND	0.0018	0.0050		mg/L	1	1/2/2018 6:43:09 PM	A48123
Zinc	0.0065	0.0021	0.010	J	mg/L	1	1/2/2018 6:43:09 PM	A48123
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.019	0.0010	0.0020		mg/L	1	1/2/2018 5:09:35 PM	35764
Cadmium	0.00068	0.00058	0.0020	J	mg/L	1	12/29/2017 8:17:35 PM	35764
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 5:09:35 PM	35764
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 8:17:35 PM	35764
Iron	ND	0.010	0.020		mg/L	1	12/29/2017 8:17:35 PM	35764
Manganese	0.022	0.0011	0.0020		mg/L	1	1/4/2018 9:27:40 PM	35764
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 8:17:35 PM	35764
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 5:09:35 PM	35764
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	ND	0.0021	0.0050		mg/L	5	1/5/2018 9:57:23 PM	D48247
Lead	ND	0.00017	0.00050		mg/L	1	12/30/2017 5:28:06 PM	C48118
Selenium	ND	0.0038	0.0050		mg/L	5	1/5/2018 9:57:23 PM	D48247
Uranium	0.017	0.000096	0.00050		mg/L	1	12/30/2017 5:28:06 PM	C48118
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	0.00072	0.00041	0.0010	J	mg/L	1	1/8/2018 9:18:32 PM	35764
Lead	ND	0.00023	0.00050		mg/L	1	1/8/2018 9:18:32 PM	35764
Selenium	ND	0.00098	0.0010		mg/L	1	1/8/2018 9:18:32 PM	35764
Uranium	0.016	0.00015	0.00050		mg/L	1	1/8/2018 9:18:32 PM	35764
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00010	0.000037	0.00020	J	mg/L	1	12/27/2017 2:31:04 PM	35705
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP10
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017
Lab ID: 1712838-003
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Toluene	ND	0.064	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Methyl tert-butyl ether (MTBE)	55	0.24	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2-Dichloroethane (EDC)	0.91	0.40	1.0	J	µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Naphthalene	ND	0.11	2.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Acetone	1.6	0.82	10	J	µg/L	1	12/19/2017 3:02:00 PM	R47892
Bromobenzene	ND	0.14	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Bromoform	ND	0.21	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Bromomethane	ND	0.26	3.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
2-Butanone	ND	1.1	10		µg/L	1	12/19/2017 3:02:00 PM	R47892
Carbon disulfide	ND	0.40	10		µg/L	1	12/19/2017 3:02:00 PM	R47892
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Chloroethane	ND	0.23	2.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Chloroform	ND	0.40	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Chloromethane	ND	0.29	3.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Dibromomethane	ND	0.091	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/19/2017 3:02:00 PM	R47892

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: DUP10
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017
Lab ID: 1712838-003
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
2-Hexanone	ND	0.66	10		µg/L	1	12/19/2017 3:02:00 PM	R47892
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/19/2017 3:02:00 PM	R47892
Methylene Chloride	ND	0.11	3.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Styrene	ND	0.16	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/19/2017 3:02:00 PM	R47892
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/19/2017 3:02:00 PM	R47892
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	12/19/2017 3:02:00 PM	R47892
Surr: 4-Bromofluorobenzene	96.2	0	70-130		%Rec	1	12/19/2017 3:02:00 PM	R47892
Surr: Dibromofluoromethane	99.1	0	70-130		%Rec	1	12/19/2017 3:02:00 PM	R47892
Surr: Toluene-d8	97.1	0	70-130		%Rec	1	12/19/2017 3:02:00 PM	R47892
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.061	0.0097	0.050		mg/L	1	12/15/2017 11:06:25 AM	G47839
Surr: BFB	103	0	70-130		%Rec	1	12/15/2017 11:06:25 AM	G47839

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 2:55:00 PM
Lab ID: 1712838-004
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0060	0.0094		µg/L	1	12/19/2017 6:18:37 AM	35554
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	ND	0.36	1.0		mg/L	1	12/19/2017 5:11:58 PM	35577
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/19/2017 5:11:58 PM	35577
Surr: DNOP	104	0	77.5-161		%Rec	1	12/19/2017 5:11:58 PM	35577
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.019	0.00099	0.0020		mg/L	1	1/2/2018 6:44:57 PM	A48123
Cadmium	ND	0.0010	0.0020		mg/L	1	1/2/2018 6:44:57 PM	A48123
Chromium	ND	0.0013	0.0060		mg/L	1	1/2/2018 6:44:57 PM	A48123
Copper	ND	0.0032	0.0060		mg/L	1	1/2/2018 6:44:57 PM	A48123
Iron	ND	0.016	0.020		mg/L	1	1/2/2018 6:44:57 PM	A48123
Manganese	0.022	0.00039	0.0020		mg/L	1	1/2/2018 6:44:57 PM	A48123
Silver	ND	0.0018	0.0050		mg/L	1	1/2/2018 6:44:57 PM	A48123
Zinc	0.0099	0.0021	0.010	J	mg/L	1	1/2/2018 6:44:57 PM	A48123
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.059	0.0010	0.0020		mg/L	1	12/29/2017 8:26:50 PM	35764
Cadmium	ND	0.00058	0.0020		mg/L	1	1/4/2018 9:29:37 PM	35764
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 5:11:30 PM	35764
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 8:26:50 PM	35764
Iron	0.30	0.010	0.020	*	mg/L	1	12/29/2017 8:26:50 PM	35764
Manganese	0.33	0.0011	0.0020	*	mg/L	1	1/4/2018 9:29:37 PM	35764
Silver	ND	0.0012	0.0050		mg/L	1	12/29/2017 8:26:50 PM	35764
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 5:11:30 PM	35764
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0028	0.0021	0.0050	J	mg/L	5	1/5/2018 10:02:17 PM	D48247
Lead	ND	0.00087	0.0025		mg/L	5	1/5/2018 10:02:17 PM	D48247
Selenium	0.0060	0.0038	0.0050		mg/L	5	1/5/2018 10:02:17 PM	D48247
Uranium	0.048	0.00048	0.0025	*	mg/L	5	1/5/2018 10:02:17 PM	D48247
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0041	0.010		mg/L	10	1/11/2018 5:05:27 PM	35764
Lead	ND	0.00023	0.00050		mg/L	1	1/11/2018 5:10:09 PM	35764
Selenium	ND	0.0098	0.010		mg/L	10	1/11/2018 5:05:27 PM	35764
Uranium	0.054	0.0015	0.0050	*	mg/L	10	1/11/2018 5:05:27 PM	35764
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.00010	0.000037	0.00020	J	mg/L	1	12/27/2017 2:33:00 PM	35705
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 2:55:00 PM
Lab ID: 1712838-004
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.31	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Toluene	ND	0.32	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Ethylbenzene	ND	0.47	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Methyl tert-butyl ether (MTBE)	3800	12	50		µg/L	50	12/18/2017 6:39:00 PM	R47865
1,2,4-Trimethylbenzene	ND	0.56	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Naphthalene	ND	0.57	10		µg/L	5	12/18/2017 7:02:00 PM	R47865
1-Methylnaphthalene	ND	0.80	20		µg/L	5	12/18/2017 7:02:00 PM	R47865
2-Methylnaphthalene	ND	0.76	20		µg/L	5	12/18/2017 7:02:00 PM	R47865
Acetone	14	4.1	50	J	µg/L	5	12/18/2017 7:02:00 PM	R47865
Bromobenzene	ND	0.70	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Bromodichloromethane	ND	0.88	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Bromoform	ND	1.1	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Bromomethane	ND	1.3	15		µg/L	5	12/18/2017 7:02:00 PM	R47865
2-Butanone	ND	5.7	50		µg/L	5	12/18/2017 7:02:00 PM	R47865
Carbon disulfide	ND	2.0	50		µg/L	5	12/18/2017 7:02:00 PM	R47865
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Chlorobenzene	ND	0.53	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Chloroethane	ND	1.2	10		µg/L	5	12/18/2017 7:02:00 PM	R47865
Chloroform	ND	2.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Chloromethane	ND	1.5	15		µg/L	5	12/18/2017 7:02:00 PM	R47865
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	12/18/2017 7:02:00 PM	R47865
Dibromochloromethane	ND	0.36	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Dibromomethane	ND	0.45	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
2,2-Dichloropropane	ND	0.79	10		µg/L	5	12/18/2017 7:02:00 PM	R47865

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-29
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date: 12/11/2017 2:55:00 PM
Lab ID: 1712838-004
Matrix: AQUEOUS
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
2-Hexanone	ND	3.3	50		µg/L	5	12/18/2017 7:02:00 PM	R47865
Isopropylbenzene	ND	0.26	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
4-Isopropyltoluene	ND	0.48	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	12/18/2017 7:02:00 PM	R47865
Methylene Chloride	ND	0.54	15		µg/L	5	12/18/2017 7:02:00 PM	R47865
n-Butylbenzene	ND	0.65	15		µg/L	5	12/18/2017 7:02:00 PM	R47865
n-Propylbenzene	ND	0.37	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
sec-Butylbenzene	ND	0.55	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Styrene	ND	0.78	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	12/18/2017 7:02:00 PM	R47865
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	12/18/2017 7:02:00 PM	R47865
Vinyl chloride	ND	0.89	5.0		µg/L	5	12/18/2017 7:02:00 PM	R47865
Xylenes, Total	ND	1.6	7.5		µg/L	5	12/18/2017 7:02:00 PM	R47865
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	5	12/18/2017 7:02:00 PM	R47865
Surr: 4-Bromofluorobenzene	97.3	0	70-130		%Rec	5	12/18/2017 7:02:00 PM	R47865
Surr: Dibromofluoromethane	103	0	70-130		%Rec	5	12/18/2017 7:02:00 PM	R47865
Surr: Toluene-d8	99.1	0	70-130		%Rec	5	12/18/2017 7:02:00 PM	R47865
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	3.6	0.097	0.50		mg/L	10	12/15/2017 11:29:25 AM	G47839
Surr: BFB	100	0	70-130		%Rec	10	12/15/2017 11:29:25 AM	G47839

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date:
Lab ID: 1712838-005
Matrix: TRIP BLANK
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	ND	0.062	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Toluene	ND	0.064	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Ethylbenzene	ND	0.093	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Methyl tert-butyl ether (MTBE)	ND	0.24	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2,4-Trimethylbenzene	ND	0.11	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,3,5-Trimethylbenzene	ND	0.087	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2-Dichloroethane (EDC)	ND	0.40	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2-Dibromoethane (EDB)	ND	0.13	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Naphthalene	ND	0.11	2.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1-Methylnaphthalene	ND	0.16	4.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
2-Methylnaphthalene	ND	0.15	4.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Acetone	ND	0.82	10		µg/L	1	12/18/2017 7:26:00 PM	R47865
Bromobenzene	ND	0.14	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Bromodichloromethane	ND	0.18	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Bromoform	ND	0.21	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Bromomethane	ND	0.26	3.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
2-Butanone	ND	1.1	10		µg/L	1	12/18/2017 7:26:00 PM	R47865
Carbon disulfide	ND	0.40	10		µg/L	1	12/18/2017 7:26:00 PM	R47865
Carbon Tetrachloride	ND	0.11	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Chlorobenzene	ND	0.11	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Chloroethane	ND	0.23	2.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Chloroform	ND	0.40	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Chloromethane	ND	0.29	3.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
2-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
4-Chlorotoluene	ND	0.40	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
cis-1,2-DCE	ND	0.20	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
cis-1,3-Dichloropropene	ND	0.082	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2-Dibromo-3-chloropropane	ND	1.4	2.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Dibromochloromethane	ND	0.072	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Dibromomethane	ND	0.091	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2-Dichlorobenzene	ND	0.090	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,3-Dichlorobenzene	ND	0.15	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,4-Dichlorobenzene	ND	0.40	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Dichlorodifluoromethane	ND	1.0	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,1-Dichloroethane	ND	0.40	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,1-Dichloroethene	ND	0.081	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2-Dichloropropane	ND	0.10	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,3-Dichloropropane	ND	0.17	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
2,2-Dichloropropane	ND	0.16	2.0		µg/L	1	12/18/2017 7:26:00 PM	R47865

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: Trip Blank
Project: 4th QTR 2017 GW Sampling OW Wells
Collection Date:
Lab ID: 1712838-005
Matrix: TRIP BLANK
Received Date: 12/13/2017 9:50:00 AM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.093	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Hexachlorobutadiene	ND	0.80	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
2-Hexanone	ND	0.66	10		µg/L	1	12/18/2017 7:26:00 PM	R47865
Isopropylbenzene	ND	0.051	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
4-Isopropyltoluene	ND	0.096	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/18/2017 7:26:00 PM	R47865
Methylene Chloride	0.17	0.11	3.0	J	µg/L	1	12/18/2017 7:26:00 PM	R47865
n-Butylbenzene	ND	0.13	3.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
n-Propylbenzene	ND	0.074	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
sec-Butylbenzene	ND	0.11	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Styrene	ND	0.16	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
tert-Butylbenzene	ND	0.10	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,1,1,2-Tetrachloroethane	ND	0.10	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,1,2,2-Tetrachloroethane	ND	0.14	2.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Tetrachloroethene (PCE)	ND	0.13	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
trans-1,3-Dichloropropene	ND	0.22	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2,3-Trichlorobenzene	ND	0.12	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2,4-Trichlorobenzene	ND	0.14	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,1,1-Trichloroethane	ND	0.073	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,1,2-Trichloroethane	ND	0.14	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Trichloroethene (TCE)	ND	0.11	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Trichlorofluoromethane	ND	0.18	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
1,2,3-Trichloropropane	ND	0.39	2.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/18/2017 7:26:00 PM	R47865
Xylenes, Total	ND	0.32	1.5		µg/L	1	12/18/2017 7:26:00 PM	R47865
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	12/18/2017 7:26:00 PM	R47865
Surr: 4-Bromofluorobenzene	94.5	0	70-130		%Rec	1	12/18/2017 7:26:00 PM	R47865
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	12/18/2017 7:26:00 PM	R47865
Surr: Toluene-d8	98.5	0	70-130		%Rec	1	12/18/2017 7:26:00 PM	R47865

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A48123**	RunNo: **48123**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A48123**	RunNo: **48123**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544735** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.5	50	150			J
Cadmium	0.0017	0.0020	0.002000	0	86.5	50	150			J
Chromium	0.0061	0.0060	0.006000	0	102	50	150			
Copper	0.0056	0.0060	0.006000	0	92.8	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0048	0.0050	0.005000	0	97.0	50	150			J
Zinc	0.0060	0.010	0.005000	0	119	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A48123**	RunNo: **48123**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.0	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.51	0.0020	0.5000	0	102	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.49	0.010	0.5000	0	98.0	85	115			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **MB-35764**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **35764**	RunNo: **48109**
Prep Date: **12/28/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542659** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-35764**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **35764**	RunNo: **48109**
Prep Date: **12/28/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542660** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.5	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	104	50	150			
Chromium	0.0058	0.0060	0.006000	0	96.7	50	150			J
Copper	0.0063	0.0060	0.006000	0	105	50	150			
Iron	0.021	0.020	0.02000	0	107	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Silver	0.0052	0.0050	0.005000	0	104	50	150			
Zinc	0.0050	0.010	0.005000	0	101	50	150			J

Sample ID **LCS-35764**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **35764**	RunNo: **48109**
Prep Date: **12/28/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542661** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.2	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Chromium	0.49	0.0060	0.5000	0	97.5	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.50	0.0020	0.5000	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Zinc	0.48	0.010	0.5000	0	95.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **C48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543369** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **C48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543370** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00048	0.00050	0.0005000	0	96.0	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.2	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **C48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543371** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	93.8	85	115			
Uranium	0.011	0.00050	0.01250	0	90.8	85	115			

Sample ID **1712838-001EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-13**	Batch ID: **C48118**	RunNo: **48118**
Prep Date:	Analysis Date: **12/30/2017**	SeqNo: **1543384** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0	102	70	130			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549316** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **D48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549317** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	111	50	150			
Lead	0.00047	0.00050	0.0005000	0	94.5	50	150			J
Selenium	0.0012	0.0010	0.001000	0	124	50	150			
Uranium	0.00046	0.00050	0.0005000	0	91.7	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549318** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.6	85	115			
Lead	0.012	0.00050	0.01250	0	94.2	85	115			
Selenium	0.025	0.0010	0.02500	0	100	85	115			
Uranium	0.012	0.00050	0.01250	0	92.1	85	115			

Sample ID **1712838-001EMSLL**	SampType: **MS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **OW-13**	Batch ID: **D48247**	RunNo: **48247**
Prep Date:	Analysis Date: **1/5/2018**	SeqNo: **1549341** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.12	0.0050	0.1250	0	97.9	70	130			
Selenium	0.12	0.0050	0.1250	0	99.7	70	130			
Uranium	0.076	0.0025	0.06250	0.01506	97.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID	**MB-35764**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35764**	RunNo:	**48139**					
Prep Date:	**12/28/2017**	Analysis Date:	**1/2/2018**	SeqNo:	**1544290**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35764**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35764**	RunNo:	**48139**					
Prep Date:	**12/28/2017**	Analysis Date:	**1/2/2018**	SeqNo:	**1544291**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Selenium	0.00099	0.0010	0.001000	0	99.4	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.0	50	150			J

Sample ID	**MSLCS-35764**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35764**	RunNo:	**48139**					
Prep Date:	**12/28/2017**	Analysis Date:	**1/2/2018**	SeqNo:	**1544292**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.6	85	115			
Lead	0.012	0.00050	0.01250	0	99.8	85	115			
Selenium	0.022	0.0010	0.02500	0	88.8	85	115			
Uranium	0.012	0.00050	0.01250	0	98.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID	**MB-35705**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**
Client ID:	**PBW**	Batch ID: **35705**	RunNo: **48037**
Prep Date:	**12/26/2017**	Analysis Date: **12/27/2017**	SeqNo: **1539544** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00013	0.00020								J

Sample ID	**LCS-35705**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**
Client ID:	**LCSW**	Batch ID: **35705**	RunNo: **48037**
Prep Date:	**12/26/2017**	Analysis Date: **12/27/2017**	SeqNo: **1539545** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID	**MB-35554**	SampType:	**MBLK**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**PBW**	Batch ID:	**35554**	RunNo:	**47866**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/18/2017**	SeqNo:	**1531933**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID	**LCS-35554**	SampType:	**LCS**	TestCode:	**EPA Method 8011/504.1: EDB**					
Client ID:	**LCSW**	Batch ID:	**35554**	RunNo:	**47866**					
Prep Date:	**12/18/2017**	Analysis Date:	**12/18/2017**	SeqNo:	**1531935**	Units:	**µg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.071	0.010	0.1000	0	70.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **1712838-001CMS**	SampType: **MS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **OW-13**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533830** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	115	83.3	151			
Surr: DNOP	0.53		0.5000		105	77.5	161			

Sample ID **1712838-001CMSD**	SampType: **MSD**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **OW-13**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533831** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	83.3	151	2.38	20	
Surr: DNOP	0.53		0.5000		107	77.5	161	0	0	

Sample ID **LCS-35577**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.0	1.0	5.000	0	120	92.3	135			
Surr: DNOP	0.53		0.5000		106	77.5	161			

Sample ID **MB-35577**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		106	77.5	161			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47865**	RunNo: **47865**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531684** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Chlorobenzene	22	1.0	20.00	0	109	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **1712838-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **OW-13**	Batch ID: **R47865**	RunNo: **47865**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531702** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Chlorobenzene	22	1.0	20.00	0	111	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	113	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.3	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **1712838-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **OW-13**	Batch ID: **R47865**	RunNo: **47865**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531711** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130	4.88	20	
Toluene	20	1.0	20.00	0	101	70	130	5.85	20	
Chlorobenzene	21	1.0	20.00	0	104	70	130	6.37	20	
1,1-Dichloroethene	22	1.0	20.00	0	111	70	130	1.63	20	
Trichloroethene (TCE)	20	1.0	20.00	0	97.6	70	130	4.38	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		103	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		99.3	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47865**	RunNo: **47865**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531986** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47865**	RunNo: **47865**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531986** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.1	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.6	70	130			
Surr: Toluene-d8	9.8		10.00		97.6	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532716** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532716** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	99.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.066	1.0								J
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.25	2.0								J
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.44	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	0.12	1.0								J
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.5	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	0.17	1.0								J
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712838**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th QTR 2017 GW Sampling OW Wells

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **G47839**	RunNo: **47839**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1530412** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	97.0	70	130			
Surr: BFB	9.6		10.00		95.6	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **G47839**	RunNo: **47839**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1530413** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		102	70	130			

Sample ID **1712838-002ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-14**	Batch ID: **G47839**	RunNo: **47839**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1530570** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	53	2.5	25.00	30.78	90.4	70	130			
Surr: BFB	480		500.0		95.9	70	130			

Sample ID **1712838-002amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **OW-14**	Batch ID: **G47839**	RunNo: **47839**
Prep Date:	Analysis Date: **12/15/2017**	SeqNo: **1530571** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	51	2.5	25.00	30.78	81.4	70	130	4.32	20	
Surr: BFB	470		500.0		94.9	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1712838 RcptNo: 1

Received By: Erin Melendrez 12/13/2017 9:50:00 AM

Completed By: Michelle Garcia 12/14/2017 8:23:27 AM

Reviewed By: SRR 12/14/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: ENM

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.7	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING (OW WELLS)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712838
12/11/17	1120	WATER	OW-13	40 ML VOA-5	HCL	-001
				40 ML VOA-3	$Na_2S_2O_3$	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	
	1310		OW-14	40 ML VOA-5	HCL	-002
				40 ML VOA-3	$Na_2S_2O_3$	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~/8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	WQCC METALS (TOTAL & DISSOLVED)			Air Bubbles (Y or N)
		✓							✓		✓			
				✓										
		✓												
											✓			
											✓			
		✓							✓					
				✓										
		✓												
											✓			
											✓			

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/12/17	0700			12/13/17	0950
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING (OW WELLS)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 0.7

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www.hallenvironmental.com
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Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712838
12/11/17	—	WATER	DUP10	40 ML VOA-5	HCL	-003
				40 ML VOA-3	$Na_2S_2O_3$	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	
12/11/17	1455	WATER	OW-29	40 ML VOA-5	HCL	-004
				40 ML VOA-3	$Na_2S_2O_3$	
				250 ML AMBER-1	NEAT	
				250 ML PLASTIC-1	HNO_3	
				125 ML PLASTIC-1	HNO_3	
12/11/17	—	WATER	TRIP BLANK	40 ML VOA-3	HCL	-005

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method ~~504.1~~ 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	WQCC METALS (TOTAL & DISSOLVED)			Air Bubbles (Y or N)
		✓							✓					
				✓										
		✓												
											✓			
											✓			
		✓							✓					
				✓										
		✓												
											✓			
											✓			

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/12/17	0700			12/13/17	0950
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 27, 2017

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th Qtr Sampling 2017 OrderNo.: 1712875

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/14/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1712875**
Date Reported: **12/27/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP-1 to EP-2
Project: 4th Qtr Sampling 2017
Collection Date: 12/12/2017 3:00:00 PM
Lab ID: 1712875-001
Matrix: AQUEOUS
Received Date: 12/14/2017 12:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	3.8	0.36	1.0		mg/L	1	12/19/2017 5:39:28 PM	35577
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/19/2017 5:39:28 PM	35577
Surr: DNOP	112	0	77.5-161		%Rec	1	12/19/2017 5:39:28 PM	35577
SM5210B: BOD							Analyst: **SMS**	
Biochemical Oxygen Demand	1400	2.0	2.0	H	mg/L	1	12/19/2017 12:18:00 PM	35519
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	7.1	0.62	10	JD	µg/L	10	12/19/2017 7:21:00 PM	R47892
Toluene	2.0	0.64	10	JD	µg/L	10	12/19/2017 7:21:00 PM	R47892
Ethylbenzene	ND	0.93	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Methyl tert-butyl ether (MTBE)	ND	2.4	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2,4-Trimethylbenzene	ND	1.1	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,3,5-Trimethylbenzene	ND	0.87	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2-Dichloroethane (EDC)	ND	4.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2-Dibromoethane (EDB)	ND	1.3	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Naphthalene	ND	1.1	20	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1-Methylnaphthalene	ND	1.6	40	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
2-Methylnaphthalene	ND	1.5	40	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Acetone	1600	8.2	100	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Bromobenzene	ND	1.4	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Bromodichloromethane	ND	1.8	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Bromoform	ND	2.1	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Bromomethane	ND	2.6	30	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
2-Butanone	54	11	100	JD	µg/L	10	12/19/2017 7:21:00 PM	R47892
Carbon disulfide	ND	4.0	100	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Carbon Tetrachloride	ND	1.1	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Chlorobenzene	ND	1.1	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Chloroethane	ND	2.3	20	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Chloroform	ND	4.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Chloromethane	ND	2.9	30	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
2-Chlorotoluene	ND	4.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
4-Chlorotoluene	ND	4.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
cis-1,2-DCE	ND	2.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
cis-1,3-Dichloropropene	ND	0.82	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2-Dibromo-3-chloropropane	ND	14	20	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Dibromochloromethane	ND	0.72	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Dibromomethane	ND	0.91	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2-Dichlorobenzene	ND	0.90	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,3-Dichlorobenzene	ND	1.5	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP-1 to EP-2
Project: 4th Qtr Sampling 2017
Collection Date: 12/12/2017 3:00:00 PM
Lab ID: 1712875-001
Matrix: AQUEOUS
Received Date: 12/14/2017 12:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,4-Dichlorobenzene	ND	4.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Dichlorodifluoromethane	ND	10	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,1-Dichloroethane	ND	4.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,1-Dichloroethene	ND	0.81	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2-Dichloropropane	ND	1.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,3-Dichloropropane	ND	1.7	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
2,2-Dichloropropane	ND	1.6	20	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,1-Dichloropropene	ND	0.93	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Hexachlorobutadiene	ND	8.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
2-Hexanone	ND	6.6	100	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Isopropylbenzene	ND	0.51	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
4-Isopropyltoluene	ND	0.96	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Methylene Chloride	ND	1.1	30	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
n-Butylbenzene	ND	1.3	30	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
n-Propylbenzene	ND	0.74	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
sec-Butylbenzene	ND	1.1	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Styrene	ND	1.6	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
tert-Butylbenzene	ND	1.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,1,1,2-Tetrachloroethane	ND	1.0	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,1,2,2-Tetrachloroethane	ND	1.4	20	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Tetrachloroethene (PCE)	ND	1.3	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
trans-1,3-Dichloropropene	ND	2.2	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2,3-Trichlorobenzene	ND	1.2	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2,4-Trichlorobenzene	ND	1.4	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,1,1-Trichloroethane	ND	0.73	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,1,2-Trichloroethane	ND	1.4	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Trichloroethene (TCE)	ND	1.1	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Trichlorofluoromethane	ND	1.8	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
1,2,3-Trichloropropane	ND	3.9	20	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Vinyl chloride	ND	1.8	10	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Xylenes, Total	ND	3.2	15	D	µg/L	10	12/19/2017 7:21:00 PM	R47892
Surr: 1,2-Dichloroethane-d4	101	0	70-130	D	%Rec	10	12/19/2017 7:21:00 PM	R47892
Surr: 4-Bromofluorobenzene	97.2	0	70-130	D	%Rec	10	12/19/2017 7:21:00 PM	R47892
Surr: Dibromofluoromethane	100	0	70-130	D	%Rec	10	12/19/2017 7:21:00 PM	R47892
Surr: Toluene-d8	97.0	0	70-130	D	%Rec	10	12/19/2017 7:21:00 PM	R47892
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	0.24	0.097	0.50	JD	mg/L	10	12/18/2017 10:24:47 AM	R47868

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: STP-1 to EP-2
Project: 4th Qtr Sampling 2017
Collection Date: 12/12/2017 3:00:00 PM
Lab ID: 1712875-001
Matrix: AQUEOUS
Received Date: 12/14/2017 12:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Surr: BFB	104	0	70-130	D	%Rec	10	12/18/2017 10:24:47 AM	R47868
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: **SRM**	
Total Dissolved Solids	2550	11.8	20.0	*	mg/L	1	12/21/2017 10:34:00 AM	35599

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
COD	2090		15.0	50.0	5	12/19/2017 20:56	WG1055046

Method Blank (MB)

(MB) R3274307-1 12/19/17 20:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L957755-01 Original Sample (OS) • Duplicate (DUP)

(OS) L957755-01 12/19/17 20:54 • (DUP) R3274307-4 12/19/17 20:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	162	181	1	11.2		20

L958556-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958556-01 12/19/17 21:01 • (DUP) R3274307-7 12/19/17 21:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	46.4	50.9	1	9.45		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3274307-2 12/19/17 20:53 • (LCSD) R3274307-3 12/19/17 20:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	230	243	95	100	90-110			5.46	20

L958436-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958436-03 12/19/17 20:58 • (MS) R3274307-5 12/19/17 20:58 • (MSD) R3274307-6 12/19/17 20:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	23.9	447	448	106	106	1	80-120			0.0737	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
GI
8 Al
9 Sc

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712875**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: 4th Qtr Sampling 2017

Sample ID **LCS-35577**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.0	1.0	5.000	0	120	92.3	135			
Surr: DNOP	0.53		0.5000		106	77.5	161			

Sample ID **MB-35577**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		106	77.5	161			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712875**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: 4th Qtr Sampling 2017

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532716** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	99.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.066	1.0								J
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.25	2.0								J
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.44	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	0.12	1.0								J
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712875**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: 4th Qtr Sampling 2017

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.5	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	0.17	1.0								J
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712875**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: 4th Qtr Sampling 2017

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Sample ID **1712875-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **STP-1 to EP-2**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533466** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	210	10	200.0	7.080	101	70	130			D
Toluene	210	10	200.0	1.960	103	70	130			D
Chlorobenzene	200	10	200.0	0	102	70	130			D
1,1-Dichloroethene	220	10	200.0	0	109	70	130			D
Trichloroethene (TCE)	190	10	200.0	0	96.5	70	130			D
Surr: 1,2-Dichloroethane-d4	100		100.0		100	70	130			D
Surr: 4-Bromofluorobenzene	97		100.0		96.9	70	130			D
Surr: Dibromofluoromethane	99		100.0		99.2	70	130			D
Surr: Toluene-d8	97		100.0		97.5	70	130			D

Sample ID **1712875-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **STP-1 to EP-2**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1533467** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	200	10	200.0	7.080	97.9	70	130	3.31	20	D
Toluene	200	10	200.0	1.960	99.6	70	130	3.73	20	D
Chlorobenzene	200	10	200.0	0	101	70	130	1.82	20	D
1,1-Dichloroethene	210	10	200.0	0	104	70	130	4.76	20	D
Trichloroethene (TCE)	190	10	200.0	0	94.3	70	130	2.26	20	D
Surr: 1,2-Dichloroethane-d4	100		100.0		99.9	70	130	0	0	D
Surr: 4-Bromofluorobenzene	98		100.0		97.7	70	130	0	0	D
Surr: Dibromofluoromethane	98		100.0		97.9	70	130	0	0	D
Surr: Toluene-d8	97		100.0		97.1	70	130	0	0	D

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712875**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: 4th Qtr Sampling 2017

Sample ID **MB-35519**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **35519**	RunNo: **47881**							
Prep Date: **12/14/2017**	Analysis Date: **12/19/2017**	SeqNo: **1532442**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID **MB--35519**	SampType: **MBLK**	TestCode: **SM5210B: BOD**							
Client ID: **PBW**	Batch ID: **35519**	RunNo: **47881**							
Prep Date: **12/14/2017**	Analysis Date: **12/19/2017**	SeqNo: **1532443**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID **LCS-35519**	SampType: **LCS**	TestCode: **SM5210B: BOD**							
Client ID: **LCSW**	Batch ID: **35519**	RunNo: **47881**							
Prep Date: **12/14/2017**	Analysis Date: **12/19/2017**	SeqNo: **1532444**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	220	2.0	198.0	0	111	84.6	115.4			

Sample ID **LCSD-35519**	SampType: **LCSD**	TestCode: **SM5210B: BOD**							
Client ID: **LCSS02**	Batch ID: **35519**	RunNo: **47881**							
Prep Date: **12/14/2017**	Analysis Date: **12/19/2017**	SeqNo: **1532445**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	210	2.0	198.0	0	107	84.6	115.4	3.71	39.3	

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712875**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: 4th Qtr Sampling 2017

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R47868**	RunNo: **47868**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531812** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	70	130			
Surr: BFB	9.8		10.00		97.9	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBW**	Batch ID: **R47868**	RunNo: **47868**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531813** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		101	70	130			

Sample ID **1712875-001ams**	SampType: **MS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **STP-1 to EP-2**	Batch ID: **R47868**	RunNo: **47868**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531815** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	5.6	0.50	5.000	0.2400	108	70	130			D
Surr: BFB	98		100.0		98.2	70	130			D

Sample ID **1712875-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **STP-1 to EP-2**	Batch ID: **R47868**	RunNo: **47868**
Prep Date:	Analysis Date: **12/18/2017**	SeqNo: **1531816** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	5.6	0.50	5.000	0.2400	107	70	130	0.640	20	D
Surr: BFB	97		100.0		97.5	70	130	0	0	D

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712875**

27-Dec-17

Client: Western Refining Southwest, Gallup

Project: 4th Qtr Sampling 2017

Sample ID	**MB-35599**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**PBW**	Batch ID:	**35599**	RunNo:	**47947**				
Prep Date:	**12/19/2017**	Analysis Date:	**12/21/2017**	SeqNo:	**1536146**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-35599**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**				
Client ID:	**LCSW**	Batch ID:	**35599**	RunNo:	**47947**				
Prep Date:	**12/19/2017**	Analysis Date:	**12/21/2017**	SeqNo:	**1536147**	Units:	**mg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1712875 RcptNo: 1

Received By: Anne Thorne 12/14/2017 12:00:00 PM Anne Thorne
Completed By: Michelle Garcia 12/14/2017 1:33:40 PM Michelle Garcia
Reviewed By: ENM 12/14/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 1 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? nu
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY

Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301

Phone #: 505-722-0231

email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR

QA/QC Package:
☐ Standard ☒ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☒ EDD (Type) EXCEL

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: 4TH QTR 2017 [redacted] SAMPLING TP

Project #:

Project Manager: CHERYL JOHNSON

Sampler: TRACY PAYNE

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712875	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BOD	TDS	COD	Air Bubbles (Y or N)
12/12/17	1500	WATER	STR-1 TO EP-2	40 ML VOA-5	HCL	001			✓							✓					
				250 ML AMBER-1	NEAT				✓												
				1L PLASTIC-1	NEAT													✓			
				500 ML PLASTIC-1	NEAT														✓		
				500 ML PLASTIC-1	H_2SO_4															✓	

Date: 12/14/17 Time: 1200 Relinquished by:

Received by: Date Time 12/14/17 1200

Date: Time: Relinquished by:

Received by: Date Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 17, 2018

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX

RE: 4th Qtr 2017 GW Sampling OW-Wells OrderNo.: 1712881

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/14/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 4th Qtr 2017 GW Sampling OW-Wells
Collection Date: 12/12/2017 10:15:00 AM
Lab ID: 1712881-001
Matrix: AQUEOUS
Received Date: 12/14/2017 12:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB							Analyst: **JME**	
1,2-Dibromoethane	ND	0.0059	0.0093		µg/L	1	12/19/2017 7:49:36 AM	35555
EPA METHOD 8015M/D: DIESEL RANGE							Analyst: **TOM**	
Diesel Range Organics (DRO)	1.1	0.36	1.0		mg/L	1	12/19/2017 6:06:59 PM	35577
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	12/19/2017 6:06:59 PM	35577
Surr: DNOP	114	0	77.5-161		%Rec	1	12/19/2017 6:06:59 PM	35577
EPA METHOD 200.7: DISSOLVED METALS							Analyst: **pmf**	
Barium	0.11	0.00099	0.0020		mg/L	1	1/2/2018 6:46:51 PM	A48123
Cadmium	ND	0.0010	0.0020		mg/L	1	1/2/2018 6:46:51 PM	A48123
Chromium	ND	0.0013	0.0060		mg/L	1	1/2/2018 6:46:51 PM	A48123
Copper	0.0037	0.0032	0.0060	J	mg/L	1	1/2/2018 6:46:51 PM	A48123
Iron	0.058	0.016	0.020		mg/L	1	1/2/2018 6:46:51 PM	A48123
Manganese	0.035	0.00039	0.0020		mg/L	1	1/2/2018 6:46:51 PM	A48123
Silver	ND	0.0018	0.0050		mg/L	1	1/2/2018 6:46:51 PM	A48123
Zinc	0.0083	0.0021	0.010	J	mg/L	1	1/2/2018 6:46:51 PM	A48123
EPA METHOD 200.7: TOTAL METALS							Analyst: **pmf**	
Barium	0.11	0.0010	0.0020		mg/L	1	1/2/2018 5:13:19 PM	35764
Cadmium	ND	0.00058	0.0020		mg/L	1	12/29/2017 8:28:37 PM	35764
Chromium	ND	0.0018	0.0060		mg/L	1	1/2/2018 5:13:19 PM	35764
Copper	ND	0.0041	0.0060		mg/L	1	12/29/2017 8:28:37 PM	35764
Iron	0.063	0.010	0.020		mg/L	1	12/29/2017 8:28:37 PM	35764
Manganese	0.036	0.0011	0.0020		mg/L	1	1/4/2018 9:37:32 PM	35764
Silver	0.0013	0.0012	0.0050	J	mg/L	1	12/29/2017 8:28:37 PM	35764
Zinc	ND	0.0033	0.010		mg/L	1	1/2/2018 5:13:19 PM	35764
EPA 200.8: DISSOLVED METALS							Analyst: **JLF**	
Arsenic	0.0050	0.0021	0.0050	J	mg/L	5	1/9/2018 9:16:06 PM	B48330
Lead	ND	0.00087	0.0025		mg/L	5	1/9/2018 9:16:06 PM	B48330
Selenium	ND	0.015	0.020		mg/L	20	1/10/2018 6:43:31 PM	A48360
Uranium	0.040	0.00048	0.0025	*	mg/L	5	1/9/2018 9:16:06 PM	B48330
200.8 ICPMS METALS:TOTAL							Analyst: **DBK**	
Arsenic	ND	0.0041	0.010		mg/L	10	1/11/2018 5:14:52 PM	35764
Lead	0.00042	0.00023	0.00050	J	mg/L	1	1/8/2018 9:22:08 PM	35764
Selenium	ND	0.0098	0.010		mg/L	10	1/11/2018 5:14:52 PM	35764
Uranium	0.041	0.0015	0.0050	*	mg/L	10	1/11/2018 5:14:52 PM	35764
EPA METHOD 245.1: MERCURY							Analyst: **MED**	
Mercury	0.000056	0.000037	0.00020	J	mg/L	1	1/10/2018 12:07:29 PM	35927
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup
Client Sample ID: OW-30
Project: 4th Qtr 2017 GW Sampling OW-Wells
Collection Date: 12/12/2017 10:15:00 AM
Lab ID: 1712881-001
Matrix: AQUEOUS
Received Date: 12/14/2017 12:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
Benzene	12	0.31	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Toluene	ND	0.32	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Ethylbenzene	ND	0.47	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Methyl tert-butyl ether (MTBE)	3100	12	50		µg/L	50	12/19/2017 7:44:00 PM	R47892
1,2,4-Trimethylbenzene	ND	0.56	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,3,5-Trimethylbenzene	ND	0.44	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2-Dichloroethane (EDC)	ND	2.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2-Dibromoethane (EDB)	ND	0.65	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Naphthalene	ND	0.57	10		µg/L	5	12/19/2017 8:08:00 PM	R47892
1-Methylnaphthalene	ND	0.80	20		µg/L	5	12/19/2017 8:08:00 PM	R47892
2-Methylnaphthalene	ND	0.76	20		µg/L	5	12/19/2017 8:08:00 PM	R47892
Acetone	11	4.1	50	J	µg/L	5	12/19/2017 8:08:00 PM	R47892
Bromobenzene	ND	0.70	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Bromodichloromethane	ND	0.88	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Bromoform	ND	1.1	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Bromomethane	ND	1.3	15		µg/L	5	12/19/2017 8:08:00 PM	R47892
2-Butanone	ND	5.7	50		µg/L	5	12/19/2017 8:08:00 PM	R47892
Carbon disulfide	ND	2.0	50		µg/L	5	12/19/2017 8:08:00 PM	R47892
Carbon Tetrachloride	ND	0.55	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Chlorobenzene	ND	0.53	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Chloroethane	ND	1.2	10		µg/L	5	12/19/2017 8:08:00 PM	R47892
Chloroform	ND	2.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Chloromethane	ND	1.5	15		µg/L	5	12/19/2017 8:08:00 PM	R47892
2-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
4-Chlorotoluene	ND	2.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
cis-1,2-DCE	ND	1.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
cis-1,3-Dichloropropene	ND	0.41	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2-Dibromo-3-chloropropane	ND	6.9	10		µg/L	5	12/19/2017 8:08:00 PM	R47892
Dibromochloromethane	ND	0.36	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Dibromomethane	ND	0.45	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2-Dichlorobenzene	ND	0.45	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,3-Dichlorobenzene	ND	0.76	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,4-Dichlorobenzene	ND	2.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Dichlorodifluoromethane	ND	5.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,1-Dichloroethane	ND	2.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,1-Dichloroethene	ND	0.40	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2-Dichloropropane	ND	0.51	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,3-Dichloropropane	ND	0.84	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
2,2-Dichloropropane	ND	0.79	10		µg/L	5	12/19/2017 8:08:00 PM	R47892

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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Hall Environmental Analysis Laboratory, Inc.

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Lab ID: 1712881-001
Matrix: AQUEOUS
Received Date: 12/14/2017 12:00:00 PM

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: **RAA**	
1,1-Dichloropropene	ND	0.46	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Hexachlorobutadiene	ND	4.0	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
2-Hexanone	ND	3.3	50		µg/L	5	12/19/2017 8:08:00 PM	R47892
Isopropylbenzene	ND	0.26	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
4-Isopropyltoluene	ND	0.48	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
4-Methyl-2-pentanone	ND	3.5	50		µg/L	5	12/19/2017 8:08:00 PM	R47892
Methylene Chloride	ND	0.54	15		µg/L	5	12/19/2017 8:08:00 PM	R47892
n-Butylbenzene	ND	0.65	15		µg/L	5	12/19/2017 8:08:00 PM	R47892
n-Propylbenzene	ND	0.37	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
sec-Butylbenzene	1.1	0.55	5.0	J	µg/L	5	12/19/2017 8:08:00 PM	R47892
Styrene	ND	0.78	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
tert-Butylbenzene	ND	0.52	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,1,1,2-Tetrachloroethane	ND	0.52	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,1,2,2-Tetrachloroethane	ND	0.68	10		µg/L	5	12/19/2017 8:08:00 PM	R47892
Tetrachloroethene (PCE)	ND	0.65	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
trans-1,2-DCE	ND	0.92	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
trans-1,3-Dichloropropene	ND	1.1	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2,3-Trichlorobenzene	ND	0.59	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2,4-Trichlorobenzene	ND	0.71	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,1,1-Trichloroethane	ND	0.36	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,1,2-Trichloroethane	ND	0.70	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Trichloroethene (TCE)	ND	0.56	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Trichlorofluoromethane	ND	0.91	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
1,2,3-Trichloropropane	ND	1.9	10		µg/L	5	12/19/2017 8:08:00 PM	R47892
Vinyl chloride	ND	0.89	5.0		µg/L	5	12/19/2017 8:08:00 PM	R47892
Xylenes, Total	ND	1.6	7.5		µg/L	5	12/19/2017 8:08:00 PM	R47892
Surr: 1,2-Dichloroethane-d4	97.3	0	70-130		%Rec	5	12/19/2017 8:08:00 PM	R47892
Surr: 4-Bromofluorobenzene	97.6	0	70-130		%Rec	5	12/19/2017 8:08:00 PM	R47892
Surr: Dibromofluoromethane	97.2	0	70-130		%Rec	5	12/19/2017 8:08:00 PM	R47892
Surr: Toluene-d8	98.3	0	70-130		%Rec	5	12/19/2017 8:08:00 PM	R47892
EPA METHOD 8015D: GASOLINE RANGE							Analyst: **AG**	
Gasoline Range Organics (GRO)	3.7	0.097	0.50		mg/L	10	12/18/2017 11:33:44 AM	R47868
Surr: BFB	106	0	70-130		%Rec	10	12/18/2017 11:33:44 AM	R47868

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A48123**	RunNo: **48123**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LCSLL-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A48123**	RunNo: **48123**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544735** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.5	50	150			J
Cadmium	0.0017	0.0020	0.002000	0	86.5	50	150			J
Chromium	0.0061	0.0060	0.006000	0	102	50	150			
Copper	0.0056	0.0060	0.006000	0	92.8	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Silver	0.0048	0.0050	0.005000	0	97.0	50	150			J
Zinc	0.0060	0.010	0.005000	0	119	50	150			J

Sample ID **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A48123**	RunNo: **48123**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544737** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.0	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.51	0.0020	0.5000	0	102	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.49	0.010	0.5000	0	98.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **MB-35764**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **PBW**	Batch ID: **35764**	RunNo: **48109**
Prep Date: **12/28/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542659** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID **LLLCS-35764**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **BatchQC**	Batch ID: **35764**	RunNo: **48109**
Prep Date: **12/28/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542660** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	94.5	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	104	50	150			
Chromium	0.0058	0.0060	0.006000	0	96.7	50	150			J
Copper	0.0063	0.0060	0.006000	0	105	50	150			
Iron	0.021	0.020	0.02000	0	107	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Silver	0.0052	0.0050	0.005000	0	104	50	150			
Zinc	0.0050	0.010	0.005000	0	101	50	150			J

Sample ID **LCS-35764**	SampType: **LCS**	TestCode: **EPA Method 200.7: Total Metals**
Client ID: **LCSW**	Batch ID: **35764**	RunNo: **48109**
Prep Date: **12/28/2017**	Analysis Date: **12/29/2017**	SeqNo: **1542661** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.2	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Chromium	0.49	0.0060	0.5000	0	97.5	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.50	0.0020	0.5000	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Zinc	0.48	0.010	0.5000	0	95.9	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B48330**	RunNo: **48330**
Prep Date:	Analysis Date: **1/9/2018**	SeqNo: **1552227** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Uranium	ND	0.00050								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B48330**	RunNo: **48330**
Prep Date:	Analysis Date: **1/9/2018**	SeqNo: **1552228** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00099	0.0010	0.001000	0	98.9	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.9	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	93.1	50	150			J

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B48330**	RunNo: **48330**
Prep Date:	Analysis Date: **1/9/2018**	SeqNo: **1552229** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.7	85	115			
Lead	0.012	0.00050	0.01250	0	94.0	85	115			
Uranium	0.012	0.00050	0.01250	0	93.0	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A48360**	RunNo: **48360**
Prep Date:	Analysis Date: **1/10/2018**	SeqNo: **1553322** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID **LLLCS**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A48360**	RunNo: **48360**
Prep Date:	Analysis Date: **1/10/2018**	SeqNo: **1553323** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.0011	0.0010	0.001000	0	106	50	150			

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**
17-Jan-18

Client: Western Refining Southwest, Gallup
Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A48360**	RunNo: **48360**
Prep Date:	Analysis Date: **1/10/2018**	SeqNo: **1553324** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.022	0.0010	0.02500	0	89.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID	**MB-35764**	SampType:	**MBLK**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**PBW**	Batch ID:	**35764**	RunNo:	**48139**					
Prep Date:	**12/28/2017**	Analysis Date:	**1/2/2018**	SeqNo:	**1544290**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Uranium	ND	0.00050								

Sample ID	**MSLLLCS-35764**	SampType:	**LCSLL**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**BatchQC**	Batch ID:	**35764**	RunNo:	**48139**					
Prep Date:	**12/28/2017**	Analysis Date:	**1/2/2018**	SeqNo:	**1544291**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00051	0.00050	0.0005000	0	101	50	150			
Selenium	0.00099	0.0010	0.001000	0	99.4	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.0	50	150			J

Sample ID	**MSLCS-35764**	SampType:	**LCS**	TestCode:	**200.8 ICPMS Metals:Total**					
Client ID:	**LCSW**	Batch ID:	**35764**	RunNo:	**48139**					
Prep Date:	**12/28/2017**	Analysis Date:	**1/2/2018**	SeqNo:	**1544292**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	95.6	85	115			
Lead	0.012	0.00050	0.01250	0	99.8	85	115			
Selenium	0.022	0.0010	0.02500	0	88.8	85	115			
Uranium	0.012	0.00050	0.01250	0	98.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID	**MB-35927**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**35927**	RunNo:	**48332**					
Prep Date:	**1/9/2018**	Analysis Date:	**1/10/2018**	SeqNo:	**1552518**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000049	0.00020								J

Sample ID	**LCS-35927**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**35927**	RunNo:	**48332**					
Prep Date:	**1/9/2018**	Analysis Date:	**1/10/2018**	SeqNo:	**1552519**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	96.5	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **MB-35555**	SampType: **MBLK**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW**	Batch ID: **35555**	RunNo: **47866**
Prep Date: **12/18/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531934** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID **LCS-35555**	SampType: **LCS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW**	Batch ID: **35555**	RunNo: **47866**
Prep Date: **12/18/2017**	Analysis Date: **12/18/2017**	SeqNo: **1531936** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.077	0.010	0.1000	0	77.2	70	130			

Sample ID **1712881-001BMS**	SampType: **MS**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **OW-30**	Batch ID: **35555**	RunNo: **47866**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1531960** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.064	0.0093	0.09309	0	68.5	57.7	132			

Sample ID **1712881-001BMSD**	SampType: **MSD**	TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **OW-30**	Batch ID: **35555**	RunNo: **47866**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1531962** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.067	0.0093	0.09284	0	71.7	57.7	132	4.32	20	

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **LCS-35577**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **LCSW**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.0	1.0	5.000	0	120	92.3	135			
Surr: DNOP	0.53		0.5000		106	77.5	161			

Sample ID **MB-35577**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range**
Client ID: **PBW**	Batch ID: **35577**	RunNo: **47874**
Prep Date: **12/18/2017**	Analysis Date: **12/19/2017**	SeqNo: **1533840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		106	77.5	161			

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532716** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	22	1.0	20.00	0	110	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	114	70	130			
Trichloroethene (TCE)	20	1.0	20.00	0	99.2	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.066	1.0								J
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.25	2.0								J
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.44	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	0.12	1.0								J
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.5	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	0.17	1.0								J
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R47892**	RunNo: **47892**
Prep Date:	Analysis Date: **12/19/2017**	SeqNo: **1532717** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712881**

17-Jan-18

Client: Western Refining Southwest, Gallup

Project: 4th Qtr 2017 GW Sampling OW-Wells

Sample ID	**2.5ug gro lcs**	SampType:	**LCS**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**LCSW**	Batch ID:	**R47868**		RunNo:	**47868**				
Prep Date:		Analysis Date:	**12/18/2017**		SeqNo:	**1531812**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	70	130			
Surr: BFB	9.8		10.00		97.9	70	130			

Sample ID	**rb**	SampType:	**MBLK**		TestCode:	**EPA Method 8015D: Gasoline Range**				
Client ID:	**PBW**	Batch ID:	**R47868**		RunNo:	**47868**				
Prep Date:		Analysis Date:	**12/18/2017**		SeqNo:	**1531813**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	10		10.00		101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1712881 RcptNo: 1

Received By: Anne Thorne 12/14/2017 12:00:00 PM Anne Thorne
Completed By: Michelle Garcia 12/14/2017 2:30:47 PM Michelle Garcia
Reviewed By: ENM 12/14/17

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☑	No ☐	Not Present ☐
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 2 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by: DDS

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: ____ Date: ____
By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: ____
Client Instructions: ____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: ANDEAVOR
GALLUP REFINERY
Mailing Address: 92 GIANT CROSSING RD
GALLUP, NM 87301
Phone #: 505-722-0231
email or Fax#: CHERYL.A.JOHNSON@ANDEAVOR.COM
QA/QC Package: ☐ Standard ☒ Level 4 (Full Validation)
Accreditation: ☐ NELAP ☐ Other
☒ EDD (Type) EXCEL

Turn-Around Time: ☒ Standard ☐ Rush
Project Name: 4TH QTR 2017 GW SAMPLING (OW-WELLS)
Project #:
Project Manager: CHERYL JOHNSON
Sampler: TRACY PAYNE
On Ice: ☑ Yes ☐ No
Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712881	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1 / 8011)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	WQCC METALS	(TOTAL & DISSOLVED)			Air Bubbles (Y or N)
12/12/17	1015	WATER	OW-30	40 ML VOA-5	HCL	001			✓							✓						
				40 ML VOA-3	N_2SO_3						✓											
				250 ML AMBER-1	NEAT				✓													
				250 ML PLASTIC-1	HNO_3													✓				
↓	↓	↓	↓	125 ML PLASTIC-1	HNO_3													✓				
12/12/17	—	WATER	TRIP BLANK	40 ML VOA-3	HCL	002										✓						

Date: 12/14/17 Time: 1200 Relinquished by:
Received by: Date Time 12/14/17 1200
Date: Time: Relinquished by:
Received by: Date Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1330		20.0	2	04/04/2017 16:00	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1030		20.0	2	04/05/2017 15:19	WG967407

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	717		10.0	1	04/04/2017 16:01	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	802		10.0	1	04/04/2017 16:01	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	990		10.0	1	04/04/2017 16:01	WG967032

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	981		10.0	1	04/04/2017 16:03	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	3150		200	20	04/04/2017 16:03	WG967032

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	4120		200	20	04/04/2017 18:16	WG967150

2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
Al
8 Sc

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	721		10.0	1	04/04/2017 18:16	WG967150

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	694		10.0	1	04/04/2017 18:16	WG967150

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	5430		200	20	04/04/2017 18:16	WG967150

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	5590		200	20	04/04/2017 18:16	WG967150

Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	04/05/2017 16:42	WG967152

Method Blank (MB)

(MB) R3208168-1 04/04/17 15:55

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
COD	U		3	10.0

L899935-01 Original Sample (OS) • Duplicate (DUP)

(OS) L899935-01 04/04/17 15:57 • (DUP) R3208168-6 04/04/17 15:57

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	80.8	81.9	1	1		20

L900009-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900009-01 04/04/17 15:59 • (DUP) R3208168-7 04/04/17 15:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	211	215	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208168-2 04/04/17 15:56 • (LCSD) R3208168-3 04/04/17 15:56

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	252	252	104	104	90-110			0	20

L899728-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899728-01 04/04/17 15:56 • (MS) R3208168-4 04/04/17 15:56 • (MSD) R3208168-5 04/04/17 15:56

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	16.8	429	432	103	104	1	80-120			0	20

Method Blank (MB)

(MB) R3208215-1 04/04/17 18:14

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
COD	U		3	10.0

L900033-02 Original Sample (OS) • Duplicate (DUP)

(OS) L900033-02 04/04/17 18:17 • (DUP) R3208215-6 04/04/17 18:17

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	ND	7.99	1	0		20

L900094-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900094-01 04/04/17 18:19 • (DUP) R3208215-7 04/04/17 18:19

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	76.2	75.9	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208215-2 04/04/17 18:15 • (LCSD) R3208215-3 04/04/17 18:15

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	252	252	104	104	90-110			0	20

L900033-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L900033-01 04/04/17 18:16 • (MS) R3208215-4 04/04/17 18:17 • (MSD) R3208215-5 04/04/17 18:17

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	14.6	396	392	95	94	1	80-120			1	20

Method Blank (MB)

(MB) R3208484-1 04/05/17 15:18

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
COD	U		3	10.0

L900276-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900276-01 04/05/17 15:22 • (DUP) R3208484-6 04/05/17 15:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	15.2	15.3	1	0		20

L900361-01 Original Sample (OS) • Duplicate (DUP)

(OS) L900361-01 04/05/17 15:24 • (DUP) R3208484-7 04/05/17 15:24

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	63.2	65.8	1	4		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208484-2 04/05/17 15:18 • (LCSD) R3208484-3 04/05/17 15:19

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	233	235	96	97	90-110			1	20

L900199-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L900199-01 04/05/17 15:19 • (MS) R3208484-4 04/05/17 15:19 • (MSD) R3208484-5 04/05/17 15:20

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	ND	415	415	101	101	1	80-120			0	20

Method Blank (MB)

(MB) R3208541-1 04/05/17 16:12

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L899920-02 Original Sample (OS) • Duplicate (DUP)

(OS) L899920-02 04/05/17 16:21 • (DUP) R3208541-4 04/05/17 16:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L900032-13 Original Sample (OS) • Duplicate (DUP)

(OS) L900032-13 04/05/17 16:42 • (DUP) R3208541-7 04/05/17 16:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208541-2 04/05/17 16:14 • (LCSD) R3208541-3 04/05/17 16:15

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.102	0.103	102	103	85-115			1	20

L900029-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L900029-01 04/05/17 16:36 • (MS) R3208541-5 04/05/17 16:37 • (MSD) R3208541-6 04/05/17 16:39

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	ND	ND	0	0	1	75-125	J6	J6	0	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/30/2017 14:54	WG1025416

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/30/2017 14:55	WG1025416

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/30/2017 14:56	WG1025416

1709A84-006F DUPLICATE

Collected date/time: 09/18/17 12:50

SAMPLE RESULTS - 04

L938274

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/30/2017 14:57	WG1025416

Method Blank (MB)

(MB) R3253672-1 09/30/17 14:40

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L938273-01 Original Sample (OS) • Duplicate (DUP)

(OS) L938273-01 09/30/17 14:46 • (DUP) R3253672-4 09/30/17 14:47

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.00291	1	0		20

L938534-01 Original Sample (OS) • Duplicate (DUP)

(OS) L938534-01 09/30/17 15:04 • (DUP) R3253672-7 09/30/17 15:05

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	U	0.00276	1	200	J P1	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3253672-2 09/30/17 14:41 • (LCSD) R3253672-3 09/30/17 14:42

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0985	0.0976	99	98	85-115			1	20

L938392-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L938392-01 09/30/17 14:58 • (MS) R3253672-5 09/30/17 14:59 • (MSD) R3253672-6 09/30/17 15:00

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0385	0.0690	36	67	1	75-125	J6	J3 J6	57	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	10/04/2017 02:21	WG1026973

Wet Chemistry by Method 4500CN E-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	10/03/2017 02:23	WG1026344

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	10/04/2017 01:32	WG1026391

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	10/04/2017 01:33	WG1026391

Method Blank (MB)

(MB) R3254161-1 10/03/17 01:58

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L938655-01 Original Sample (OS) • Duplicate (DUP)

(OS) L938655-01 10/03/17 02:12 • (DUP) R3254161-4 10/03/17 02:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L939163-02 Original Sample (OS) • Duplicate (DUP)

(OS) L939163-02 10/03/17 02:23 • (DUP) R3254161-5 10/03/17 02:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254161-2 10/03/17 01:59 • (LCSD) R3254161-3 10/03/17 02:00

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0955	0.0927	96	93	85-115			3	20

L939168-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939168-03 10/03/17 02:26 • (MS) R3254161-6 10/03/17 02:27 • (MSD) R3254161-7 10/03/17 02:28

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	0.0870	0.109	0.148	22	61	1	75-125	J6	J3 J6	30	20

Method Blank (MB)

(MB) R3254503-1 10/04/17 01:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L939249-01 Original Sample (OS) • Duplicate (DUP)

(OS) L939249-01 10/04/17 01:40 • (DUP) R3254503-4 10/04/17 01:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	ND	0.00389	1	0		20

L939327-02 Original Sample (OS) • Duplicate (DUP)

(OS) L939327-02 10/04/17 01:45 • (DUP) R3254503-5 10/04/17 01:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254503-2 10/04/17 01:26 • (LCSD) R3254503-3 10/04/17 01:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0966	0.0962	97	96	85-115			0	20

L939702-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939702-02 10/04/17 01:55 • (MS) R3254503-6 10/04/17 01:56 • (MSD) R3254503-7 10/04/17 01:57

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0885	0.0878	89	88	1	75-125			1	20

Method Blank (MB)

(MB) R3254507-1 10/04/17 02:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L940107-01 Original Sample (OS) • Duplicate (DUP)

(OS) L940107-01 10/04/17 02:44 • (DUP) R3254507-7 10/04/17 02:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	0.859	0.757	10	13		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3254507-2 10/04/17 02:10 • (LCSD) R3254507-3 10/04/17 02:11

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0990	0.0987	99	99	85-115			0	20

L939702-14 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L939702-14 10/04/17 02:26 • (MS) R3254507-4 10/04/17 02:27 • (MSD) R3254507-5 10/04/17 02:28

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.130	0.0841	130	84	1	75-125	J5	J3	43	20

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Abbreviations and Definitions

MDL	Method Detection Limit.
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RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
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Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	804		10.0	1	10/29/2017 09:36	WG1036505

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	993		10.0	1	10/29/2017 09:38	WG1036505

Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
COD	817		50.0	5	10/30/2017 23:15	WG1036730

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	641		50.0	5	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	2710		200	20	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	2060		200	20	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	5030		400	40	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	6100		400	40	10/30/2017 23:16	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1120		50.0	5	10/30/2017 23:17	WG1036780

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	784		50.0	5	10/30/2017 23:17	WG1036780

Method Blank (MB)

(MB) R3261352-1 10/29/17 09:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L946408-01 Original Sample (OS) • Duplicate (DUP)

(OS) L946408-01 10/29/17 09:29 • (DUP) R3261352-4 10/29/17 09:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	70.0	75.5	1	8		20

L946516-02 Original Sample (OS) • Duplicate (DUP)

(OS) L946516-02 10/29/17 09:38 • (DUP) R3261352-7 10/29/17 09:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	993	971	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3261352-2 10/29/17 09:28 • (LCSD) R3261352-3 10/29/17 09:28

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	242	239	100	99	90-110			2	20

L946447-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946447-01 10/29/17 09:33 • (MS) R3261352-5 10/29/17 09:33 • (MSD) R3261352-6 10/29/17 09:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	209	623	622	103	103	1	80-120			0	20

Method Blank (MB)

(MB) R3261670-1 10/30/17 23:15

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
COD	U		3	10.0

L946579-01 Original Sample (OS) • Duplicate (DUP)

(OS) L946579-01 10/30/17 23:17 • (DUP) R3261670-4 10/30/17 23:17

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	367	385	2	5		20

L946579-07 Original Sample (OS) • Duplicate (DUP)

(OS) L946579-07 10/30/17 23:19 • (DUP) R3261670-7 10/30/17 23:19

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
COD	136	132	2	3		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3261670-2 10/30/17 23:15 • (LCSD) R3261670-3 10/30/17 23:15

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	236	236	98	98	90-110			0	20

L946579-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946579-03 10/30/17 23:17 • (MS) R3261670-5 10/30/17 23:18 • (MSD) R3261670-6 10/30/17 23:18

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	522	1400	1390	109	108	2	80-120			1	20

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Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	767		10.0	1	10/29/2017 09:36	WG1036505

Method Blank (MB)

(MB) R3261352-1 10/29/17 09:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L946408-01 Original Sample (OS) • Duplicate (DUP)

(OS) L946408-01 10/29/17 09:29 • (DUP) R3261352-4 10/29/17 09:29

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	70.0	75.5	1	8		20

L946516-02 Original Sample (OS) • Duplicate (DUP)

(OS) L946516-02 10/29/17 09:38 • (DUP) R3261352-7 10/29/17 09:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	993	971	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3261352-2 10/29/17 09:28 • (LCSD) R3261352-3 10/29/17 09:28

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	242	239	100	99	90-110			2	20

L946447-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946447-01 10/29/17 09:33 • (MS) R3261352-5 10/29/17 09:33 • (MSD) R3261352-6 10/29/17 09:33

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	209	623	622	103	103	1	80-120			0	20

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Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	0.111		0.00500	1	06/07/2017 16:08	WG936499

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1440		20.0	2	06/06/2017 21:22	WG986427

Method Blank (MB)

(MB) R3223622-1 06/06/17 21:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L913695-03 Original Sample (OS) • Duplicate (DUP)

(OS) L913695-03 06/06/17 21:18 • (DUP) R3223622-4 06/06/17 21:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	U	0.000	1	0		20

L913827-01 Original Sample (OS) • Duplicate (DUP)

(OS) L913827-01 06/06/17 21:24 • (DUP) R3223622-7 06/06/17 21:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	48.0	49.0	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3223622-2 06/06/17 21:16 • (LCSD) R3223622-3 06/06/17 21:17

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	239	230	99	95	90-110			4	20

L913826-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L913826-01 06/06/17 21:23 • (MS) R3223622-5 06/06/17 21:23 • (MSD) R3223622-6 06/06/17 21:23

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	75.3	455	447	95	93	1	80-120			2	20

Method Blank (MB)

(MB) R3223865-1 06/07/17 15:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L913919-05 Original Sample (OS) • Duplicate (DUP)

(OS) L913919-05 06/07/17 16:20 • (DUP) R3223865-5 06/07/17 16:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L913766-01 Original Sample (OS) • Duplicate (DUP)

(OS) L913766-01 06/07/17 16:27 • (DUP) R3223865-8 06/07/17 16:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Cyanide	0.222	0.216	5	3		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3223865-2 06/07/17 15:50 • (LCSD) R3223865-3 06/07/17 15:51

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.113	0.101	113	101	85-115			11	20

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Rec.	Recovery.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
COD	1120		20.0	2	09/13/2017 02:33	WG1019452

Method Blank (MB)

(MB) R3248805-1 09/13/17 02:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L935166-02 Original Sample (OS) • Duplicate (DUP)

(OS) L935166-02 09/13/17 02:27 • (DUP) R3248805-4 09/13/17 02:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	1290	1280	2	1		20

L935648-01 Original Sample (OS) • Duplicate (DUP)

(OS) L935648-01 09/13/17 02:34 • (DUP) R3248805-7 09/13/17 02:34

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	40.6	45.0	1	10		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3248805-2 09/13/17 02:27 • (LCSD) R3248805-3 09/13/17 02:27

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	239	248	99	103	90-110			4	20

L935412-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L935412-02 09/13/17 02:29 • (MS) R3248805-5 09/13/17 02:29 • (MSD) R3248805-6 09/13/17 02:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	19.1	424	418	101	100	1	80-120			1	20

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Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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Qualifier	Description

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Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	0.0360		0.00500	1	09/21/2017 18:08	WG1022220

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/21/2017 18:09	WG1022220

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.00500	1	09/21/2017 18:11	WG1022220

Method Blank (MB)

(MB) R3251292-1 09/21/17 17:54

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L936658-02 Original Sample (OS) • Duplicate (DUP)

(OS) L936658-02 09/21/17 18:09 • (DUP) R3251292-4 09/21/17 18:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L936729-02 Original Sample (OS) • Duplicate (DUP)

(OS) L936729-02 09/21/17 18:15 • (DUP) R3251292-5 09/21/17 18:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3251292-2 09/21/17 17:55 • (LCSD) R3251292-3 09/21/17 17:56

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.104	0.104	104	104	85-115			0	20

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SDG	Sample Delivery Group.
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Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
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Qualifier	Description

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1 Tc
2 Ss
3 Cn
4 Sr
5 Qc
6 Gl
7 Al
8 Sc

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	0.0746		0.00500	1	12/13/2017 09:48	WG1052450

Method Blank (MB)

(MB) R3272544-1 12/13/17 09:42

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Cyanide	U		0.0018	0.00500

L956231-01 Original Sample (OS) • Duplicate (DUP)

(OS) L956231-01 12/13/17 10:19 • (DUP) R3272544-4 12/13/17 09:56

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

L956231-05 Original Sample (OS) • Duplicate (DUP)

(OS) L956231-05 12/13/17 10:02 • (DUP) R3272544-7 12/13/17 10:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Cyanide	ND	0.000	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3272544-2 12/13/17 09:43 • (LCSD) R3272544-3 12/13/17 09:44

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Cyanide	0.100	0.0929	0.0933	92.9	93.3	85-115			0.43	20

L956231-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L956231-03 12/13/17 09:58 • (MS) R3272544-5 12/13/17 09:59 • (MSD) R3272544-8 12/13/17 10:20

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Cyanide	0.100	ND	0.0963	0.0901	96.3	90.1	1	75-125			6.65	20

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Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
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Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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Qualifier	Description

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Wet Chemistry by Method 410.4

Analyte	Result mg/l	Qualifier	MDL mg/l	RDL mg/l	Dilution	Analysis date / time	Batch
COD	2090		15.0	50.0	5	12/19/2017 20:56	WG1055046

WG1055046

Wet Chemistry by Method 410.4

QUALITY CONTROL SUMMARY

L958379-01

ONE LAB. NATIONWIDE.

Method Blank (MB)

(MB) R3274307-1 12/19/17 20:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
COD	U		3	10.0

L957755-01 Original Sample (OS) • Duplicate (DUP)

(OS) L957755-01 12/19/17 20:54 • (DUP) R3274307-4 12/19/17 20:54

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	162	181	1	11.2		20

L958556-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958556-01 12/19/17 21:01 • (DUP) R3274307-7 12/19/17 21:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
COD	46.4	50.9	1	9.45		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3274307-2 12/19/17 20:53 • (LCSD) R3274307-3 12/19/17 20:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
COD	242	230	243	95	100	90-110			5.46	20

L958436-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958436-03 12/19/17 20:58 • (MS) R3274307-5 12/19/17 20:58 • (MSD) R3274307-6 12/19/17 20:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
COD	400	23.9	447	448	106	106	1	80-120			0.0737	20

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Qualifier	Description

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APPENDIX H
NEW MONITORING WELL LOGS

DiSorbo
Environmental Consulting Firm

Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon/
Comments	: Hand Auger to 5' BGL
Total Depth	: 44'
Ground Water	: Not Encountered
Start Date	: 6/14/2017
Finish Date	: 6/14/2017

WELL NO. BW-4A

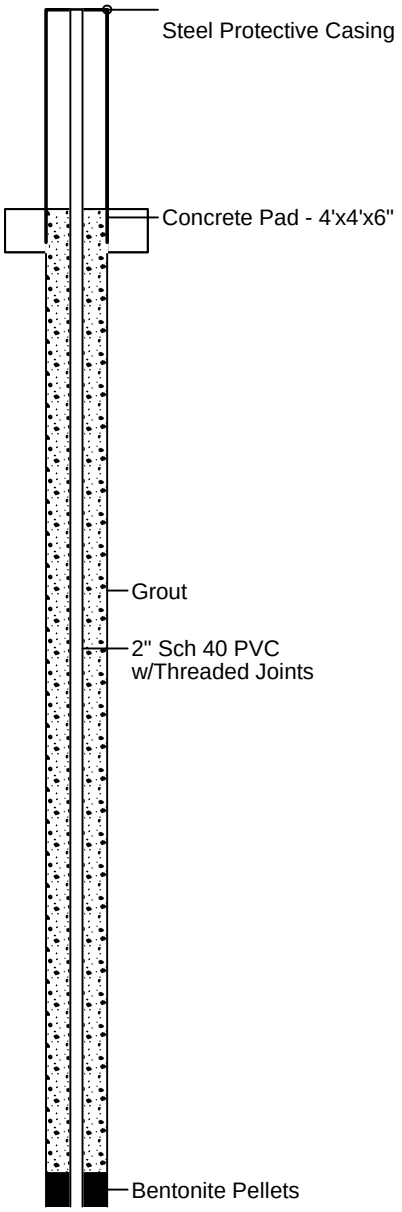
(Sheet 1 of 3)

Elev., TOC (ft.msl)	: 6873.18
Elev., PAD (ft. msl)	: 6870.67
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634063.05
E	: W2542465.22

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
0							
1	7.7			CL	100		SILTY CLAY, low, firm, dry to damp, brown, no odor,
2							
3	9.5			CH	100		CLAY, high, stiff, damp, brown, no odor,
4							
5	9.0			CH	100		CLAY, SIMILAR TO ABOVE (STA), very stiff, no odor,
6							
7	6.8			CH	90		CLAY, STA, no odor,
8							
9	5.4			CH	80		CLAY, STA, no odor,
10							
11	3.3			CH	80		CLAY, STA, no odor,
12							
13	5.8			CH	50		CLAY, STA, no odor,
14							
15	4.0			CH			CLAY, STA, no odor,

Completion Results

Well No. BW-4A



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DiSorbo
Environmental Consulting Firm

Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon/
Comments	: Hand Auger to 5' BGL
Total Depth	: 44'
Ground Water	: Not Encountered
Start Date	: 6/14/2017
Finish Date	: 6/14/2017

WELL NO. BW-4A

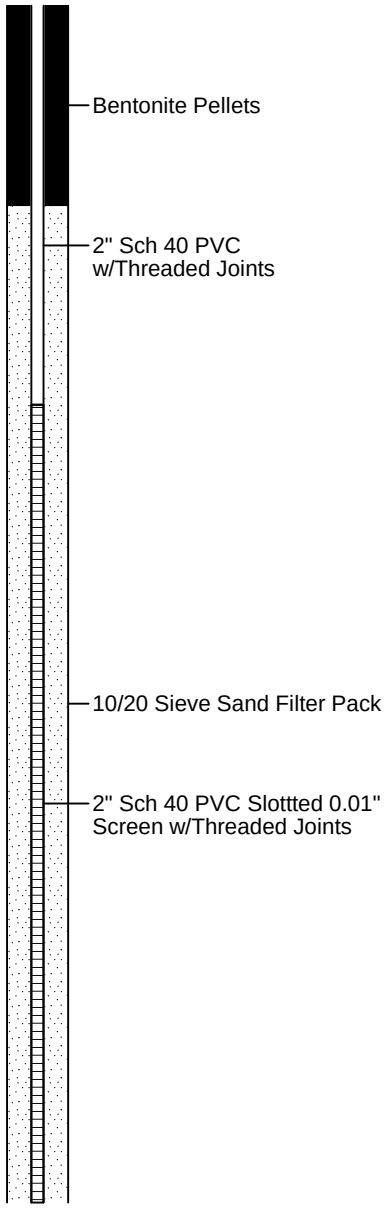
(Sheet 2 of 3)

Elev., TOC (ft.msl)	: 6873.18
Elev., PAD (ft. msl)	: 6870.67
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634063.05
E	: W2542465.22

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
15	4.0			CH	60		
16							CLAY, STA, no odor,
17	2.0			CH	80		
18							CLAYEY SILT, low, firm/crumbly, damp, light brown/tan, no odor,
19	6.9			ML	40		
20							CLAYEY SILT/SILTY CLAY, STA, interbedded, no odor,
21	5.0			ML/CL	70		
22							CLAYEY SILT, low, firm/crumbly,damp, tan, no odor,
23	3.6			ML	50		
24							CLAYEY SILT/SILTY CLAY, STA, interbedded, no odor,
25	3.7			ML/CL	60		
26							CLAY, high, very stiff, damp, brown, no odor,
27	6.2			CH	60		
28							CLAY, STA, darker brown, no odor,
29	3.5			CH	70		
30							CLAY, STA, no odor,
31	6.1			CH	80		
32	6.1			CL			SILTY CLAY, low, very stiff, damp, no odor, light brown (reddish), trace very fine grain sand,
33							

Completion Results

Well No. BW-4A



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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon/
Comments	: Hand Auger to 5' BGL
Total Depth	: 44'
Ground Water	: Not Encountered
Start Date	: 6/14/2017
Finish Date	: 6/14/2017

WELL NO. BW-4A

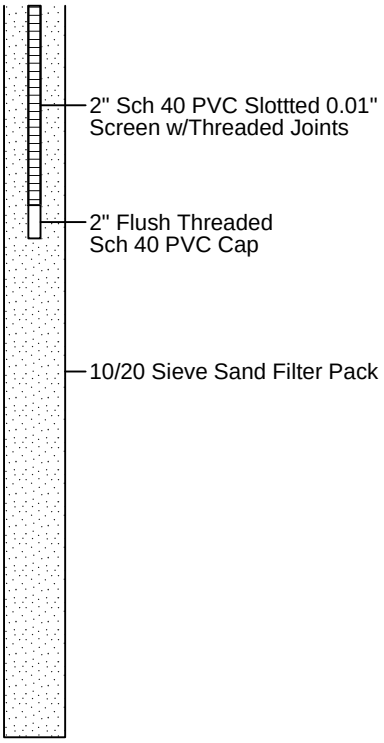
(Sheet 3 of 3)

Elev., TOC (ft.msl)	: 6873.18
Elev., PAD (ft. msl)	: 6870.67
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634063.05
E	: W2542465.22

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
33	6.1			CL	60		
34							CLAYEY SILT/SILTY CLAY, low, firm to stiff, damp, reddish brown and grey, alternating silt/clay, no odor,
35	3.8			ML/CL	80		
36							SILTY CLAY, low, stiff, damp, reddish brown and grey (less grey than above), no odor,
37	6.1			CL	60		
38							SILTY CLAY, STA, no odor,
39	5.2			CL	60		
40							SILTY CLAY, STA, reddish brown and grey, no odor,
41	4.2			CL	70		
42							SILTY CLAY, STA, no odor.
43	3.9			CL	60		
44							
45							
46							
47							
48							
49							
50							
51							

Completion Results

Well No. BW-4A



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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon -
Comments	: Hand Auger to 5' BGL
Total Depth	: 90'
Ground Water	: Not Encountered
Start Date	: 6/15/2017
Finish Date	: 6/16/2017

WELL NO. BW-4B

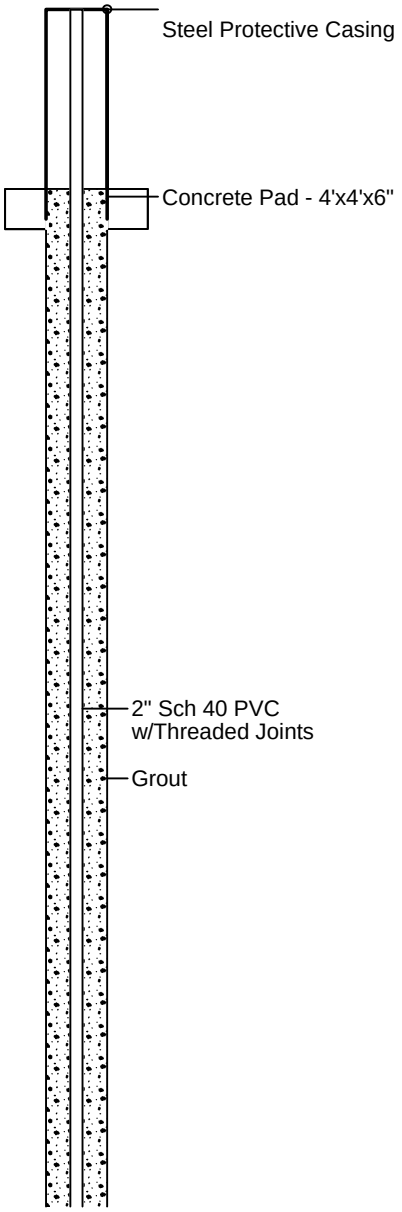
(Sheet 1 of 5)

Elev., TOC (ft.msl)	: 6873.23
Elev., PAD (ft. msl)	: 6870.62
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634043.22
E	: W2542462.98

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
0							SILTY CLAY, low, firm, dry to damp, brown, no odor,
1	1.3			CL	100		
2							CLAY, high, stiff, damp, brown, no odor,
3	1.2			CH	100		
4							CLAY, SIMILAR TO ABOVE (STA), very stiff, no odor,
5	1.3			CH	100		
6							CLAY, STA, no odor,
7	1.7			CH	90		
8							CLAY, STA, no odor,
9	2.0			CH	80		
10							CLAY, STA, no odor,
11	2.1			CH	80		
12							CLAY, STA, no odor,
13	3.1			CH	80		
14							CLAY, STA, no odor,
15	3.4			CH	80		
16							CLAY, STA, no odor,
17	5.1			CH			

Completion Results

Well No. BW-4B



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Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon -
Comments	: Hand Auger to 5' BGL
Total Depth	: 90'
Ground Water	: Not Encountered
Start Date	: 6/15/2017
Finish Date	: 6/16/2017

WELL NO. BW-4B

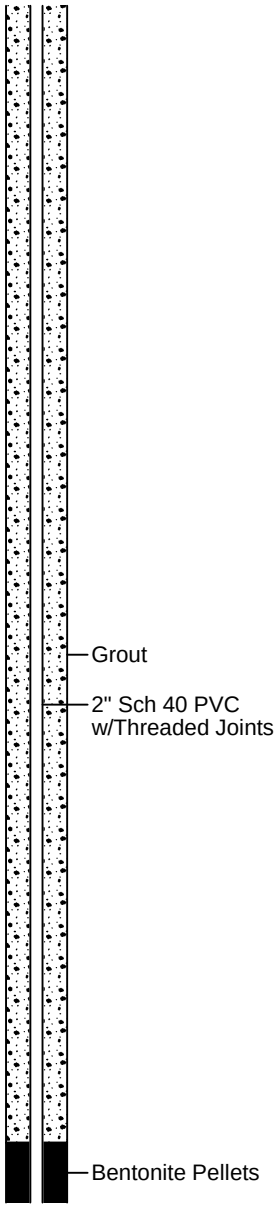
(Sheet 2 of 5)

Elev., TOC (ft.msl)	: 6873.23
Elev., PAD (ft. msl)	: 6870.62
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634043.22
E	: W2542462.98

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
17							
	5.1			CH	70		
18							CLAYEY SILT, low, firm/crumbly, damp, light brown/tan, no odor,
19	3.2			ML	60		
20							CLAYEY SILT/SILTY CLAY, STA, no odor, interbedded,
21	3.9			ML/CL	70		
22							CLAYEY SILT, low, firm/crumbly, damp, brown and tan, no odor,
23	3.5			ML	60		
24				ML/CL	60		CLAYEY SILT/SILTY CLAY, STA, no odor,
25	3.9			CH	60		CLAY, high, very stiff, damp, brown, no odor,
26							CLAY, STA, darker brown, no odor,
27	1.8			CH	70		
28							SILTY CLAY, moderate to low, very stiff, damp, dark brown grading to light reddish brown, trace fine grain sand at base, no odor,
29	1.8			CL	80		
30				CL	80		SILTY CLAY, STA,
31	2.0			CL	80		SANDY GRAVELLY CLAY, low, stiff, dry to damp, light grey and brown, no odor,
32				CL	80		SILTY CLAY, low, stiff, damp, reddish brown, no odor,
33	2.2			ML/CL	80		CLAYEY SILT/SILTY CLAY, low, firm/crumbly, damp, reddish brown and grey,
34							SILTY CLAY, STA, no odor,
35	5.6			CL	80		
36							SILTY CLAY, STA, no odor,
	3.6			CL			
37							

Completion Results

Well No. BW-4B



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Environmental Consulting Firm

Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon -
Comments	: Hand Auger to 5' BGL
Total Depth	: 90'
Ground Water	: Not Encountered
Start Date	: 6/15/2017
Finish Date	: 6/16/2017

WELL NO. BW-4B

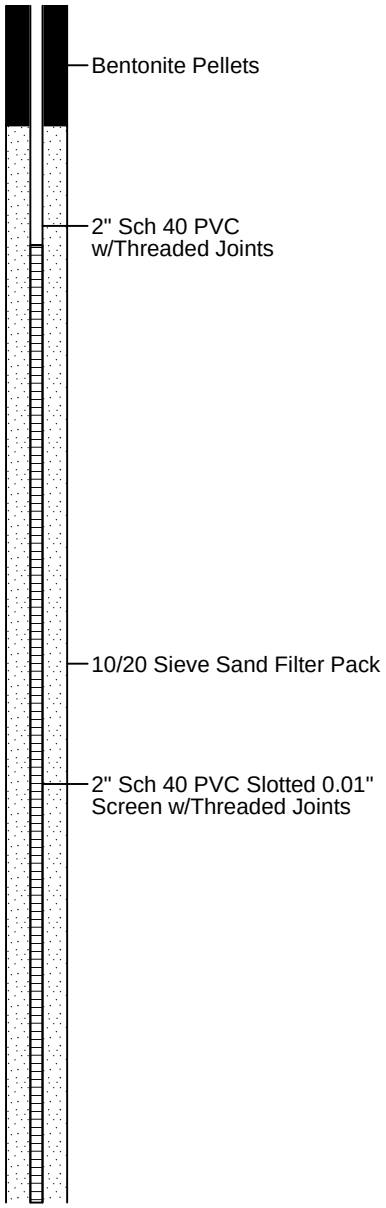
(Sheet 3 of 5)

Elev., TOC (ft.msl)	: 6873.23
Elev., PAD (ft. msl)	: 6870.62
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634043.22
E	: W2542462.98

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
37							
	3.6			CL	80		
38							SILTY CLAY, STA, no odor,
39	2.3			CL	80		
40							SILTY CLAY, STA, no odor,
41	6.2			CL	80		
42							SILTY CLAY, STA, no odor,
43	5.0			CL	70		
44				CL	80		SILTY CLAY, STA, no odor,
45	2.6			CL	80		GRAVELLY SILTY CLAY, low, firm/crumbly, dry-calcium carbonate nodules, grey and reddish brown, no odor,
46				CL	80		SANDY CLAY, low, firm/crumbly, dry, grey and reddish brown, very fine grain sand, no odor,
47	3.5			CL	80		SILTY CLAY, low, very stiff, dry to damp, reddish brown, no odor,
48							SILTY CLAY, STA, no odor,
49	1.9			CL	80		
50							SILTY CLAY, STA, no odor,
51	5.1			CL	80		
52							SILTY CLAY, STA, trace grey clay, occasional gravel, no odor,
53	5.6			CL	70		
54							SILTY CLAY, low, very stiff, dry to damp, reddish brown, no odor,
55	3.8			CL	70		
56							SILTY CLAY, STA, trace grey clay, no odor,
	3.4			CL			
57							

Completion Results

Well No. BW-4B



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DiSorbo
Environmental Consulting Firm

Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon -
Comments	: Hand Auger to 5' BGL
Total Depth	: 90'
Ground Water	: Not Encountered
Start Date	: 6/15/2017
Finish Date	: 6/16/2017

WELL NO. BW-4B

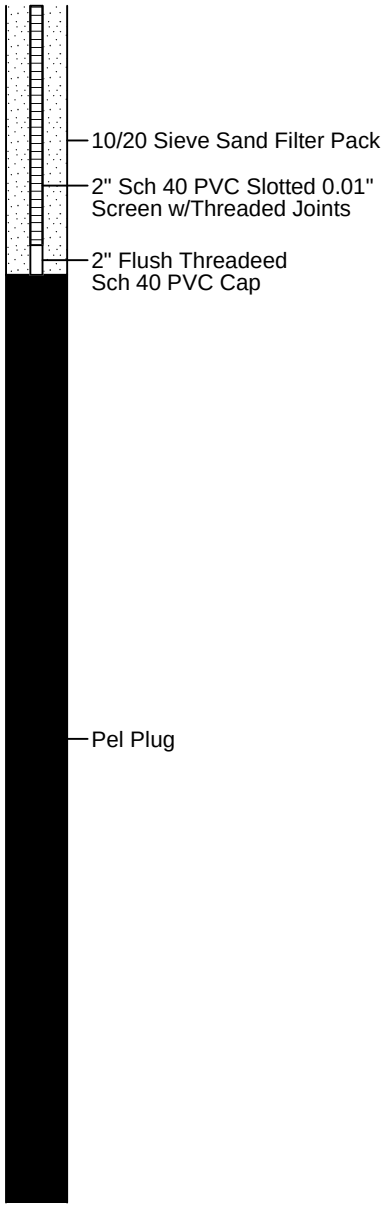
(Sheet 4 of 5)

Elev., TOC (ft.msl)	: 6873.23
Elev., PAD (ft. msl)	: 6870.62
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634043.22
E	: W2542462.98

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
57							
	3.4			CL	60		
58							SILTY CLAY, STA, no odor,
59	2.4			CL	80		
60							SILTY CLAY, low, very stiff, dry to damp, reddish brown grey clay, no odor,
61	4.9			CL	80		
62							SILTY CLAY, STA, no odor,
63	1.7			CL	80		
64							SILTY CLAY, STA, no odor,
65	5.8			CL	80		
66							SILTY CLAY, STA,
67	2.7			CL	80		
68							SILTY CLAY, low, very stiff, calcareous, dry to damp, brown and blueish grey, no odor,
69	3.9			CL	80		
70							SILTY CLAY, low, firm/crumbly, damp, reddish brown, no odor,
71	1.6			CL	80		
72							SILTY CLAY, STA, no odor,
73	1.7			CL	60		
74							SILTY CLAY, STA, no odor,
75	1.0			CL	60		
76							SILTY CLAY, STA, no odor,
	0.1			CL			
77							

Completion Results

Well No. BW-4B



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Geologist	: Tracy Payne
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Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon -
Comments	: Hand Auger to 5' BGL
Total Depth	: 90'
Ground Water	: Not Encountered
Start Date	: 6/15/2017
Finish Date	: 6/16/2017

WELL NO. BW-4B

(Sheet 5 of 5)

Elev., TOC (ft.msl)	: 6873.23
Elev., PAD (ft. msl)	: 6870.62
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1634043.22
E	: W2542462.98

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
77							
	0.1			CL	70		
78							SILTY CLAY, STA, no odor,
79	0.4			CL	60		
80							SILTY CLAY, STA, no odor,
81	0.1			CL	70		
82							SILTY CLAY, STA, no odor,
83	0.2			CL	60		
84							SILTY CLAY, STA, very stiff, trace grey clay, no odor,
85	0.0			CL	70		
86							SILTY CLAY, STA, no odor,
87	0.1			CL	40		
88							SILTY CLAY, STA, imbedded with fine grain sandstone, hard/dense, white.
89	0.2			CL/SS	40		
90							
91							
92							
93							
94							
95							
96							
97							

Completion Results

Well No. BW-4B

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Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	:
Total Depth	: 20.5'
Ground Water	: Not Encountered
Start Date	: 06/23/2017
Finish Date	: 06/23/2017

WELL NO. BW-5A

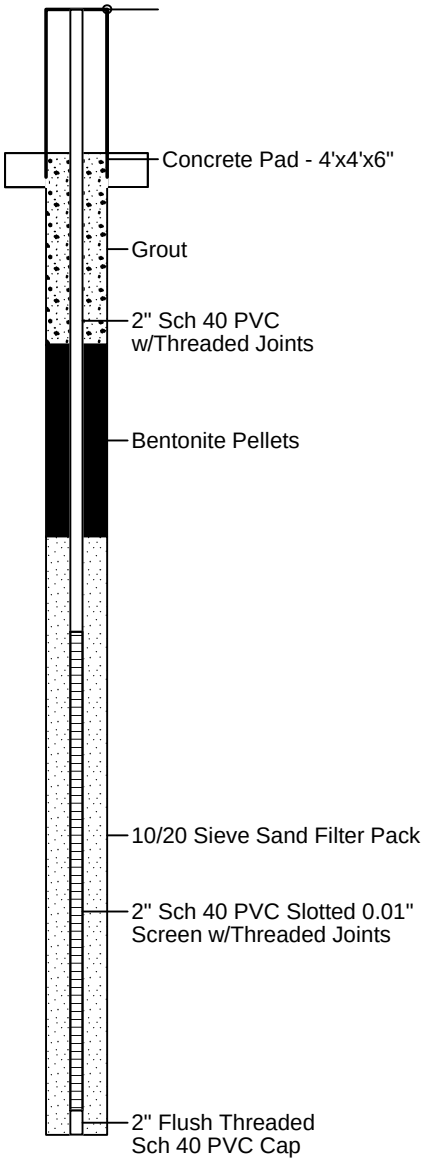
(Sheet 1 of 1)

Elev., TOC (ft.msl)	: 6877.00
Elev., PAD (ft. msl)	: 6874.39
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633259.56
E	: W2542551.45

Depth (ft.)	PID (ppm)	USCS	Recovery	DESCRIPTION
0-1	0.0	CL	100	SILTY CLAY, low, firm, dry, brown, no odor,
1-2				
2-3	0.1	CL	100	SILTY CLAY, SIMILAR TO ABOVE (STA), no odor,
3-4				
4-5	0.0	CL	100	SILTY CLAY, STA, no odor,
5-6				
6-7	0.0	CH	40	CLAY, high, very stiff, dry, brown, no odor,
7-8				
8-9	0.1	CH	80	CLAY, STA, no odor,
9-10				
10-11	0.0	CL	60	CLAY, moderate, very stiff, gravel at base, dry, brown, no odor,
11-12				
12-13	0.0	SP	80	GRAVELLY SILT/SAND, very fine, 5-10 mm gravel-clay at base - stiff, dry, tan, no odor,
13-14				
14-15	0.0	CL	70	SILTY CLAY, low, stiff, dry, light reddish brown, tan and grey, trace very fine grain sand,
15-16				
16-17	0.0	CL	60	SILTY CLAY, STA,
17-18				
18-19	0.0	CL	80	SANDY SILTY CLAY, low, very stiff, very fine sand, light reddish brown, occasional grey, no odor.
19-20				
20-21				
21-22				

Completion Results

Well No. BW-5A



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Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to .5'
Total Depth	: 58'
Ground Water	: Not Encountered
Start Date	: 06/23/2017
Finish Date	: 06/23/2017

WELL NO. BW-5B

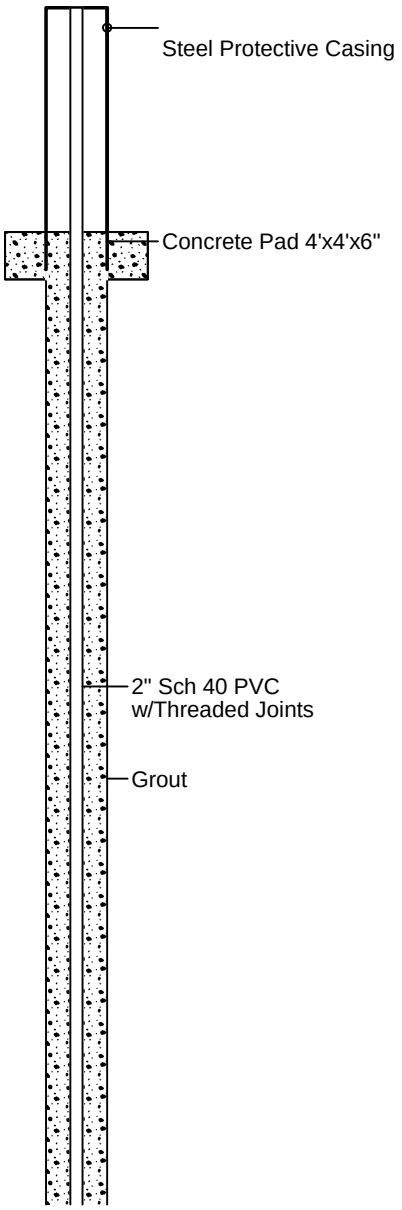
(Sheet 1 of 4)

Elev., TOC (ft.msl)	: 6876.82
Elev., PAD (ft. msl)	: 6874.32
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633269.31
E	: W2542551.84

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
0							SILTY CLAY, low, firm, dry, brown, no odor,
1	0.0			CL	100		
2							SILTY CLAY, SIMILAR TO ABOVE (STA), no odor,
3	0.1			CL	100		
4							SILTY CLAY, STA, no odor,
5	0.0			CL	100		
6							CLAY, high, very stiff, dry, brown, no odor,
7	0.0			CH	40		
8							CLAY, STA, no odor,
9	0.1			CH	80		
10				CH	60		CLAY, STA, no odor,
11	0.0			CL	60		SILTY CLAY, low, very stiff, dry, calcareous, tan to light brown, no odor,
12							GRAVELLY SILT/SAND, very fine, very
13	0.1			SP			dense, dry, tan, no odor, sandstone and chert gravel,

Completion Results

Well No. BW-5B



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Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to .5'
Total Depth	: 58'
Ground Water	: Not Encountered
Start Date	: 06/23/2017
Finish Date	: 06/23/2017

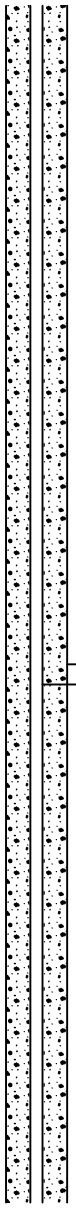
WELL NO. BW-5B

Elev., TOC (ft.msl)	: 6876.82
Elev., PAD (ft. msl)	: 6874.32
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633269.31
E	: W2542551.84

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
13	0.1			SP	90		
14							SILTY CLAY, low, firm to stiff/crumbly, dry to damp, reddish brown and grey, trace gravel and very fine grain sand, no odor,
15	0.0			CL	90		
16							CLAYEY SILT/SAND, very fine grain, firm/crumbly, dry, light brown and grey, no odor,
17	0.0			SP	50		
18							CLAYEY SILT/SAND, STA, dry, light reddish brown, no odor,
19	0.0			SP	50		
20							SANDY SILTY CLAY, low, very stiff, dry, light reddish brown and light grey, no odor, very fine grain sand,
21	0.0			CL	60		
22							SANDY SILTY CLAY, STA, no odor,
23	0.0			CL	90		
24							SANDY SILTY CLAY, STA, no odor,
25	0.0			CL	60		
26							SANDY SILTY CLAY, STA, no odor,
27	0.0			CL	70		
28							SANDY SILTY CLAY, STA, no odor,
29	0.0			CL			

Completion Results

Well No. BW-5B



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DiSorbo
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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to .5'
Total Depth	: 58'
Ground Water	: Not Encountered
Start Date	: 06/23/2017
Finish Date	: 06/23/2017

WELL NO. BW-5B

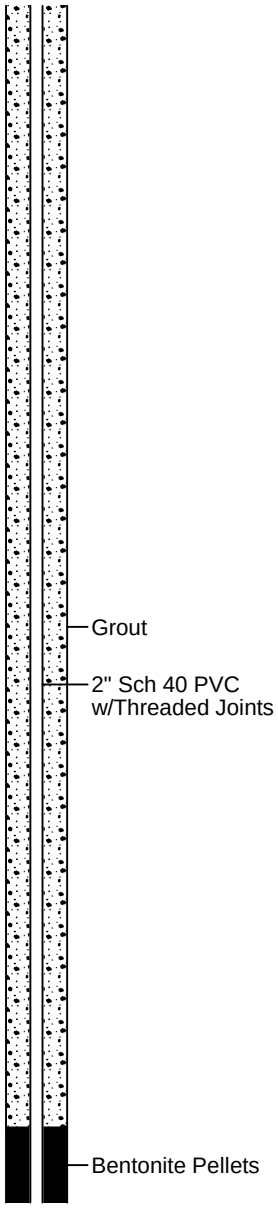
(Sheet 3 of 4)

Elev., TOC (ft.msl)	: 6876.82
Elev., PAD (ft. msl)	: 6874.32
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633269.31
E	: W2542551.84

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
29	0.0			CL	60		
30							SILTY CLAY, low, firm to stiff, damp, reddish brown, no odor, softer than above,
31	0.0			CL	60		
32							SILTY CLAY, STA, no odor, trace grey clay,
33	0.0			CL	70		
34							SILTY CLAY, STA, no odor, trace grey clay,
35	0.0			CL	70		
36							SILTY CLAY, STA, no odor,
37	0.0			CL	60		
38							SILTY CLAY, low, stiff to very stiff, damp, reddish brown, no odor,
39	0.0			CL	70		
40							SILTY CLAY, STA, stiff, damp, no odor,
41	0.0			CL	70		
42							SILTY CLAY, STA,
43	0.0			CL	60		
44							SILTY CLAY, STA, calcareous,
45	0.0			CL			

Completion Results

Well No. BW-5B



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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to .5'
Total Depth	: 58'
Ground Water	: Not Encountered
Start Date	: 06/23/2017
Finish Date	: 06/23/2017

WELL NO. BW-5B

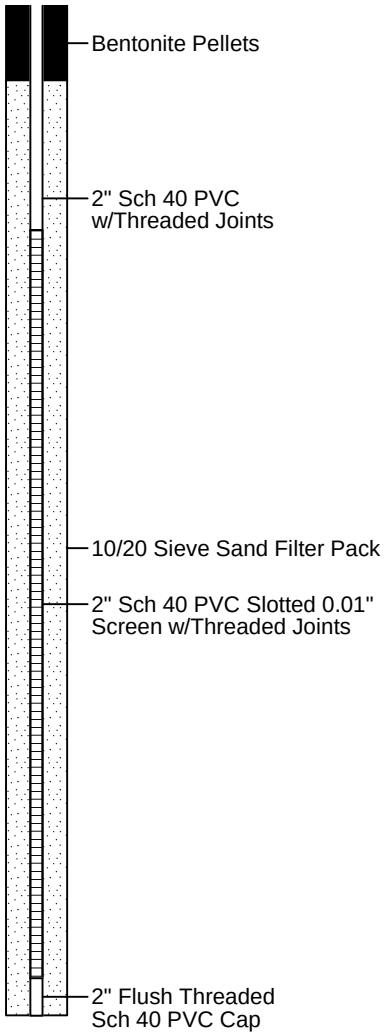
(Sheet 4 of 4)

Elev., TOC (ft.msl)	: 6876.82
Elev., PAD (ft. msl)	: 6874.32
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633269.31
E	: W2542551.84

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
45	0.0			CL	60		
46							SILTY CLAY, STA,
47	0.1			CL	60		
48							SILTY CLAY, low, very stiff, damp, light reddish brown, no odor, trace pink sandstone at base,
49	0.0			CL	80		
50							SILTY CLAY, STA, trace grey clay and sandstone present,
51	0.0			CL	70		
52							SILTY CLAY, STA, sandstone present,
53	0.0			CL	20		
54							SILTY CLAY, low, very stiff, damp/dry, reddish brown and grey, bluish grey at base, no odor,
55	0.0			CL	80		
56							SILTY CLAY, STA, increase in bluish grey clay, damp.
57	0.0			CL	90		
58							
59							
60							
61							

Completion Results

Well No. BW-5B



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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	:
Total Depth	: 76'
Ground Water	: 68'
Start Date	: 06/19/2017
Finish Date	: 06/21/2017

WELL NO. BW-5C

(Sheet 1 of 4)

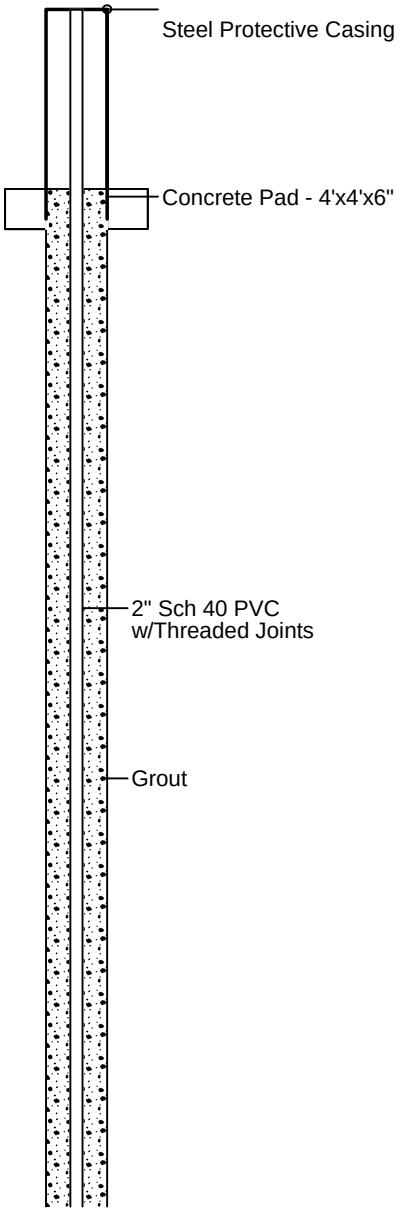
Elev., TOC (ft.msl)	: 6876.85
Elev., PAD (ft. msl)	: 6874.22
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633279.54
E	: W2542553.04

Saturation
▼ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
0							SILTY CLAY, low, firm, dry, brown, no odor,
1	0.0			CL	100		
2							SILTY CLAY, SIMILAR TO ABOVE (STA), no odor,
3	0.1			CL	100		
4							SILTY CLAY, STA, no odor,
5	0.0			CL	100		
6							CLAY, high, very stiff, dry, brown, no odor,
7	0.0			CH	40		
8							CLAY, STA, no odor,
9	0.1			CH	80		
10				CH	60		CLAY, STA, no odor,
11	0.0			CL	60		SILTY CLAY, low, very stiff, dry, calcareous, tan to light brown, no odor,
12							GRAVELLY SILT/SAND, very fine, very dense, dry, tan, no odor, sandstone and chert gravel,
13	0.1			SP	90		
14							SILTY CLAY, low, firm to stiff/crumbly, dry to damp, reddish brown and grey, trace gravel and very fine grain sand, no odor,
15	0.0			CL	90		
16							CLAYEY SILT/SAND, very fine grain, firm/crumbly, dry, light brown and grey, no odor,
17	0.0			SP			

Completion Results

Well No. BW-5C



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Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	:
Total Depth	: 76'
Ground Water	: 68'
Start Date	: 06/19/2017
Finish Date	: 06/21/2017

WELL NO. BW-5C

(Sheet 2 of 4)

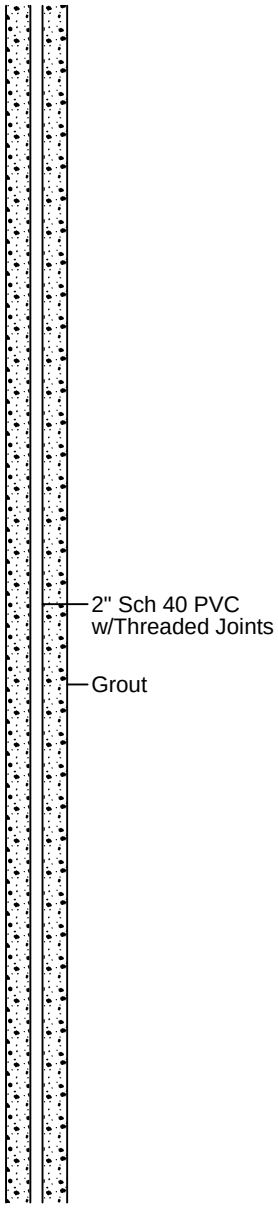
Elev., TOC (ft.msl)	: 6876.85
Elev., PAD (ft. msl)	: 6874.22
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633279.54
E	: W2542553.04

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
17							
	0.0			SP	50		
18							CLAYEY SILT/SAND, STA, dry, light reddish brown, no odor,
19	0.0			SP	50		
20							SANDY SILTY CLAY, low, very stiff, dry, light reddish brown and light grey, no odor, very fine grain sand,
21	0.0			CL	60		
22							SANDY SILTY CLAY, STA, no odor,
23	0.0			CL	90		
24							SANDY SILTY CLAY, STA, no odor,
25	0.0			CL	60		
26							SANDY SILTY CLAY, STA, no odor,
27	0.0			CL	70		
28							SANDY SILTY CLAY, STA, no odor,
29	0.0			CL	60		
30							SILTY CLAY, low, firm to stiff, damp, reddish brown, no odor, softer than above,
31	0.0			CL	60		
32							SILTY CLAY, STA, no odor, trace grey clay,
33	0.0			CL	70		
34							SILTY CLAY, STA, no odor, trace grey clay,
35	0.0			CL	70		
36							SILTY CLAY, STA, no odor,
	0.0			CL			
37							

Saturation
▼ Saturation

Completion Results

Well No. BW-5C



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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	:
Total Depth	: 76'
Ground Water	: 68'
Start Date	: 06/19/2017
Finish Date	: 06/21/2017

WELL NO. BW-5C

(Sheet 3 of 4)

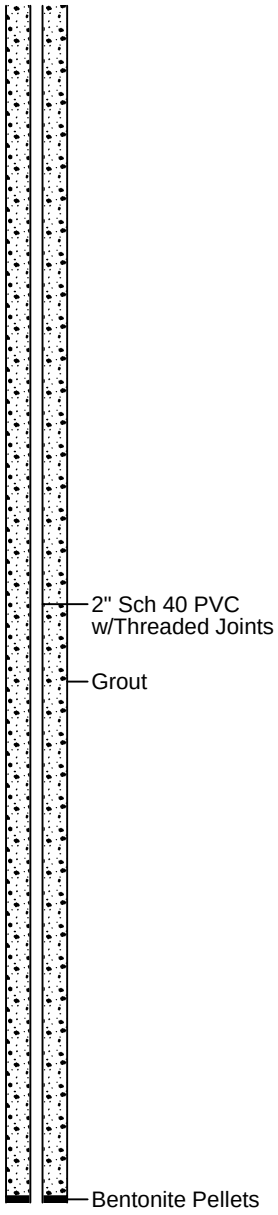
Elev., TOC (ft.msl)	: 6876.85
Elev., PAD (ft. msl)	: 6874.22
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633279.54
E	: W2542553.04

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery	Sample	DESCRIPTION
37	0.0			CL	60		
38							SILTY CLAY, low, stiff to very stiff, damp, reddish brown, no odor,
39	0.0			CL	70		
40							SILTY CLAY, STA, stiff, damp, no odor,
41	0.0			CL	70		
42							SILTY CLAY, STA,
43	0.0			CL	60		
44							SILTY CLAY, STA, calcareous,
45	0.0			CL	60		
46							SILTY CLAY, STA,
47	0.1			CL	60		
48							SILTY CLAY, STA, pink sandstone at base, very dense, dry, no odor,
49	0.0			CL	60		
50							SILTY CLAY, low, stiff, calcareous, dry, reddish brown and grey, no odor,
51	0.0			CL	90		
52							SILTY CLAY, STA, sandstone lense present near base, very dense, white,
53	0.0			CL	60		
54							SILTY CLAY, low, very stiff, dry, reddish brown, occasional grey, no odor,
55	0.0			CL	80		
56							SILTY CLAY, STA, increase in grey clay, no odor,
57	0.0			CL			

Saturation
▼ Saturation

Completion Results

Well No. BW-5C



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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	:
Total Depth	: 76'
Ground Water	: 68'
Start Date	: 06/19/2017
Finish Date	: 06/21/2017

WELL NO. BW-5C

(Sheet 4 of 4)

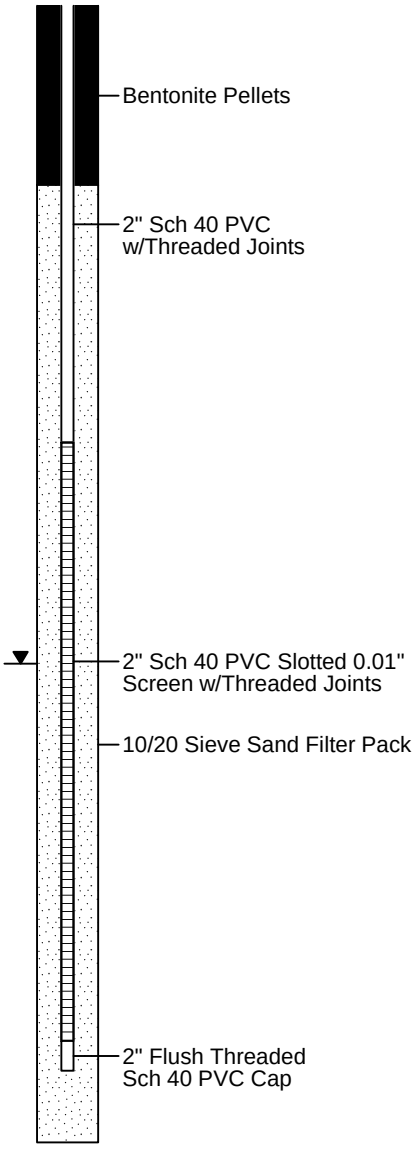
Elev., TOC (ft.msl)	: 6876.85
Elev., PAD (ft. msl)	: 6874.22
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1633279.54
E	: W2542553.04

Depth (ft.)	PID (ppm)	USCS	Recovery	DESCRIPTION
57				
58	0.0	CL	60	
59	0.0		60	SHALE, very dense, damp to saturated in cracks, fissle, light brown and grey, no odor,
60				
61	0.0		50	SHALE, STA, very fine grain sand, dry, brown, no odor,
62				
63	0.0		40	SHALE, STA, sand increases with interbedded clays, dry,
64				
65	0.0	SST	40	SANDSTONE, very dense, fine grain, interbedded with clay lenses, dry, brown,
66				
67	0.0	SST	40	SANDSTONE, STA, interbedded with clay, damp in fractures, weathered, soft, micaceous, light purple brown,
68		SP	80	SAND, fine to medium, loose, saturated, brown,
69	0.0	SP	80	SILTSTONE, dense, dry/damp, brown,
70		SST	80	SANDSTONE, firm/dense, damp to moist, grey, no odor,
71		SST	20	SANDSTONE, STA, moist,
72				
73		SST	10	SANDSTONE, STA, moist,
74				
75		SST	10	SANDSTONE, STA, moist, shale at base, stiff, damp, dark grey to black.
76				
77				

Saturation
▼ Saturation

Completion Results

Well No. BW-5C



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Environmental Consulting Firm

Western Refining SW, Inc.
Gallup Refinery - Well Installations
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7 1/4
Sampling Method	: Split Spoon 2'
Comments	:
Total Depth	: 34'
Ground Water	: Not Encountered
Start Date	: 05/26/2016
Finish Date	: 05/26/2016

WELL NO. OW-53

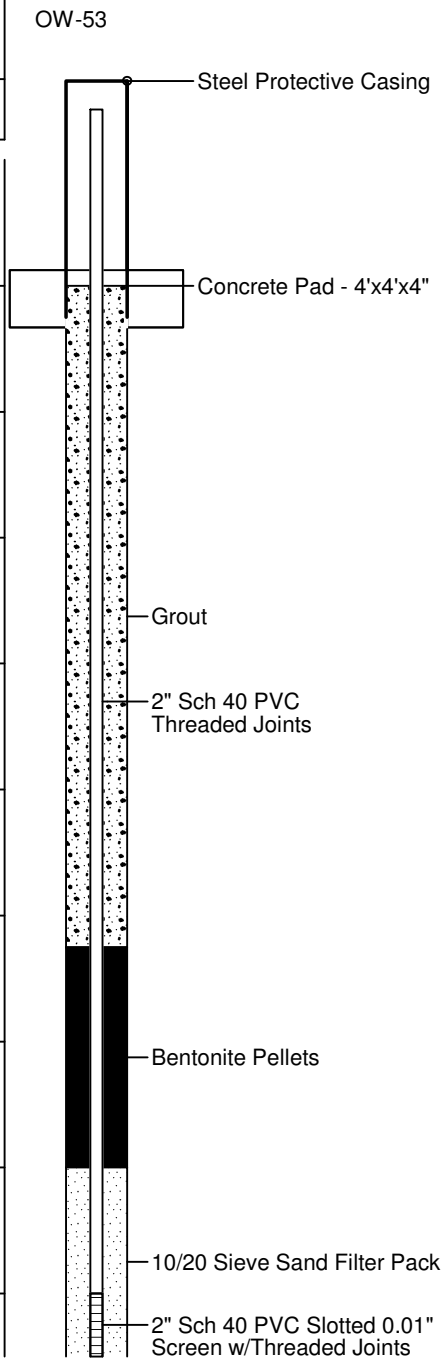
(Sheet 1 of 2)

Elev., TOC (ft.msl)	: 6914.38
Elev., PAD (ft. msl)	: 6911.93
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 44.59"
E	: W 108° 25' 30.34"

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
0							SILT, low, soft, damp, brown, no odor,
1	5.3			ML	100		
2							SILTY CLAY, low, very stiff, damp, brown, no odor,
3	4.8			CL	100		
4							SILTY SAND, fine to medium, dry, brown, no odor,
5	2.4			SM	90		
6							SILTY CLAY, low, very stiff, damp, brown, no odor,
7	5.5			CL	90		
8							SILTY CLAY, SIMILAR TO ABOVE (STA),
9	2.3			CL	50		
10							SILTY CLAY, STA,
11	2.3			CL	50		
12							SILTY CLAY, STA,
13	5.3			CL	50		
14							SILTY CLAY, STA,
15	2.1			CL	50		
16							SILTY CLAY, STA,
17	5.3			CL			

Saturation
▼ Saturation

Completion Results



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Gallup Refinery - Well Installations
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7 1/4
Sampling Method	: Split Spoon 2'
Comments	:
Total Depth	: 34'
Ground Water	: Not Encountered
Start Date	: 05/26/2016
Finish Date	: 05/26/2016

WELL NO. OW-53

(Sheet 2 of 2)

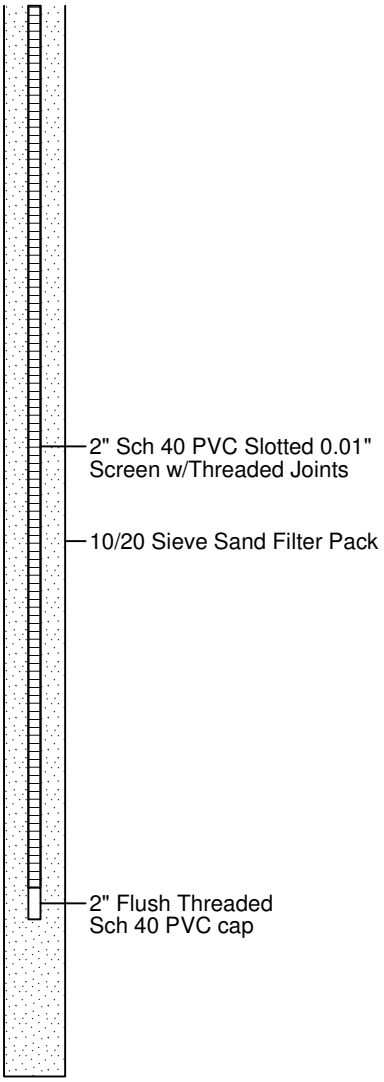
Elev., TOC (ft.msl)	: 6914.38
Elev., PAD (ft. msl)	: 6911.93
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 44.59"
E	: W 108° 25' 30.34"

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
17	5.3			CL	50		
18							SILTY CLAY, STA,
19	4.3			CL	50		
20							SILTY CLAY, STA,
21	4.6			CL	50		
22							SILTY CLAY, STA,
23	9.9			CL	60		
24							SILTY CLAY, STA, becomes sandy at base, light tan silt,
25	5.6			CL	60		
26							SILTY CLAY, STA, light tan silt in seams and occassional fine grain sand seam, damp to dry, no odor,
27	7.5			CL	60		
28							SILTY CLAY, low, very stiff, brown, damp, calcareous, no odor,
29	2.6			CL	60		
30							CLAYSTONE, very stiff, dry, reddish purple, no odor,
31	3.3			CLST	50		
32							CLAYSTONE, STA, pink, no odor.
33	3.8			CLST	50		
34							
35							
36							

Saturation
▼ Saturation

Completion Results

OW-53



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Gallup Refinery - Well Installations
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger
Sampling Method	: Split Spoon
Comments	:
Total Depth	: 30'
Ground Water	: 16'
Start Date	: 05/25/2016
Finish Date	: 05/25/2016

WELL NO.OW-54

(Sheet 1 of 3)

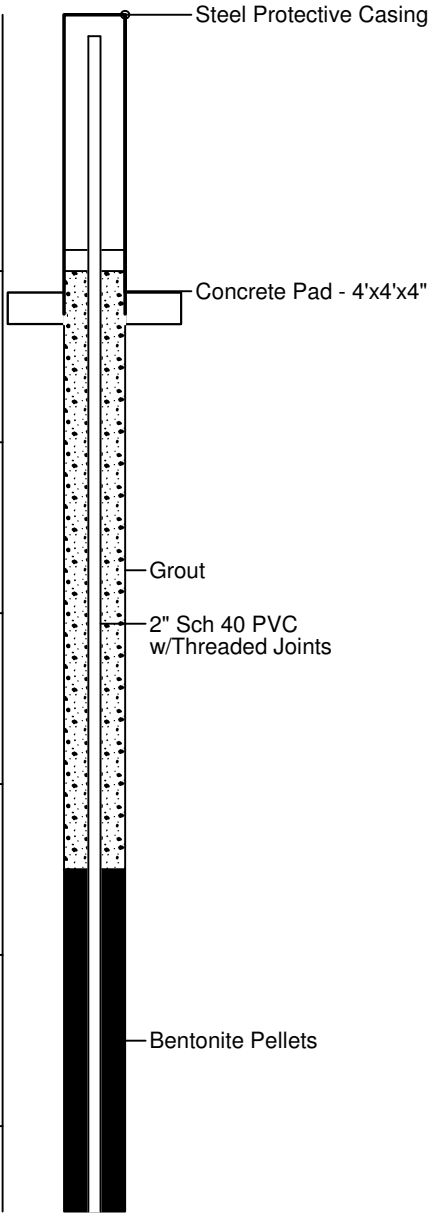
Elev., TOC (ft.msl)	: 6918.92
Elev., PAD (ft. msl)	: 6916.36
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 41.13"
E	: W 108° 25' 30.30"

Saturation
▼ Saturation
◆ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
0							SILT, low, firm, damp, brown, no odor,
1	4.5			ML	100		
2							SILT, SIMILAR TO ABOVE (STA),
3	5.7			ML	100		
4							SILTY CLAY, low, very stiff, brown, damp, no odor,
5	10.2			CL	60		
6							SILTY CLAY, STA,
7	7.3			CL	60		
8							SANDY SILTY CLAY, low, very stiff, brown, damp, fine to coarse sand, no odor,
9	8.3			CL	50		
10							SILTY CLAY, low, very stiff, brown, damp, no odor,
11	13.6			CL			

Completion Results

OW-54



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Austin, Texas 78759
512-693-4190

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Environmental Consulting Firm

Western Refining SW, Inc.
Gallup Refinery - Well Installations
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger
Sampling Method	: Split Spoon
Comments	:
Total Depth	: 30'
Ground Water	: 16'
Start Date	: 05/25/2016
Finish Date	: 05/25/2016

WELL NO.OW-54

(Sheet 2 of 3)

Elev., TOC (ft.msl)	: 6918.92
Elev., PAD (ft. msl)	: 6916.36
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 41.13"
E	: W 108° 25' 30.30"

Saturation
▼ Saturation
◆ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
11							
	13.6			CL	50		
12							SILTY CLAY, STA,
	12.6			CL	50		
13							
14							SILTY CLAY, low, soft, dark brown with black streaks, damp to moist to very moist at 16 feet sandy seam, odor,
	216			CL	90		
15							
16		▼					SANDY CLAY, low, soft, brown, moist to saturated in fine to medium grain sand seams, strong hydrocarbon (hc) odor,
	1538			CL	80		
17							
18							SANDY CLAY, STA,
	370			CL	80		
19							
20							SILTY CLAY, low, soft, damp, brown, faint hc odor,
	49.4			CL	90		
21							
22		◆					SANDY CLAY, low, soft, moist to saturated, brown, faint odor,
23				CL	90		
24							SANDY CLAY, STA, moist to saturated, gravel present,
				CL			
25							

Completion Results

OW-54

- 2" Sch 40 PVC w/Threaded Joints
- 10/20 Sieve Sand Filter Pack
- 2" Sch 40 PVC Slotted 0.01" Screen w/Threaded Joints

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Western Refining SW, Inc.
Gallup Refinery - Well Installations
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger
Sampling Method	: Split Spoon
Comments	:
Total Depth	: 30'
Ground Water	: 16'
Start Date	: 05/25/2016
Finish Date	: 05/25/2016

WELL NO.OW-54

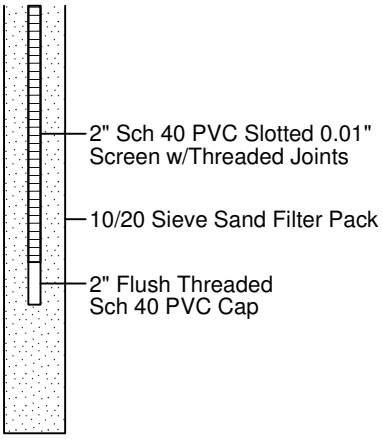
Elev., TOC (ft.msl)	: 6918.92
Elev., PAD (ft. msl)	: 6916.36
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 41.13"
E	: W 108° 25' 30.30"

Saturation
▼ Saturation
◆ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
25				CL	10		
26				CL	40		SANDY CLAY, STA, saturated,
27							
28				CL	70		SANDY CLAY, STA, gravelly, saturated to moist at 30'.
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							

Completion Results

OW-54



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Western Refining SW, Inc.
Gallup Refinery - Well Installations
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger
Sampling Method	: Split Spoon
Comments	:
Total Depth	: 32' BGL
Ground Water	: 18.25' BGL
Start Date	: 05/24/2016
Finish Date	: 05/24/2016

WELL NO.OW-55

(Sheet 1 of 3)

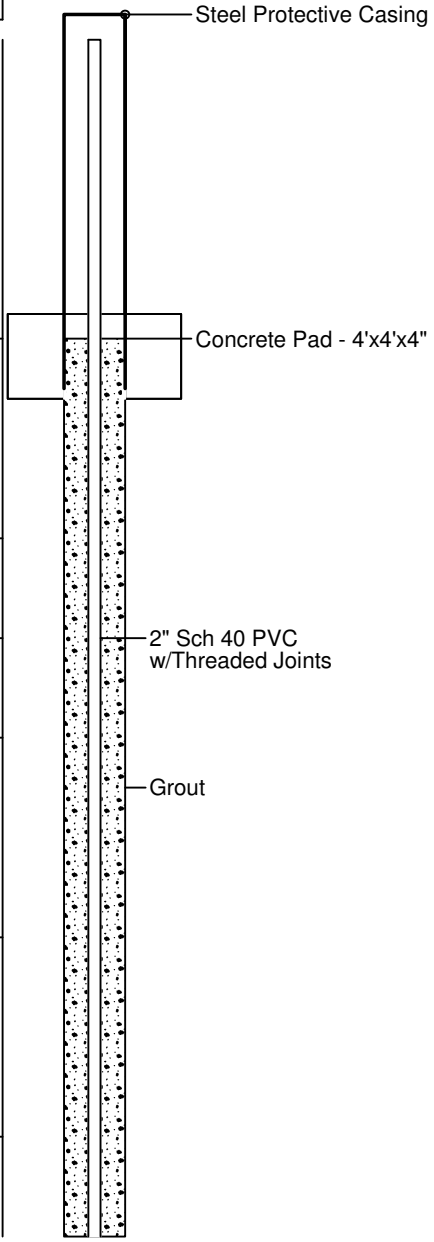
Elev., TOC (ft.msl)	: 6923.25
Elev., PAD (ft. msl)	: 0921.01
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 36.57"
E	: W 108° 25' 29.16"

Saturation
▼ Saturation
▽ Saturation (cont)

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
0							SILT, low, soft, dry, brown, no odor,
1	9.4			ML	100		
2				ML	100		SILT, SIMILAR TO ABOVE (STA),
3	11.2			CL	100		SILTY CLAY, very stiff, low, damp, brown, silt and very fine grain sand present, no odor,
4				CL	50		SILTY CLAY, STA,
5	16.8						
6				CL	50		SILTY CLAY, STA,
7	13.3						
8				CL			SILTY CLAY, STA,
9	19.2						

Completion Results

OW-55



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Gallup Refinery - Well Installations
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger
Sampling Method	: Split Spoon
Comments	:
Total Depth	: 32' BGL
Ground Water	: 18.25' BGL
Start Date	: 05/24/2016
Finish Date	: 05/24/2016

WELL NO.OW-55

(Sheet 2 of 3)

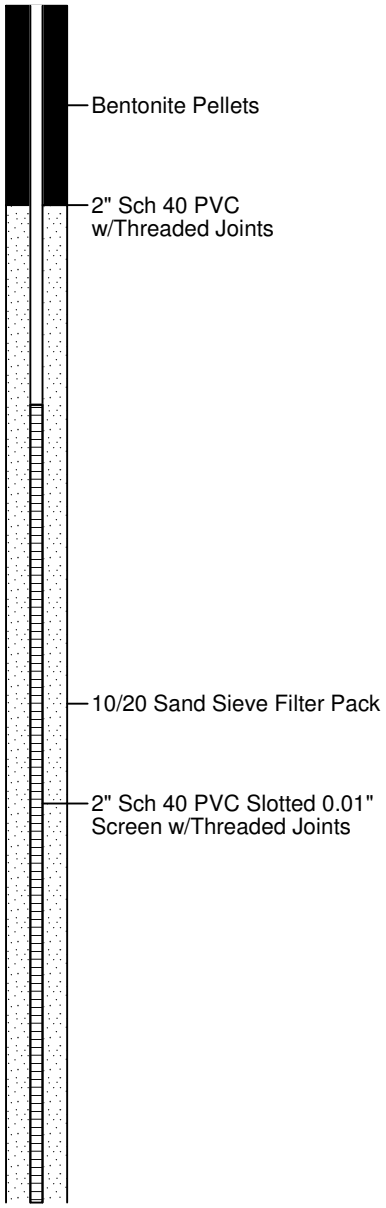
Elev., TOC (ft.msl)	: 6923.25
Elev., PAD (ft. msl)	: 0921.01
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 36.57"
E	: W 108° 25' 29.16"

Saturation
▼ Saturation
▽ Saturation (cont)

Depth (ft.)	PID (ppm)	USCS	Recovery (%)	DESCRIPTION
9				
	19.2	CL	50	
10				SILTY CLAY, STA,
	18.5	CL	50	
11				
12				SILTY CLAY, STA,
	17.3	CL	50	
13				
14				SILTY CLAY, STA, gravel present,
	14.9	CL	60	
15				
16				SILTY CLAY, low, soft, damper than above, brown, odor,
	2530	CL	70	
17				
18		CL	90	SILTY CLAY, STA, odor,
		SM	90	SILTY SAND, fine to medium grained, loose, saturated, brown, strong hydrocarbon (hc) odor,
19		CL	90	SILTY CLAY, low, soft, moist to very moist, brown, hc odor,
20		CL		GRAVELLY SANDY CLAY, low, very soft, very moist to saturated, brown to greenish yellow gravel, strong hc odor,
21				

Completion Results

OW-55



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Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger
Sampling Method	: Split Spoon
Comments	:
Total Depth	: 32' BGL
Ground Water	: 18.25' BGL
Start Date	: 05/24/2016
Finish Date	: 05/24/2016

WELL NO.OW-55

(Sheet 3 of 3)

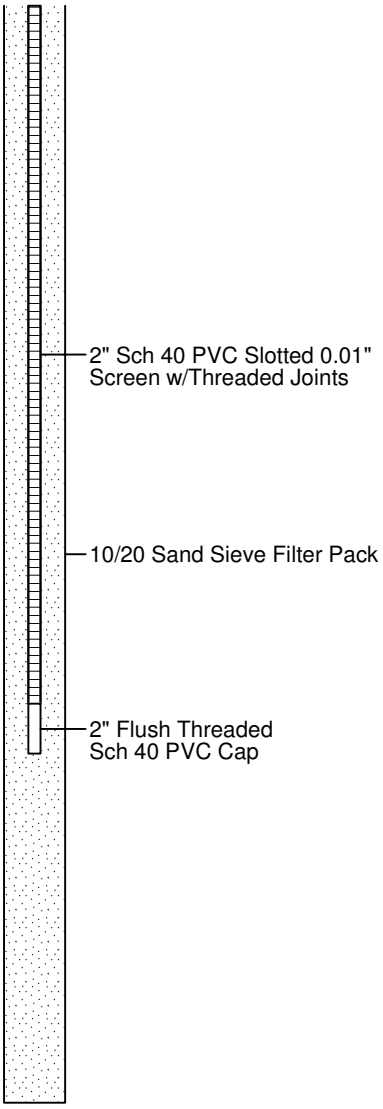
Elev., TOC (ft.msl)	: 6923.25
Elev., PAD (ft. msl)	: 0921.01
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 36.57"
E	: W 108° 25' 29.16"

Saturation
▼ Saturation
▽ Saturation (cont)

Depth (ft.)	PID (ppm)	USCS	Recovery (%)	DESCRIPTION
21		CL	90	
22		CL	90	SANDY CLAY, low, soft, moist to saturated in sand seams throughout, hc odor,
23				
24		CL	70	SILTY CLAY, low, soft, damp, hc odor,
25	185			
26		CL	80	SANDY SILTY CLAY, low, soft, saturated to very moist in sand seams, brown, hc odor,
27				
28		CL	50	CLAY, moderate, stiff, damp, brown, hc odor,
29	125.9			
30		CL	50	CLAY, moderate to high, stiff, damp, brown, hc odor.
31	47.5			
32				
33				

Completion Results

OW-55



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Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger
Sampling Method	: Split Spoon
Comments	: Hand Augered to 3' BGL
Total Depth	: 16.5' BGL
Ground Water	: »12' BGL
Start Date	: 05/24/2016
Finish Date	: 05/24/2016

WELL NO. OW-56

(Sheet 1 of 1)

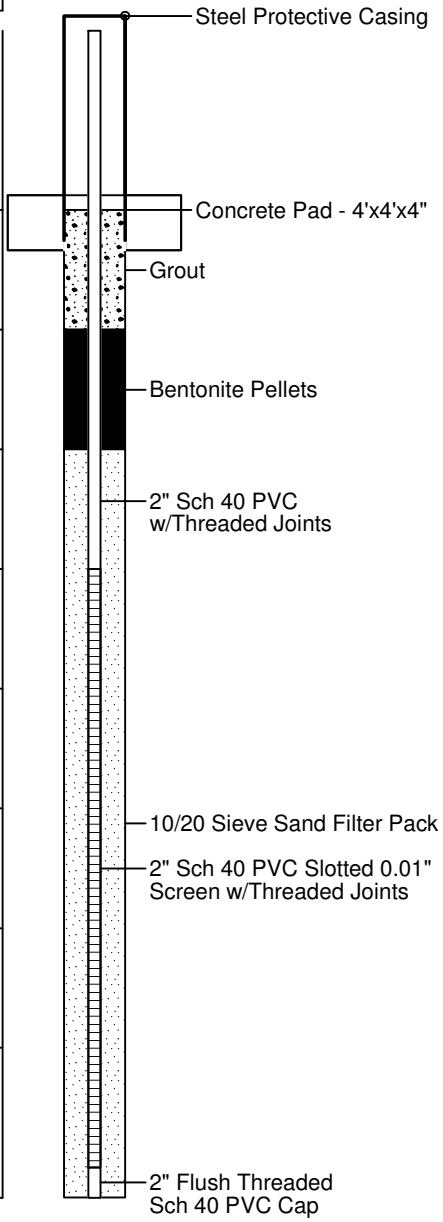
Elev., TOC (ft.msl)	: 6920.18
Elev., PAD (ft. msl)	: 6917.79
Elev., GL (ft. msl)	: NA
Site Coordinates	:
N	: N 35° 29' 36.56"
E	: W 108° 25' 36.64"

Depth (ft.)	PID (ppm)	USCS	Recovery (%)	DESCRIPTION
1	10.5	CL	100	SILTY CLAY, low, soft, damp, brown, no odor,
3	11.0	CL	100	SILTY CLAY, SIMILAR TO ABOVE (STA),
5	11.4	CL	100	SILTY CLAY, moderate, firm, damp, brown, no odor,
7	8.3	CL	100	SILTY CLAY, STA, sand/gravel seam at 7.5-7.75' BGL,
9	13.6	CH	90	CLAY, high, firm, damp, brown, no odor,
11	16.7	CH	90	CLAY, STA, traces light tan silt, no odor,
13	19.1	CL	50	GRAVELLY SANDY CLAY, low, firm, moist, yellowish green gravel (sandstone), brown clay, no odor,
15	13.6	CLST	50	CLAYSTONE, very stiff, damp to dry, brown, purple and grey, no odor.

Saturation
▼ Saturation

Completion Results

OW-56



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Gallup Refinery - OW-14 Area Investigation
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7.5"
Sampling Method	: 2' Split Spoon - 2" Diameter
Comments	: N 35° 29.493' / W 108° 25.501'
Total Depth	: 27'
Ground Water	: 18'
Start Date	: 09/21/2016
Finish Date	: 09/21/2016

WELL NO. OW-57

(Sheet 1 of 2)

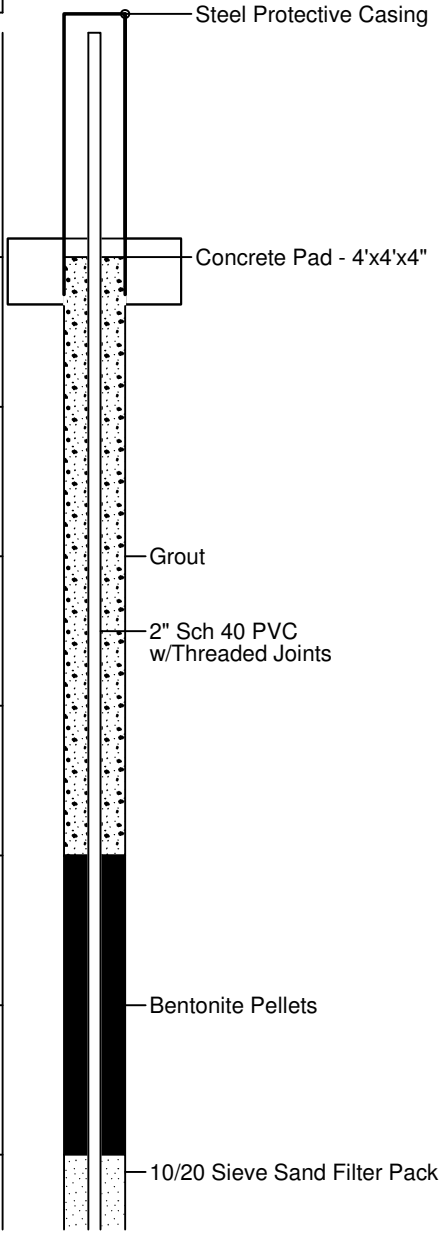
Elev., TOC (ft.msl)	: 6933.10
Elev., PAD (ft. msl)	: 6930.64
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N 1634751.52
E	: E 2546961.79

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
1	0.6			CL	100		SILTY CLAY, moderate, firm, damp, brown, no odor,
3	0.6			CL	100		SILTY CLAY, SIMILAR TO ABOVE (STA),
5	2.6			CL	100		SILTY CLAY, STA,
7	6.2			CL	100		SILTY CLAY, STA, darker brown,
9	23.7			CL	90		SILTY CLAY, STA, no odor,
11	118			CL	90		SANDY CLAY, low, soft, damp, brown, odor,
12	85			CL			SANDY CLAY, STA, brown/tan silt at base, odor,

Saturation
▼ Saturation

Completion Results

OW-57



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Gallup Refinery - OW-14 Area Investigation
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7.5"
Sampling Method	: 2' Split Spoon - 2" Diameter
Comments	: N 35° 29.493' / W 108° 25.501'
Total Depth	: 27'
Ground Water	: 18'
Start Date	: 09/21/2016
Finish Date	: 09/21/2016

WELL NO. OW-57

(Sheet 2 of 2)

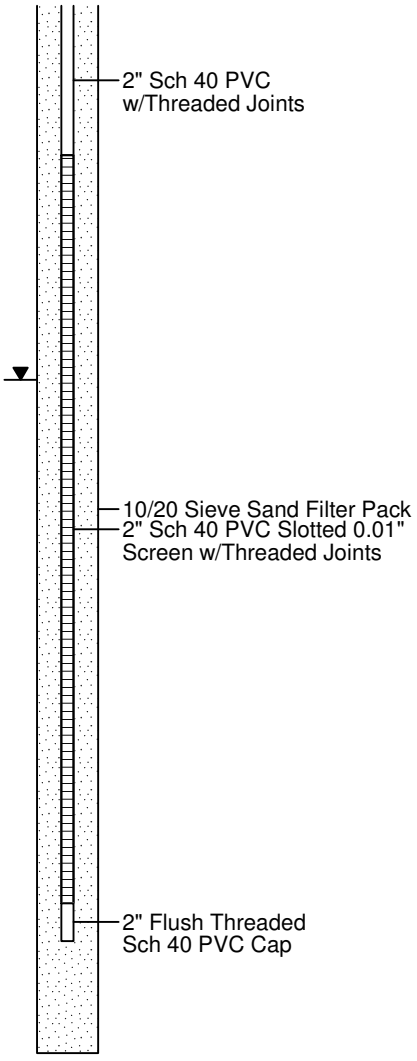
Elev., TOC (ft.msl)	: 6933.10
Elev., PAD (ft. msl)	: 6930.64
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N 1634751.52
E	: E 2546961.79

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
13	85			CL	80		
14							CLAYEY SILT, very fine, soft, damp, brown and tan, odor,
15	197			ML	90		
16							SILTY CLAY, low, firm, tan and brown, damp, odor,
17	205			CL	60		
18		▼					GRAVELLY CLAY, low, soft, damp to slightly moist to saturated, sandstone gravel, sandy, odor,
19	58			CL	20		
20							SANDSTONE/SAND, fine, dense, llight greenish white,very moist to saturated,
21	243			SS	10		
22							GRAVELLY SANDY CLAY, low, soft, very moist to saturated, grey, green sandstone, calcareous, odor,
23	846			CL	70		
24				CL	70		GRAVELLY SANDY CLAY, STA, odor,
25	44			CL/ST	70		CLAYSTONE, very dense, dry, purple, grey at base, faint odor,
26	39			CL/ST	30		CLAYSTONE, STA, faint odor.
27							
28							
29							

Saturation
▼ Saturation

Completion Results

OW-57



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Gallup Refinery - OW-14 Area Investigation
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7.5"
Sampling Method	: 2' Split Spoon - 2" Diameter
Comments	: N 35° 29.500' / W 108° 28.410'
Total Depth	: 48.5'
Ground Water	: 29'
Start Date	: 09/22/2016
Finish Date	: 09/22/2016

WELL NO. OW-58

(Sheet 1 of 4)

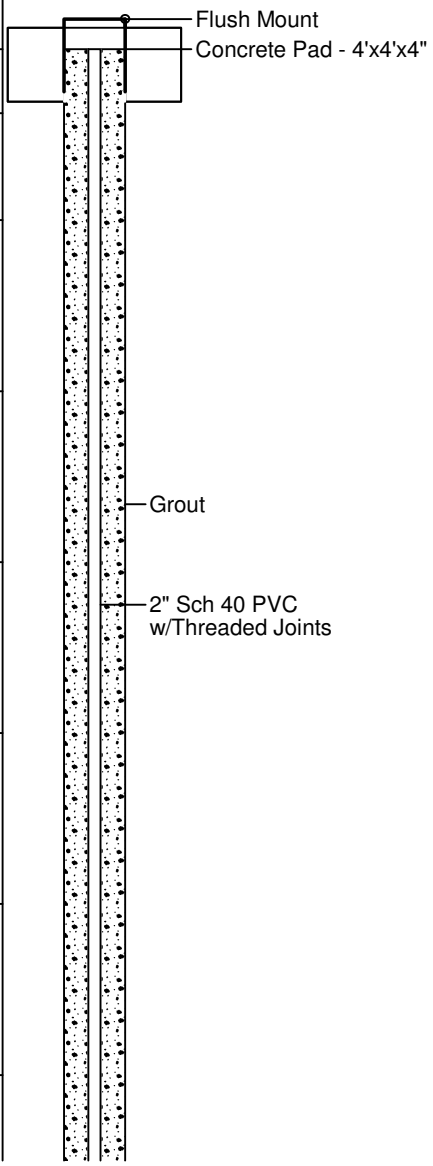
Elev., TOC (ft.msl)	: 6934.50
Elev., PAD (ft. msl)	: 6934.71
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N 1634800.15
E	: E 2547414.91

Saturation
▼ Saturation
▽ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
0				AR	100		ASPHALT/BASE,
1	110			CL	100		SILTY CLAY, moderate, firm to stiff, damp, brown, odor,
2							
3	40			CL	100		SILTY CLAY, SIMILAR TO ABOVE (STA),
4							
5	11.2			CL	100		SILTY CLAY, STA, moist, faint odor,
6							
7	2.2			CL	90		SILTY CLAY, low, soft, damp, brown, faint odor,
8							
9	5.3			CL	60		SILTY CLAY, STA, no odor,
10							
11	37			CL	80		SILTY CLAY, STA, sticky, black discoloration, odor,
12							
13	42			CL			SILTY CLAY, STA,

Completion Results

OW-58



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Gallup Refinery - OW-14 Area Investigation
Job No. WEST16006

Geologist	: Tracy Payne
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Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7.5"
Sampling Method	: 2' Split Spoon - 2" Diameter
Comments	: N 35° 29.500' / W 108° 28.410'
Total Depth	: 48.5'
Ground Water	: 29'
Start Date	: 09/22/2016
Finish Date	: 09/22/2016

WELL NO. OW-58

Elev., TOC (ft.msl)	: 6934.50
Elev., PAD (ft. msl)	: 6934.71
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N 1634800.15
E	: E 2547414.91

Saturation
▼ Saturation
▽ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
13							
	42			CL	70		
14							SILTY CLAY, low, stiff, damp, brown with black discoloration, faint odor,
15	25			CL	60		
16							SANDY CLAY, low, stiff, very fine grain sand, damp, brown, odor,
17	226			CL	60		
18							SANDY CLAY, STA, odor,
19	240			CL	50		
20							SANDY CLAY, STA, odor,
21	200			CL	60		
22							SILTY CLAY, low, very stiff, damp, brown, tan silt pockets/seams present, odor,
23	2020			CL	90		
24							SILTY CLAY, low, firm, soft/ crumbly, damp, brown, strong odor, outside of core is oily/phase separated hydrocarbon (PSH),
25	1980			CL	90		
26							SILTY CLAY, STA, firm to stiff, odor, outside of core is oily/PSH,
	973			CL			
27							

Completion Results

OW-58

Grout

2" Sch 40 PVC w/Threaded Joints

DiSorbo Consulting, LLC

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Gallup Refinery - OW-14 Area Investigation
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7.5"
Sampling Method	: 2' Split Spoon - 2" Diameter
Comments	: N 35° 29.500' / W 108° 28.410'
Total Depth	: 48.5'
Ground Water	: 29'
Start Date	: 09/22/2016
Finish Date	: 09/22/2016

WELL NO. OW-58

(Sheet 3 of 4)

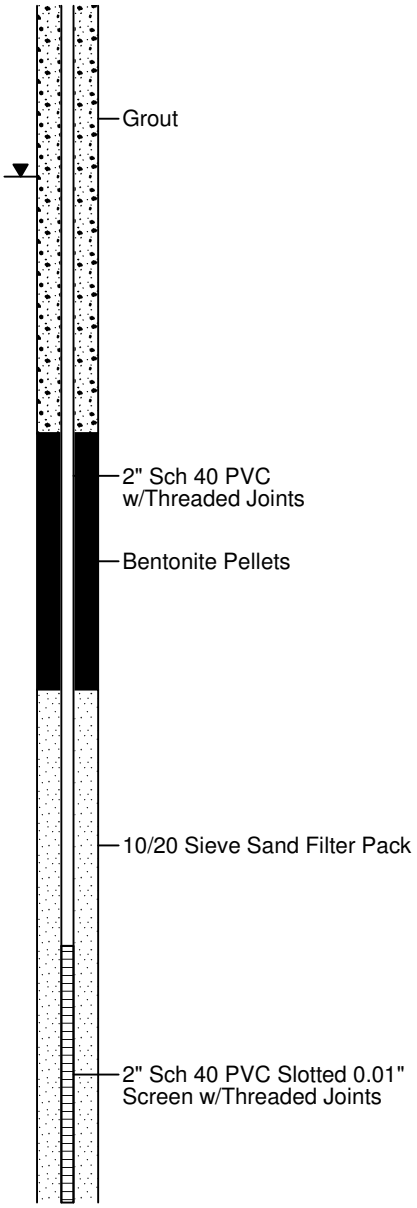
Elev., TOC (ft.msl)	: 6934.50
Elev., PAD (ft. msl)	: 6934.71
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N 1634800.15
E	: E 2547414.91

Saturation
▼ Saturation
▽ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
27							
	973			CL	90		
28				CL	90		SILTY CLAY, STA, damp to moist, odor,
29	2784	▼		CL/SC	90		SANDY CLAY/CLAYEY SAND, low, soft, very moist to saturated, dark brown, odor,
30							SANDY SILTY CLAY, low, firm, damp, saturated sand at base, grey/brown, odor,
31	2350			CL	90		
32							SILTY SAND, fine, loose, saturated, grey/brown, odor,
33	1775			SM	90		
				CL	90		SILTY CLAY, low, soft, damp, greyish brown, odor,
34							SILTY CLAY, STA, damp to very moist, odor,
35	575			CL	90		
36							SILTY CLAY, low, firm, damp, greyish brown, odor,
37	227			CL	80		
38							SILTY CLAY, STA, brown, odor,
39	545			CL	50		
40							CLAY, high, firm, damp, brown, odor,
	531			CH			
41							

Completion Results

OW-58



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DiSorbo
Environmental Consulting Firm

Western Refining SW, Inc.
Gallup Refinery - OW-14 Area Investigation
Job No. WEST16006

Geologist	: Tracy Payne
Driller	: Enviro-Drill, Inc. / Cohagan
Drilling Rig	: CME 75
Drilling Method	: Hollw Stem Auger 7.5"
Sampling Method	: 2' Split Spoon - 2" Diameter
Comments	: N 35° 29.500' / W 108° 28.410'
Total Depth	: 48.5'
Ground Water	: 29'
Start Date	: 09/22/2016
Finish Date	: 09/22/2016

WELL NO. OW-58

(Sheet 4 of 4)

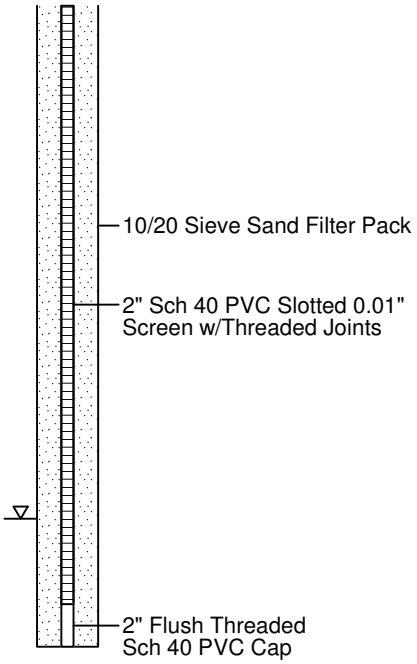
Elev., TOC (ft.msl)	: 6934.50
Elev., PAD (ft. msl)	: 6934.71
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N 1634800.15
E	: E 2547414.91

Saturation
▼ Saturation
▽ Saturation

Depth (ft.)	PID (ppm)	USCS	Recovery (%)	DESCRIPTION
41				
42	531	CH	50	
43	288	CH	50	CLAY, STA, odor,
44				
45	357	CL	50	SILTY CLAY, low to moderate, firm, occasional gravel, damp, brown, odor,
46		CL	50	SILTY CLAY, STA, odor,
47	204	SP	50	SANDY GRAVEL, medium to coarse sand with 1/4 to 1/2 inch gravel, very moist to saturated, trace silt/clay, brown, odor,
48	250	SH	10	SHALE, very dense/hard, dry, dark grey, odor.
49				
50				
51				
52				
53				
54				
55				

Completion Results

OW-58



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Western Refining SW, Inc
Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to 5 BGL
Total Depth	: 40'
Ground Water	: 26'
Start Date	: 06/12/2017
Finish Date	: 06/12/2017

WELL NO. OW-59

(Sheet 1 of 3)

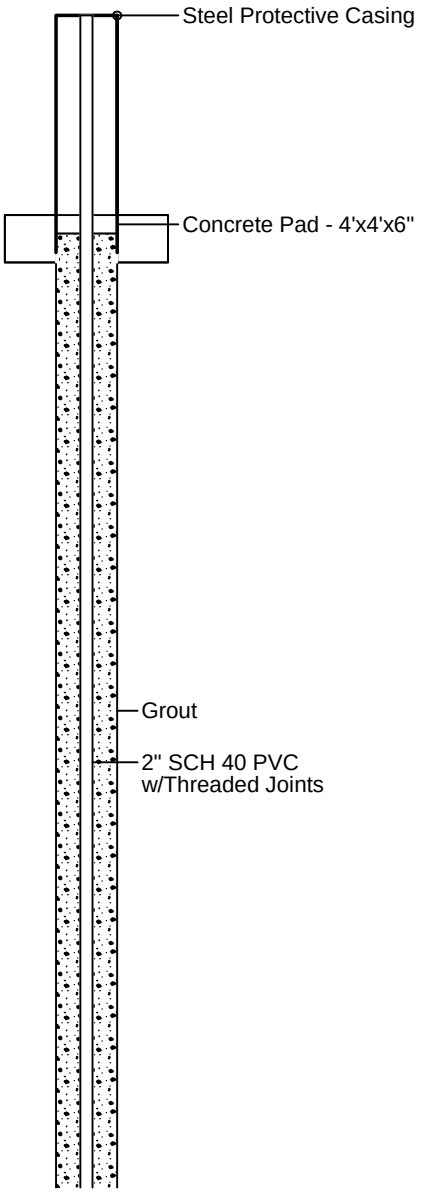
Elev., TOC (ft.msl)	: 6689.73
Elev., PAD (ft. msl)	: 6887.63
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1635547.14
E	: W2544633.00

Saturation
▼ Saturation

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
0	0.0			CL	100		SILTY CLAY, low, firm, damp, brown, no odor,
2	0.0			CL	100		SILTY CLAY, SIMILAR TO ABOVE (STA),
4	0.0			CL	100		SILTY CLAY, STA,
6	2.0			CH	70		CLAY, high, stiff, damp, brown, no odor,
8	1.0			CL	80		SILTY CLAY, low, stiff, damp, light brown, no odor, sandy at base,
10	0.3			ML	70		SILT, low, compact, damp, brown, no odor,
12	0.5			CL			SILTY CLAY, low, very stiff, damp, brown, no odor, trace sand,

Completion Results

Well No. OW-59



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Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to 5 BGL
Total Depth	: 40'
Ground Water	: 26'
Start Date	: 06/12/2017
Finish Date	: 06/12/2017

WELL NO. OW-59

(Sheet 2 of 3)

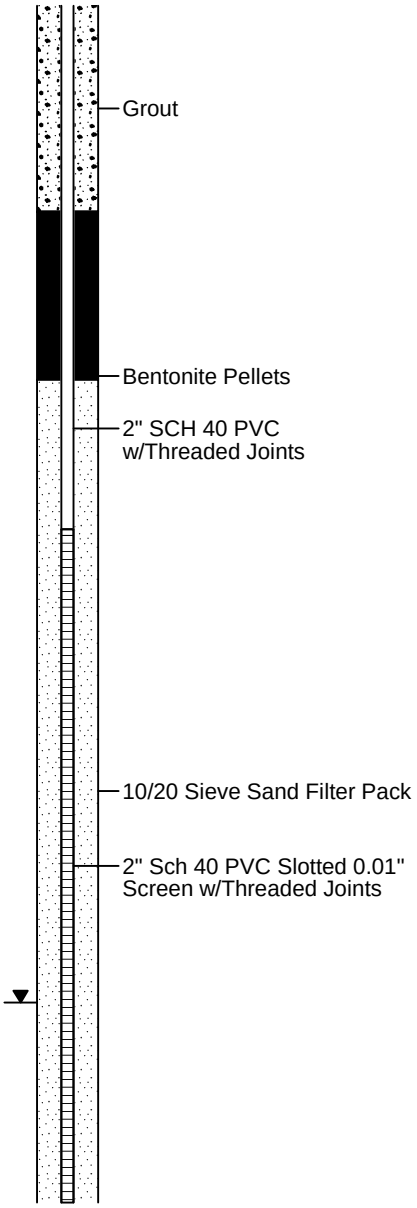
Elev., TOC (ft.msl)	: 6689.73
Elev., PAD (ft. msl)	: 6887.63
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1635547.14
E	: W2544633.00

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
13	0.5			CL	50		
14							SILTY CLAY, high, very stiff, damp, brown, no odor,
15	1.3			CH	50		
16							SILTY CLAY, STA, no odor,
17	1.7			CH	60		
18							SILTY CLAY, low to moderate, stiff, damp, brown, no odor,
19	1.1			CL	50		
20							SANDY SILTY CLAY, low, firm to soft, damp, brown, no odor,
21	1.2			CL	50		
22							SANDY CLAY, low, soft, damp, brown, no odor,
23	0.2			CL	60		
24							SILTY CLAY, low, soft, damp, brown, no odor,
25	3.3			CL	70		
26		▼					SANDY SILT, very fine, very moist, brown, no odor,
27	10.9			ML	80		
28							SANDY SILT, STA, very moist, no odor,
29	11.6			ML			

Saturation
▼ Saturation

Completion Results

Well No. OW-59



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Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to 5 BGL
Total Depth	: 40'
Ground Water	: 26'
Start Date	: 06/12/2017
Finish Date	: 06/12/2017

WELL NO. OW-59

(Sheet 3 of 3)

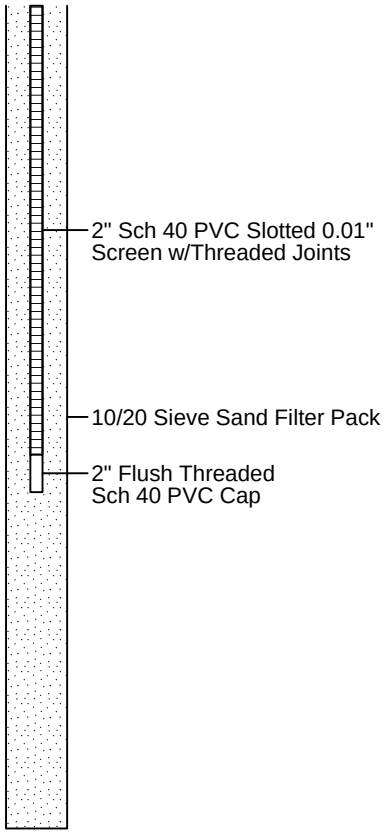
Elev., TOC (ft.msl)	: 6689.73
Elev., PAD (ft. msl)	: 6887.63
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1635547.14
E	: W2544633.00

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
29	11.6			ML	80		
30							SILTY CLAY, low, firm, damp, brown, no odor,
31	11.4			CL	90		
32	14.9			CL	90		SILTY CLAY, STA, no odor,
33	16.3			SM	90		SILTY SAND, very fine, compact, saturated, brown, no odor,
34							SILTY CLAY, low, firm, damp, brown, no odor,
35	10.5			CL	60		
36							SILTY CLAY, STA, no odor,
37	7.3			CL	70		
38				CH	70		CLAY, high, firm, damp, brown, no odor,
39	10.0			CL	70		SILTY CLAY, low, firm to soft, grey and white, no odor, trace sand and white nodules.
40							
41							
42							
43							
44							
45							

Saturation
▼ Saturation

Completion Results

Well No. OW-59



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Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to 5' BGL
Total Depth	: 48'
Ground Water	: Not Encountered
Start Date	: 6/13/2017
Finish Date	: 6/13/2017

WELL NO. OW-60

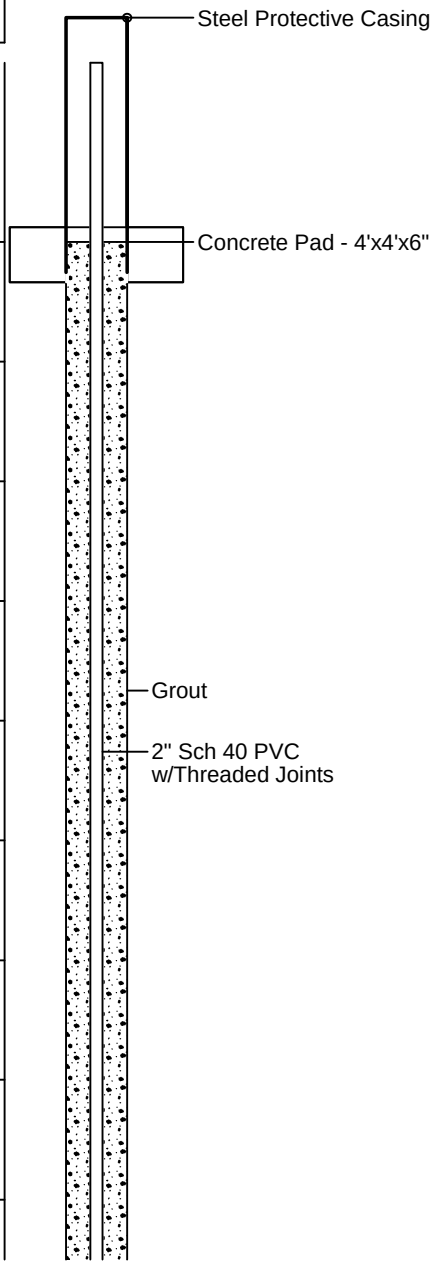
(Sheet 1 of 3)

Elev., TOC (ft.msl)	: 6893.51
Elev., PAD (ft. msl)	: 6891.06
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1635335.02
E	: W2545018.21

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
0							SILTY CLAY, low, firm, damp, brown, no odor,
1	6.5			CL	100		
2							CLAY, high, firm to stiff, damp, brown, no odor,
3	5.8			CH	100		
4							CLAY, SIMILAR TO ABOVE (STA), no odor,
5	6.3			CH	100		
6							CLAY, STA, no odor,
7	8.1			CH	90		
8							CLAY, STA, no odor,
9	9.6			CH	100		
10							SILTY CLAY, moderate, firm, damp, brown, no odor,
11	9.1			CL	50		
12							SILTY CLAY, STA, soft, no odor,
13	8.2			CL	50		
14							SILTY CLAY, STA, firm, no odor,
15	7.9			CL	70		
16							SILTY CLAY, STA, no odor,
17	8.3			CL			

Completion Results

Well No. OW-60



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Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to 5' BGL
Total Depth	: 48'
Ground Water	: Not Encountered
Start Date	: 6/13/2017
Finish Date	: 6/13/2017

WELL NO. OW-60

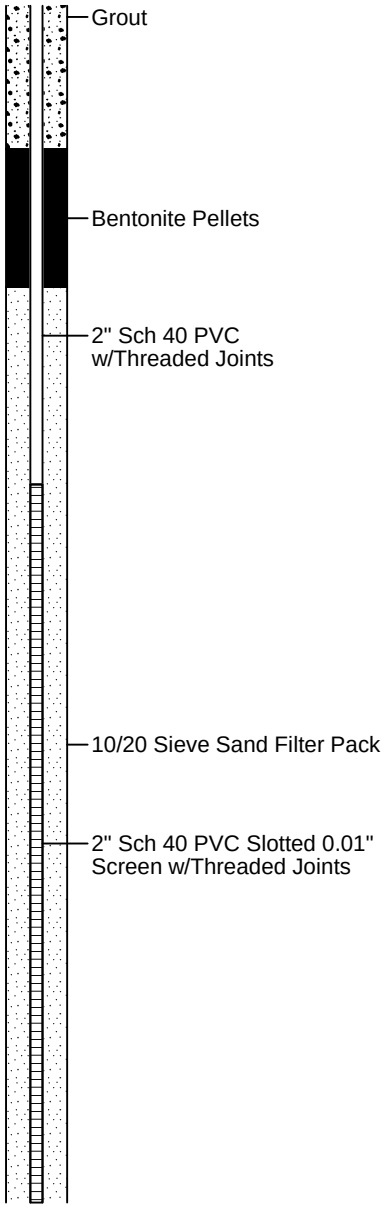
(Sheet 2 of 3)

Elev., TOC (ft.msl)	: 6893.51
Elev., PAD (ft. msl)	: 6891.06
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1635335.02
E	: W2545018.21

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
17	8.3			CL	70		
18							SILTY CLAY, STA, no odor,
19	10.1			CL	50		
20							SILTY CLAY, moderate, soft, damp, brown, no odor,
21	15.3			CL	60		
22							SILTY CLAY, STA, firm, no odor,
23	12.1			CL	70		
24							SILTY CLAY, STA,calcareous nodules (white) present, trace gravel, no odor,
25	11.6			CL	80		
26							SILTY CLAY, STA, tan-silt pockets throughout, no odor,
27	10.9			CL	80		
28							CLAYEY SILT, low, soft/crumbly, damp, light brown and grey, no odor,
29	10.5			ML	80		
30							SILTY CLAY, low, firm to crumbly, damp, light reddish brown with trace grey, no odor,
31	11.1			CL	70		
32							SILTY CLAY, STA, no odor,
33	15.0			CL	70		
34							SILTY CLAY, STA, no odor,
35	12.8			CL	80		
36							SILTY CLAY, low, very stiff, crumbly, damp, light reddish brown, grey, no odor,
37	12.7			CL			

Completion Results

Well No. OW-60



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Gallup Refinery
Job No. WEST17020

Geologist	: Tracy Payne
Driller	: Enviro-Drill Inc/Cohagan
Drilling Rig	: CME75
Drilling Method	: Hollow Stem Auger 7 1/4"
Sampling Method	: 2' Split Spoon
Comments	: Hand Auger to 5' BGL
Total Depth	: 48'
Ground Water	: Not Encountered
Start Date	: 6/13/2017
Finish Date	: 6/13/2017

WELL NO. OW-60

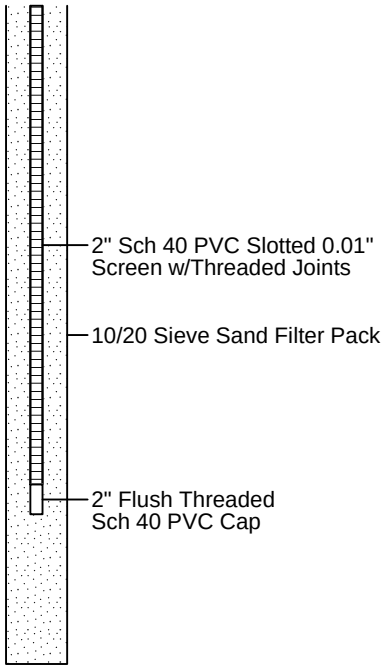
(Sheet 3 of 3)

Elev., TOC (ft.msl)	: 6893.51
Elev., PAD (ft. msl)	: 6891.06
Elev., GL (ft. msl)	:
Site Coordinates	:
N	: N1635335.02
E	: W2545018.21

Depth (ft.)	PID (ppm)	Saturation	Lithology	USCS	Recovery (%)	Sample	DESCRIPTION
37	12.7			CL	70		
38							SILT, low, compact to dense/stiff crumbly, damp, light grey, no odor,
39	10.4			ML	50		
40							SILT, STA, no odor,
41	9.9			ML	60		
42							SILT, STA, trace very fine sand, no odor,
43	10.7			ML	60		
44							SILT, STA, no odor,
45	10.1			ML	50		
46							SILT, STA, trace reddish brown clay with grey, no odor.
47	9.6			ML	50		
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							

Completion Results

Well No. OW-60



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